Comparative Effectiveness Review
Number 222

Achieving Health Equity in Preventive Services

Comparative Effectiveness Review

Number 222

Achieving Health Equity in Preventive Services

Prepared for:

Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857
www.ahrq.gov

Contract No. 290-2015-00009-I

Prepared by:

Pacific Northwest Evidence-based Practice Center
Portland, OR

Investigators:

Heidi D. Nelson, M.D., M.P.H., M.A.C.P., FRCP
Amy Cantor, M.D., M.P.H.
Jesse Wagner, M.A.
Rebecca Jungbauer, Dr.P.H., M.P.H., M.A.
Ana Quiñones, Ph.D., M.S.
Rongwei Fu, Ph.D.
Lucy Stillman, B.S.
Karli Kondo, Ph.D., M.A.

AHRQ Publication No. 20-EHC002-EF
December 2019

Key Messages

Purpose of Review

To summarize research on achieving health equity in 10 preventive services for cancer, cardiovascular disease, and diabetes in adults by identifying effects of impediments and barriers that create disparities and effectiveness of interventions to reduce them.

Key Messages

- No eligible studies evaluated effects of provider barriers.
- Evidence is low or insufficient for effects of population barriers, including insurance, access, age, rural location, income, language, health literacy, country of origin, and attitudes.
- Screening rates are higher with patient navigation for colorectal, breast, and cervical cancer; telephone calls and prompts for colorectal cancer; and reminders with lay health workers for breast cancer.
- Evidence is low or insufficient for other interventions due to lack of studies or their limitations.

This report is based on research conducted by the Pacific Northwest Evidence-based Practice Center (EPC) under contract to the Agency for Healthcare Research and Quality (AHRQ), Rockville, MD (Contract No. 290-2015-00009-I). The National Institutes of Health (NIH) Office of Disease Prevention funded the report. The findings and conclusions in this document are those of the authors, who are responsible for its contents; the findings and conclusions do not necessarily represent the views of AHRQ or NIH. Therefore, no statement in this report should be construed as an official position of AHRQ, NIH, or the U.S. Department of Health and Human Services.

None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

The information in this report is intended to help healthcare decisionmakers—patients and clinicians, health system leaders, and policymakers, among others—make well-informed decisions and thereby improve the quality of healthcare services. This report is not intended to be a substitute for the application of clinical judgment. Anyone who makes decisions concerning the provision of clinical care should consider this report in the same way as any medical reference and in conjunction with all other pertinent information, i.e., in the context of available resources and circumstances presented by individual patients.

This report is made available to the public under the terms of a licensing agreement between the author and the Agency for Healthcare Research and Quality. This report may be used and reprinted without permission except those copyrighted materials that are clearly noted in the report. Further reproduction of those copyrighted materials is prohibited without the express permission of copyright holders.

AHRQ or U.S. Department of Health and Human Services endorsement of any derivative products that may be developed from this report, such as clinical practice guidelines, other quality enhancement tools, or reimbursement or coverage policies, may not be stated or implied.

This report may periodically be assessed for the currency of conclusions. If an assessment is done, the resulting surveillance report describing the methodology and findings will be found on the Effective Health Care Program website at www.effectivehealthcare.ahrq.gov. Search on the title of the report.

People using assistive technology may not be able to fully access information in this report. For assistance contact EPC@ahrq.hhs.gov.

Suggested citation: Nelson HD, Cantor A, Wagner J, Jungbauer R, Quiñones A, Fu R, Stillman L, Kondo K. Achieving Health Equity in Preventive Services. Comparative Effectiveness Review No. 222. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 290-2015-00009-I.) AHRQ Publication No. 20-EHC002-EF. Rockville, MD: Agency for Healthcare Research and Quality; December 2019. Posted final reports are located on the Effective Health Care Program [search page](#). DOI: <https://doi.org/10.23970/AHRQEPCCER222>.

Preface

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of healthcare in the United States.

The National Institutes of Health requested this report from the EPC Program at AHRQ. AHRQ assigned this report to the following EPC: Pacific Northwest Evidence-based Practice Center (Contract Number: 290-2015-00009-I).

The report was presented at the National Institutes of Health Office of Disease Prevention's Pathways to Prevention Workshop public meeting Achieving Health Equity in Preventive Services on June 19–20, 2019.

The reports and assessments provide organizations with comprehensive, evidence-based information on common medical conditions and new healthcare technologies and strategies. They also identify research gaps in the selected scientific area, identify methodological and scientific weaknesses, suggest research needs, and move the field forward through an unbiased, evidence-based assessment of the available literature. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

To bring the broadest range of experts into the development of evidence reports and health technology assessments, AHRQ encourages the EPCs to form partnerships and enter into collaborations with other medical and research organizations. The EPCs work with these partner organizations to ensure that the evidence reports and technology assessments they produce will become building blocks for healthcare quality improvement projects throughout the Nation. The reports undergo peer review and public comment prior to their release as a final report.

AHRQ expects that the EPC evidence reports and technology assessments, when appropriate, will inform individual health plans, providers, and purchasers as well as the healthcare system as a whole by providing important information to help improve healthcare quality.

If you have comments on this evidence report, they may be sent by mail to the Task Order Officer named below at: Agency for Healthcare Research and Quality, 5600 Fishers Lane, Rockville, MD 20857, or by email to epc@ahrq.hhs.gov.

Gopal Khanna, M.B.A.
Director
Agency for Healthcare Research and Quality

Stephanie Chang, M.D., M.P.H.
Director
Evidence-based Practice Center Program
Center for Evidence and Practice Improvement
Agency for Healthcare Research and Quality

Arlene S. Bierman, M.D., M.S.
Director
Center for Evidence and Practice
Improvement
Agency for Healthcare Research and Quality

Lionel L. Bañez, M.D.
Task Order Officer
Center for Evidence and Practice
Improvement
Agency for Healthcare Research and Quality

Acknowledgments

The investigators acknowledge the contributions of Lionel L. Bañez, M.D., AHRQ Task Order Officer; NIH partners; Technical Expert Panel members; peer reviewers; Somnath Saha, M.D., M.P.H., content expert; Tracy Dana, M.L.S., librarian; Leah Williams, B.S., publications editor; Bernadette Zakher, M.B.B.S., M.P.H., research associate; Azrah Ahmed, B.A., research assistant; Melanie Timmins, and Rachel Lockard, M.P.H., student research assistants; Roger Chou, M.D., FACP, Pacific Northwest EPC Director; and Elaine Graham M.L.S., Pacific Northwest EPC program manager.

Technical Expert Panel

In designing the study questions and methodology at the outset of this report, the EPC consulted several technical and content experts. Broad expertise and perspectives were sought. Divergent and conflicted opinions are common and perceived as healthy scientific discourse that results in a thoughtful, relevant systematic review. Therefore, in the end, study questions, design, methodologic approaches, and/or conclusions do not necessarily represent the views of individual technical and content experts.

Technical Experts must disclose any financial conflicts of interest greater than \$5,000 and any other relevant business or professional conflicts of interest. Because of their unique clinical or content expertise, individuals with potential conflicts may be retained. The TOO and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified.

The list of Technical Experts who provided input to the report follows:

Ned Calonge, M.D., M.P.H.*
President and CEO of The Colorado Trust
Associate Professor, University of Colorado
School of Medicine and Colorado School of
Public Health
Denver, CO

Kimberly Gregory, M.D., M.P.H.*
Director, Division of Maternal Fetal
Medicine, Cedars-Sinai
Professor, David Geffen School of Medicine
and the Fielding School of Public Health,
UCLA
Vice Chair, Women's Healthcare Quality
and Performance Improvement, Cedars-
Sinai, Department of Obstetrics and
Gynecology
Los Angeles, CA

Said A. Ibrahim, M.D., M.P.H., M.B.A.*
Professor of Healthcare Policy & Research
Chief, Division of Healthcare Delivery
Science & Innovation
Department of Healthcare Policy &
Research
Senior Associate Dean for Diversity &
Inclusion
Weill Cornell Medicine
New York, NY

Camara Jones, M.D.
Senior Fellow, Satcher Health Leadership
Institute and Cardiovascular Research
Institute, Morehouse School of Medicine
Associate Professor, Morehouse School of
Medicine
Atlanta, GA

Ana Nuñez, M.D.
Associate Dean for Diversity, Equity and
Inclusion, Drexel University
Director of the Center of Excellence in
Women's Health and Women's Health
Education Program, Drexel University
College of Medicine
Editor-in-Chief, Health Equity
Philadelphia, PA

Donna L. Washington, M.D., M.P.H.*
Core Investigator at Veterans Affairs Health
Services Research and Development Center
for the Study of Healthcare Innovation,
Implementation and Policy
Director, Veterans Affairs Office of Health
Equity/QUERI National Partnered
Evaluation Initiative
Professor of Medicine, Geffen School of
Medicine, UCLA
Los Angeles, CA

*Provided input on Draft Report

Peer Reviewers

Prior to publication of the final evidence report, EPCs sought input from independent Peer Reviewers without financial conflicts of interest. However, the conclusions and synthesis of the scientific literature presented in this report do not necessarily represent the views of individual reviewers.

Peer Reviewers must disclose any financial conflicts of interest greater than \$5,000 and any other relevant business or professional conflicts of interest. Because of their unique clinical or content expertise, individuals with potential nonfinancial conflicts may be retained. The TOO and the EPC work to balance, manage, or mitigate any potential nonfinancial conflicts of interest identified.

The list of Peer Reviewers follows:

John Blosnich, Ph.D., M.P.H.
Core Investigator/Research Health Scientist,
Veterans Affairs Center for Health Equity
Research and Promotion
Assistant Professor, Division of General
Internal Medicine, University of Pittsburgh
Pittsburgh, PA

Graham Colditz, Dr.P.H., M.D., M.P.H.
Chief, Division of Public Health Sciences
Associate Director, Prevention and Control,
Siteman Cancer Center
Deputy Director of the Institute for Public
Health, Washington University in St. Louis
Program Director, Masters in Population
Health Sciences, Washington University in
St. Louis
St. Louis, MO

Leslie R. M. Hausmann, Ph.D.
Core Investigator, Veterans Affairs Center
for Health Equity Research and Promotion
Associate Professor, General Internal
Medicine, University of Pittsburgh,
Pittsburgh, PA

Tung Nguyen, M.D.
Chair, General Internal Medicine, UCSF
Professor of Medicine, UCSF
Director, Asian American Research Center
on Health
Co-Director, UCSF Multi-ethnic Health
Equity Center
San Francisco, CA

Achieving Health Equity in Preventive Services

Structured Abstract

Objectives. To summarize research on achieving health equity in 10 preventive services for cancer, cardiovascular disease, and diabetes in adults for a National Institutes of Health Pathways to Prevention Workshop by identifying the effects of impediments and barriers that create disparities, and the effectiveness of interventions to reduce them.

Data sources. Ovid® MEDLINE®, PsycINFO®, SocINDEX (January 1, 1996, to July 5, 2019); Veterans Affairs Health Services database; manual review of reference lists.

Review methods. Eligible abstracts and full-text articles were independently dual-reviewed for inclusion using pre-established criteria. Data were abstracted into evidence tables and verified for accuracy. Risk of bias and applicability of studies were independently dual-rated using established criteria; disagreements were resolved by consensus. Strength of evidence and applicability for each Key Question and outcome were assessed using established methods. Meta-analysis used a profile likelihood random effects model.

Results. No eligible studies evaluated effects of provider-specific barriers; 18 studies of population barriers provided low or insufficient evidence regarding insurance coverage, access, age, rural location, low income, language, low health literacy, country of origin, and attitudes. In 12 studies of clinician interventions, screening was higher for colorectal cancer with patient navigation, risk assessment and counseling, educational materials, and decision aids; breast and cervical cancer with reminders involving lay health workers; and cervical cancer with outreach and health education. Clinician-delivered interventions were effective for smoking cessation and weight loss. In 11 studies of health information technologies, automated reminders and electronic decision aids increased colorectal cancer screening, and web- or telephone-based self-monitoring improved weight loss, but other technologies were not effective. In 88 studies of health system interventions, evidence was strongest for patient navigation to increase screening for colorectal (risk ratio [RR] 1.64; 95% confidence interval [CI] 1.42 to 1.92; 22 trials), breast (RR 1.50; 95% CI 1.22 to 1.91; 10 trials), and cervical cancer (RR 1.11; 95% CI 1.05 to 1.19). Screening was also higher for colorectal cancer with telephone calls, prompts, other outreach methods, screening checklists, provider training, and community engagement; breast cancer with lay health workers, patient education, screening checklists, and community engagement; cervical cancer with telephone calls, prompts, and community engagement; and lung cancer with patient navigation. Trials of smoking cessation and obesity education and counseling had mixed results.

Conclusions. In populations adversely affected by disparities, evidence is strongest for patient navigation to increase colorectal, breast, and cervical cancer screening; telephone calls and prompts to increase colorectal cancer screening; and reminders including lay health workers encouraging breast cancer screening. Evidence is low or insufficient to determine effects of barriers or effectiveness of other interventions because of lack of studies and methodological limitations of existing studies.

Contents

Evidence Summary	ES-1
Introduction.....	1
Purpose.....	1
Background	1
Health Equity and Health Disparity: Definitions and Populations	1
Challenges in Achieving Health Equity in Preventive Services	2
Approach to Review and Key Questions	3
Scope of Review and PICOTS.....	5
Population	6
Intervention	6
Comparators	7
Outcomes	7
Timing	7
Setting	7
Defining Barriers, Impediments, and Their Effects	8
Defining Interventions and Their Effectiveness	9
Analytic Framework	11
Methods.....	12
Search Methods.....	12
Inclusion and Exclusion Criteria.....	12
Data Abstraction and Management.....	12
Assessing Risk of Bias of Individual Studies	13
Assessing Applicability of Individual Studies	13
Data Synthesis.....	14
Statistical Meta-Analysis	14
Grading the Strength of Evidence for Major Comparisons and Outcomes	15
Assessing Overall Applicability	15
Results	17
Results of Literature Search.....	17
Types of Studies Included.....	18
Key Question 1. Effect of Impediments and Barriers of Providers	19
Key Question 2. Effect of Impediments and Barriers of Populations Adversely Affected by Disparities	19
Key Question 2. Overview.....	19
Key Question 2. Key Findings.....	19
Key Question 2. Results of Studies.....	19
Key Question 3. Effectiveness of Patient-Provider Approaches	35
Key Question 3. Overview.....	35
Key Question 3. Key Findings.....	35
Key Question 3. Results of Studies.....	35
Key Question 4. Effectiveness of Health Information Technologies	42
Key Question 4. Overview.....	42
Key Question 4. Key Findings.....	42
Key Question 4. Results of Studies.....	42
Key Question 5. Effectiveness of Health System Interventions	50

Key Question 5. Overview.....	50
Key Question 5. Key Findings.....	50
Key Question 5. Results of Studies.....	50
Meta-Analysis of Studies of the Effectiveness of Patient Navigation To Increase Cancer Screening.....	92
Effects of Patient Navigation on Colorectal Cancer Screening.....	98
Effects of Patient Navigation on Breast Cancer Screening.....	109
Effects of Patient Navigation on Cervical Cancer Screening.....	114
Discussion.....	115
Summary of Findings.....	115
Findings in Relation to What Is Already Known.....	122
Strength of Evidence.....	123
Applicability.....	124
Limitations of the Systematic Review.....	124
Limitations of Current Evidence.....	125
Future Research Needs and Opportunities.....	126
Conclusions.....	127
References.....	129
Abbreviations and Acronyms.....	142

Tables

Table A. Preventive services included in review.....	ES-2
Table B. Number of studies included in review by Key Question and preventive service	ES-4
Table C. Summary of evidence for Key Question 2: effect of impediments and barriers of populations.....	ES-5
Table D. Summary of evidence for Key Question 3: effectiveness of patient-provider approaches.....	ES-7
Table E. Summary of evidence for Key Question 4: effectiveness of health information technologies	ES-8
Table F. Summary of evidence for Key Question 5: effectiveness of health system interventions.....	ES-10
Table 1. Preventive services included in review.....	4
Table 2. Relationship of the three phases of disparities research and Key Questions of review....	6
Table 3. Inclusion and exclusion criteria for studies	7
Table 4. Number of studies included in review by Key Question and preventive service	18
Table 5. Studies of the effects of barriers to colorectal cancer screening.....	22
Table 6. Studies of the effects of barriers to breast cancer screening.....	26
Table 7. Studies of the effects of barriers to cervical cancer screening.....	31
Table 8. Studies of the effects of barriers to smoking cessation.....	34
Table 9. Studies of effectiveness of clinician approaches in reducing disparities in preventive care services.....	39
Table 10. Studies of effectiveness of health information technologies in reducing disparities in preventive care services	47
Table 11. Studies of effectiveness of health system interventions for colorectal, breast, and cervical cancer screening combined	61
Table 12. Studies of effectiveness of health system interventions for colorectal cancer screening	64

Table 13. Studies of effectiveness of health system interventions for breast cancer screening ...	77
Table 14. Studies of effectiveness of health system interventions for cervical cancer screening	83
Table 15. Studies of effectiveness of health system interventions for tobacco smoking cessation	86
Table 16. Studies of effectiveness of health system interventions for obesity management and screening	90
Table 17. Populations and other abbreviations in forest plots	92
Table 18. Components of colorectal cancer screening navigation	93
Table 19. Components of breast cancer screening navigation.....	96
Table 20. Components of cervical cancer screening navigation.....	97
Table 21. Results of meta-analyses of colorectal cancer screening studies.....	98
Table 22. Randomized controlled trials included in meta-analyses of colorectal cancer screening	100
Table 23. Observational studies included in meta-analyses of colorectal cancer screening	102
Table 24. Results of meta-analyses of breast cancer screening studies	109
Table 25. Randomized controlled trials included in meta-analyses of breast cancer screening.	110
Table 26. Before-after study of breast cancer screening.....	110
Table 27. Results of cervical cancer screening trials.....	114
Table 28. Randomized controlled trials of cervical cancer screening	114
Table 29. Prospective cohort study of cervical cancer screening	114
Table 30. Summary of evidence for Key Question 2: effect of impediments and barriers of populations.....	115
Table 31. Summary of evidence for Key Question 3: effectiveness of patient-provider approaches.....	117
Table 32. Summary of evidence for Key Question 4: effectiveness of health information technologies	119
Table 33. Summary of evidence for Key Question 5: effectiveness of health system interventions	120

Figures

Figure 1. Conceptual diagram.....	3
Figure 2. Relationship of Key Questions, interventions, and settings	10
Figure 3. Analytic framework.....	11
Figure 4. Literature flow diagram	17
Figure 5. Meta-analysis of randomized controlled trials of the overall effect of patient navigation on colorectal cancer screening rates	103
Figure 6. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by screening test, where subgroup results include all relevant studies	104
Figure 7. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by screening adherence at baseline.....	105
Figure 8. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by followup time.....	106
Figure 9. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by study quality.....	107
Figure 10. Meta-analysis of observational studies of the effect of patient navigation on colorectal cancer screening rates by screening test	108

Figure 11. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by adherence at baseline	111
Figure 12. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by followup time	112
Figure 13. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by study quality	113

Appendixes

Appendix A. Literature Search Strategies
Appendix B. Included Studies List
Appendix C. Excluded Studies List
Appendix D. Study Design Algorithm
Appendix E. Criteria for Assessing Quality and External Validity of Individual Studies
Appendix F. Evidence Tables
Appendix G. Quality Assessment
Appendix H. Community-Based Studies
Appendix I. Funnel Plot of Colorectal Cancer Screening Studies in Meta-Analysis
Appendix J. Strength of Evidence

Evidence Summary

Introduction

Purpose

This systematic evidence review summarizes research on achieving health equity in 10 preventive services for cancer, cardiovascular disease, and diabetes in adults by identifying the effects of impediments and barriers that create disparities and the effectiveness of strategies and interventions to reduce them. It is guided by five Key Questions (KQs) developed to inform the June, 2019 National Institutes of Health (NIH) Office of Disease Prevention's Pathways to Prevention Workshop on Achieving Health Equity in Preventive Services (<https://prevention.nih.gov/research-priorities/research-needs-and-gaps/pathways-prevention/achieving-health-equity-preventive-services>), cosponsored by the National Institute on Minority Health and Health Disparities (NIMHD), the National Heart, Lung, and Blood Institute (NHLBI), the National Cancer Institute (NCI), and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). This review also serves as a resource for health researchers, policymakers, planners, and other stakeholders to inform future efforts to achieve health equity in preventive services.

Background

Health equity is defined by Healthy People 2020 as the “attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and healthcare disparities.”¹ NIMHD defines a *health disparity* as “a health difference that adversely affects disadvantaged populations based on one or more health outcomes”² determined by a higher incidence or prevalence of disease, a population health measure of greater burden of disease, or worse outcomes.² Populations adversely affected by disparities as defined by NIMHD include racial and ethnic minority populations (African Americans/Blacks, Hispanics/Latinos, American Indians/Alaska Natives, Asians, and Native Hawaiians and Other Pacific Islanders), socioeconomically disadvantaged populations, underserved rural populations, sexual and gender minority populations, and/or others subject to discrimination.² These populations have poorer health outcomes attributed to being socially disadvantaged, which results in being underserved in the full spectrum of healthcare.² Social determinants of health underlie health disparities and extend beyond recognized disadvantaged populations. While social determinants can affect health outcomes directly, they may also be associated with differential access to and use of healthcare.

The existence of health disparities in the United States is well known including disparities in preventive health services,³ such as routine screenings, examinations, and patient counseling to prevent illnesses and other health-related conditions.⁴

Key Questions

This review addresses five KQs on achieving health equity in preventive services related to three high-burden diseases in the United States: cancer, cardiovascular disease, and diabetes. Specific preventive services are based on 10 A- or B-level recommendations from the U.S.

Preventive Services Task Force (USPSTF) (Table A). KQs were developed by members of an NIH planning committee and a nonfederal Technical Expert Panel and include the following:

Key Question 1: What is the effect of impediments and barriers on the part of providers to the adoption, promotion, and implementation of evidence-based preventive services that contribute to disparities in preventive services? Which of them are most common?

Key Question 2: What is the effect of impediments and barriers on the part of populations adversely affected by disparities to the adoption, promotion, and implementation of evidence-based preventive services that contribute to disparities in preventive services? Which of them are most common?

Key Question 3: What is the effectiveness of different approaches and strategies between providers and patients that connect and integrate evidence-based preventive practices for reducing disparities in preventive services?

Key Question 4: What is the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation, and dissemination of evidence-based preventive services in settings that serve populations adversely affected by disparities?

Key Question 5: What is the effectiveness of interventions that healthcare organizations and systems implement to reduce disparities in preventive services use?

Table A. Preventive services included in review

Condition	Preventive Service	Population
Cancer	Colorectal cancer screening	Adults age 50 to 75 years
	Breast cancer screening	Women age 40 years and older ^a
	Cervical cancer screening	Women age 21 to 65 years
	Lung cancer screening	Adults age 55 to 80 years with a smoking history
	Tobacco smoking cessation: behavioral and pharmacotherapy interventions ^b	Adults
Cardiovascular disease	Aspirin use to prevent cardiovascular disease and colorectal cancer: preventive medication	Adults age 50 to 59 years with >10% 10-year CVD risk
	Healthful diet and physical activity for CVD prevention in adults with risk factors: behavioral counseling	Adults with obesity and cardiovascular disease risk factors
	High blood pressure screening	Adults age 18 years and older
Diabetes	Abnormal blood glucose and type 2 diabetes screening	Adults age 40 to 70 years who are overweight or obese

Condition	Preventive Service	Population
	Obesity in adults: screening and management ^b	All adults (screening); adults who are overweight or obese (management)

Abbreviations: CVD = cardiovascular disease

^aBreast cancer screening for women age 40 to 49 is a C-level USPSTF recommendation, but is covered under the Affordable Care Act and included in this review.

^bAlso relevant to cardiovascular disease prevention.

Methods

This review follows standard methods for systematic reviews⁵ that are further described in the full protocol available at the Effective Health Care website (<https://effectivehealthcare.ahrq.gov/topics/health-equity-preventive/protocol>). The protocol was registered with PROSPERO (CRD42018109263).

Searches included Ovid[®] MEDLINE[®], PsycINFO[®], and SocINDEX databases from January 1, 1996 to July 5, 2019; Veterans Affairs Health Services Research and Development citations database; manual review of reference lists; reports produced by government agencies and healthcare provider organizations; and suggestions from experts.

Pre-established eligibility criteria defined by populations, interventions, comparators, outcomes, timing, and setting (PICOTS) were developed by investigators in accordance with established methods.⁵ To meet inclusion criteria for KQ1 and KQ2, studies reported the effects of barriers and impediments, not just their association or existence. That is, studies were only included if they examined whether a barrier or impediment resulted in or explained differential preventive service use, but not if they merely demonstrated the existence of a hypothesized barrier. Although several types of study designs were eligible for inclusion, trials or observational studies with comparison groups, or before-after studies that assessed differences between groups, were most likely to report measures of effect.

Studies of the effectiveness of clinician-patient interventions (KQ3) were differentiated from studies of health system interventions (KQ5) by having a major component of care based in the clinical provider's setting or in the context of the clinical interaction. Interventions occurring outside of clinical or health system settings, such as in communities, were included if the interventions were directly or indirectly connected to clinics or health systems.

Two investigators independently reviewed eligible abstracts and full-text articles for inclusion; disagreements were resolved by discussion and consensus. Data were abstracted into evidence tables with particular emphasis on specific populations adversely affected by disparities in terms provided by the original study. All study data were verified for accuracy and completeness by a second investigator.

Risk of bias and applicability of studies were independently dual-rated as good, fair, or poor by investigators using established criteria;⁵⁻⁸ disagreements were resolved by consensus. Evidence tables were developed to describe study characteristics, results, and ratings for included studies, and summary tables highlight main findings. Data synthesis involved a hierarchy-of-evidence approach, where the best evidence was considered most highly for each KQ. The strength of evidence and overall applicability for each KQ and outcome were assessed by investigators as high, moderate, or low through consensus using established methods.⁵ Results of studies of patient navigation interventions to increase screening rates for colorectal, breast, or cervical cancer were combined using meta-analysis to obtain summary estimates of effect using a profile likelihood random effects model.⁹

Results

A total of 17,956 abstracts were identified through database searches and reviewed for inclusion; of these, 1,981 full-text articles meeting initial criteria were reviewed in detail. One hundred twenty-five articles representing 120 unique studies met inclusion criteria; eight studies addressed more than one KQ (Table B). Most studies evaluated the effectiveness of interventions to increase screening rates for colorectal, breast, and cervical cancer. These studies were designed as randomized controlled trials (RCTs), nonrandomized trials, and before-after studies comparing screening rates between intervention versus usual care or alternative care groups.

Table B. Number of studies included in review by Key Question and preventive service

Condition	Preventive Service	KQ1. Effect of Impediments and Barriers of Providers	KQ2. Effect of Impediments and Barriers of Populations	KQ3. Effectiveness of Patient- Provider Approaches	KQ4. Effectiveness of Health Information Technologies	KQ5. Effectiveness of Health System Interventions
Cancer	Colorectal cancer screening	0	5	6	4	50 ^a
	Breast cancer screening	0	10	2	3	26 ^b
	Cervical cancer screening	0	7	3	1	13 ^c
	Lung cancer screening	0	0	0	0	1
	Tobacco smoking cessation	0	3	1	2	0
Cardio-vascular disease	Aspirin to prevent CVD and CRC	0	0	0	0	0
	Healthful diet and physical activity for CVD prevention	0	0	0	0	0
	High blood pressure screening	0	0	0	0	1
Diabetes	Abnormal blood glucose and type 2 diabetes screening	0	0	0	0	0
	Obesity screening and management	0	0	1 ^d	2	7

Abbreviations: CRC = colorectal cancer; CVD = cardiovascular disease; KQ = Key Question

Note: Some studies are included for multiple Key Questions or preventive services.

^a50 studies in 54 publications

^b26 studies in 27 publications

^c13 studies in 14 publications

^d1 study in 2 publications

Key Question 1. Effect of Impediments and Barriers of Providers

No eligible studies evaluated provider-specific effects of impediments and barriers to the adoption, promotion, and implementation of the 10 preventive services that contribute to

disparities. Although many studies describing impediments and barriers have been published, they generally do not focus on factors related to providers and frequently report cross-sectional associations between disadvantaged groups and hypothesized barriers without examining the effects of those barriers on preventive service use.

Key Question 2. Effect of Impediments and Barriers of Populations Adversely Affected by Disparities

Eighteen studies evaluated the effects of impediments and barriers of populations adversely affected by disparities to the adoption, promotion, and implementation of the 10 preventive services (Table C). Most studies were primarily designed to evaluate interventions to increase use of a preventive service, and barriers were assessed by various methods of secondary analysis. Studies included racial and ethnic minorities, including African Americans, Hispanics, Korean Americans, and Chinese Americans; and rural and low-income patients. Studies involved screening for colorectal, breast, or cervical cancer, including five studies that examined screening for multiple types of cancer, and smoking cessation.

The most commonly examined barrier was type of insurance coverage, however, results of studies were mixed, as were results for lack of a regular healthcare provider. Impediments and barriers with effects on the use of preventive services included older age, rural or economically deprived location, and issues related to access. Low income, Spanish or limited-English language, and low health literacy were not barriers.

Table C. Summary of evidence for Key Question 2: effect of impediments and barriers of populations

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Low income	1 RCT (240)	No effect among safety net clinics	Low; low
	Insurance status and type	2 RCTs (1,436)	Less screening with Medicare compared with county health plans in 1 RCT; no effect in another RCT	Low; low
	Screening attitudes	1 RCT ^a (257)	Higher scores on attitudes scale associated with higher screening rates among African Americans	Insufficient; insufficient
	Language	1 RCT ^b (1,070)	No effect on screening with Spanish compared with English speakers	Low; low
	Health literacy	1 RCT (264)	No effect on screening among disadvantaged	Low; low
Breast cancer screening	Country of origin	1 RCT (1,333); 1 before-after study (437)	More screening among Puerto Rican vs. other non-U.S. born Latinas in 1 RCT, and African-American women born outside the U.S. in a before-after study	Insufficient; insufficient
	Older age at migration	1 RCT (300)	Less screening for older low-income Chinese immigrants	Low; low
	Low income	2 RCTs (491)	No effect in 2 RCTs	Low; low

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Insurance status and type	2 before-after studies (666); 5 RCTs (3,871); 1 retrospective chart review (8,347)	More screening with Medicare compared with no coverage in 1 RCT and with insurance in 2 studies; less with insurance in 1 before-after study; no effect in 3 studies; mixed results in chart review study (lower rates for Black, not Hispanic)	Low; low
	Rural access	1 cohort study (166)	Less screening with increasing distance from radiologist office and with living in economically-deprived areas	Low; low
	No provider	1 before-after study (437); 1 RCT (300)	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
	Language	2 RCTs (1,617); 1 before-after study (229)	No effect among low-income Chinese-American immigrants, Spanish speaking or limited-English speaking Hispanic women	Low; low
	Individual access-related barriers	1 RCT (851)	Some barriers decrease screening among rural, low-income women (not knowing where to get a mammogram, cost), while others had no effect (time, insurance status, difficulty getting to the facility)	Low; low
Cervical cancer screening	Country of origin	2 RCTs (1,678)	More screening among Puerto Rican vs. other non U.S.-born Latinas in 1 RCT; no effect in RCT of low-income rural women	Insufficient; insufficient
	Older age	1 RCT (345)	Less screening for older low-income rural women	Low; low
	Low income	1 RCT (345)	No effect among low-income rural women	Low; low
	Insurance status and type	3 RCTs (2,246); 1 before-after study (782)	Less screening with Medicare compared with county health plans in 1 RCT and with any insurance in 2 studies; no effect in 1 RCT	Low; low
	Language	1 RCT ^b (967)	No effect on screening among Spanish speaking women	Low; low
	No provider	1 RCT (705); 1 before-after study (732)	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
Smoking cessation	Attitudes	1 RCT ^c (314)	Motivations for smoking differed between African-American and White smokers, but did not explain lower quit rates for African Americans	Insufficient; insufficient
	No provider	1 before-after study (879)	A regular source of healthcare was associated with planning to quit, ever receiving physician advice to quit, and smoking ≤ 10 cigarettes/day	Low; low

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Language	1 before-after moderation analysis (615)	Latinos preferring Spanish are more likely to quit vs. those preferring English	Insufficient; insufficient

Abbreviations: RCT = randomized controlled trial.

^aSecondary data analysis of participants who did not undergo screening.

^bSecondary analysis of RCT data.

^cMediation analysis of baseline data.

Key Question 3. Effectiveness of Patient-Provider Approaches

Twelve studies (in 13 publications) evaluated the effectiveness of approaches and strategies between patients and clinician providers that connect and integrate practices for reducing disparities in preventive services (Table D). Studies evaluated colorectal, breast, and cervical cancer screening, tobacco smoking cessation, and obesity management and enrolled African-American, Hispanic, Asian, rural, and low-income patients.

Two studies of interventions with patient navigators showed improvement in colorectal cancer screening rates, while tailored and personalized risk assessment using printed materials and telephone counseling improved screening for first-degree relatives of patients with colorectal cancer. Educational videos with physician reminders and a screening decision aid also improved colorectal cancer screening rates in specific populations. Mailed or in-person reminders for mammography screening involving lay health workers increased rates in two studies. Cervical cancer screening rates increased for low-income Latina farm workers with outreach and health education, and for low-income Chinese-American women with education and navigation. A tobacco smoking cessation intervention for women smokers attending their child's pediatric visit improved smoking abstinence rates. A weight loss intervention provided by primary care physicians for low-income, overweight and obese African-American women was effective for initial weight loss, but not for sustained weight loss.

Table D. Summary of evidence for Key Question 3: effectiveness of patient-provider approaches

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	2 RCTs (486)	Increased screening rates in 2 RCTs of Hispanic, African-American, and low-income patients	Low; low
	Printed materials and telephone counseling	1 RCT (1,280)	Increased screening rates among first-degree relatives of colorectal cancer cases for Latinos, Asians, and Whites, but not African Americans	Low; low
	Mailed materials	1 RCT (1,430)	Higher screening rates in Whites than African Americans	Insufficient; insufficient
	Educational video and physician reminder	1 RCT (65)	Higher screening rates among Latinos	Insufficient; insufficient
	Decision aid with or without personalized risk assessment	1 RCT (825)	Increased screening completion rates with decision aid among low-income patients	Insufficient; insufficient

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Breast cancer screening	Reminders with lay health workers	1 RCT ^a (2,357); 1 nonrandomized trial (1,693)	Increased screening rates among low-income women in 2 trials	Moderate; moderate
Cervical cancer screening	Reminders with lay health workers	1 nonrandomized trial (1,693)	Increased screening rates among low-income women	Low; low
	Education video and <i>promotora</i>	1 RCT (443)	Increased screening rates among rural Latinas	Low; low
	Education with navigation	1 cohort (134)	Increased screening rates among low-income Chinese-American women	Insufficient; insufficient
Tobacco smoking cessation	Message from child's clinician, interview, telephone counseling	1 RCT (303)	Higher quit rates at 3 and 12 months among low-income women	Low; low
Obesity management	Tailored weight loss intervention from primary care physicians	1 RCT (137)	Improved weight loss in low-income African-American women at 9 months, but not at 12 or 18 months	Insufficient; insufficient

Abbreviations: RCT = randomized controlled trial

^aIncludes reminder letters followed by lay health worker counseling.

Key Question 4. Effectiveness of Health Information Technologies

Eleven studies evaluated the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation and dissemination of preventive services in settings that serve populations adversely affected by disparities (Table E). Interventions included methods to increase screening for colorectal, breast, or cervical cancer, smoking cessation, and obesity management. Studies used different technology-based approaches including automated reminders delivered via text message or telephone, web-based self-monitoring, interactive kiosks, telemedicine-based video counseling, and electronic decision aids. Studies enrolled low-income, Alaska Native and American Indian, and Latina patients.

Most technology interventions did not increase screening rates or smoking quit rates compared with alternative approaches. Screening rates were higher in a study using an electronic health record (EHR) to identify patients eligible for colorectal cancer screening for mailings and phone calls, and in a RCT using an electronic decision aid with patient-ordered screening tests. A trial of smoking cessation counseling using telemedicine compared with telephone calls showed an increase in pharmacotherapy use, but no improvement in quit rates. Rates were higher with an intervention combining technological approaches to identifying and recruiting eligible patients for smoking cessation counseling and pharmacotherapy. An intervention for obesity management using a web- or telephone-based self-monitoring component resulted in lower body mass index (BMI).

Table E. Summary of evidence for Key Question 4: effectiveness of health information technologies

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Electronic decision aid with patient-ordered tests and followup messages	1 RCT (450)	Increased screening rates in low-income patients	Low; low
	Web-based electronic decision aid before healthcare visit	1 RCT (264)	No effect on screening rates in socioeconomically disadvantaged patients; increased patient readiness for screening	Insufficient; insufficient
	EHR-identified mailings and telephone calls	1 RCT (240)	Increased screening rates in low-income patients	Insufficient; insufficient
	Text messages added to usual telephone calls and mailings	1 RCT (808)	No differences among Alaska Native and American Indian patients	Low; low
Breast cancer screening	EHR-identified mailings and telephone calls	1 RCT (191)	No effect among low-income patients	Insufficient; insufficient
	EHR-triggered reminder letters	1 RCT (1,717)	No effect among low-income patients	Insufficient; insufficient
	Interactive computer program and patient navigation	1 RCT (179)	Increased mammography adherence and readiness among low-income African-American women	Insufficient; insufficient
Cervical cancer screening	Electronic education modules	1 RCT (943)	No effect among low-income Latinas	Low; low
Smoking cessation	Counseling by telemedicine	1 RCT (566)	No difference in quit rates among low-income rural patients	Low; low
	EHR-identified smokers followed by counseling and NRT	1 RCT (707)	Increased quit rates among low socioeconomic status patients	Low; low
Obesity Management	Behavioral change counseling with web- or telephone-based patient self-monitoring	1 RCT (365)	Decreased BMI among patients of ethnic and racial minorities	Low; low

Abbreviations: BMI = body mass index; EHR = electronic health record; NRT = nicotine replacement therapy; RCT = randomized controlled trial.

Key Question 5. Effectiveness of Health System Interventions

Eighty-eight studies (in 92 publications) evaluated the effectiveness of interventions implemented by healthcare organizations and systems to reduce disparities in use of preventive services (Table F). These include 50 studies of colorectal cancer screening, 26 of breast cancer screening, 13 of cervical cancer screening, six of smoking cessation, seven of obesity screening and management, and single studies of screening for lung cancer and high blood pressure. Most studies demonstrated improved outcomes with health system interventions, although some reported mixed results. Studies were highly heterogeneous and many interventions included multiple components.

Studies generally compared enhanced interventions with usual care or alternative methods, and measured effectiveness with improved screening rates, smoking quit rates, or changes in

BMI or blood pressure. Interventions included those provided within health system settings, such as patient navigators, telephone and mail contacts, checklists, and provider training; and those using community resources through partnerships or outreach, such as patient navigators in the community, lay health workers, telephone or mail contacts, patient education, and engagement with community resources. Study populations included racial and ethnic minority groups including Hispanic, African-American, and Asian; and rural and low-income patients.

Fifty studies (in 53 publications) evaluated the effectiveness of interventions to improve colorectal cancer screening compared with standard screening procedures, general health education, or usual care. Of 25 studies evaluating patient navigation, screening rates were higher in all but four. Additional studies evaluating the effectiveness of telephone calls, prompts, and other outreach methods; educational videos; screening checklists; provider training; and practice changes involving community engagement also reported higher screening rates. However, results occasionally varied by subgroup and some interventions were evaluated in few studies.

Twenty-six studies (in 27 publications) evaluated the effectiveness of health system interventions for breast cancer screening. Seven studies of patient navigation showed higher breast cancer screening rates compared with standard screening procedures, general health education, or usual care, while one trial indicated no increase. Screening was not higher with telephone calls, prompts, and other outreach methods. Small numbers of additional studies of lay health workers, patient education, screening checklists, and practice changes involving community engagement reported higher breast cancer screening rates with interventions.

Thirteen studies (in 14 publications) evaluated the effectiveness of health system interventions for cervical cancer screening. Four studies of patient navigation showed increased screening and diagnostic resolution compared with general health education or usual care. Screening and colposcopy followup rates also increased with specific types of telephone calls and prompts. Interventions with lay health workers increased screening rates among Hispanic women in one trial, but were not effective in others. While a study of practice changes involving community engagement improved screening rates, a screening checklist that increased screening rates for breast cancer was not effective in increasing rates for cervical cancer.

Lung cancer screening rates were higher with patient navigation in a trial involving five community health centers. Interventions for tobacco smoking cessation were evaluated in six trials, although results were mixed: three trials indicated improved quit rates with patient navigation, counseling, and nicotine replacement therapy, while three showed no effects. Rates of high blood pressure were not reduced with an intervention involving lay health workers, education, community activities, and a behavior change prescription. Obesity education and counseling interventions showed mixed results with lower BMI in three studies and no differences in three. Case management with a lay health worker was also ineffective in a weight reduction trial of low-income Hispanic adults.

Table F. Summary of evidence for Key Question 5: effectiveness of health system interventions

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	20 RCTs (30,736); 3 nonrandomized trials (1,392); 2 before-after studies (4,882)	Increased screening rates in all but 4 studies	High; high
	Telephone calls, prompts, and other outreach	10 RCTs (61,155); 2 nonrandomized trials (1,080); 2 before-after studies (918,667); 1 post intervention time series (4,423,734)	Increased screening rates for multiple types of outreach among several patient populations; no effect in 2 studies	High; high
	Educational videos	4 RCTs (1,823)	Increased screening for low-income patients in 2 RCTs; no effect in 2 others	Low; low
	Screening checklist	1 RCT (1,196)	Increased screening rates in low-income patients	Low; low
	Provider training	2 before-after studies (4,092)	Increased colonoscopy rates and documentation; no increase in FOBT	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low
Breast cancer screening	Patient navigation	7 RCTs (8,622); 1 before-after study (91); 1 post-intervention time series (1,664)	Increased screening rates in all studies except 1 RCT	Moderate; moderate
	Telephone calls, prompts, and other outreach	5 RCTs (2,238)	Increased screening rate in 1 RCT; no increase others	Low; low
	Patient education	2 RCTs (341)	Increased screening rates in Chinese and Korean-American women	Low; low
	Lay health workers	4 RCTs (2,573)	Increased screening rates in 3 RCTs of Hispanic and African-American women; no increase in another RCT of Hispanic women	Moderate; moderate
	Screening checklist	1 RCT (1,196)	Increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low
Cervical cancer screening	Patient navigation	3 RCTs (2,378); 1 nonrandomized trial (1,763)	Increased screening and diagnostic resolution	Moderate; moderate
	Telephone calls, prompts, and other outreach	2 RCTs (1,784)	Increased screening and colposcopy followup	Low; low
	Lay health workers	5 RCTs (3,641)	Increased screening rates among Hispanic women in 1 RCT; no increases in others	Low; low
	Screening checklist	1 RCT (1,196)	No increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Lung cancer screening	Patient navigation	1 RCT (1,200)	Increased screening rates among low-income smokers	Insufficient; insufficient
Smoking cessation	Patient navigation	2 RCTs (960)	Higher quit rates in 1 RCT, but not another	Insufficient; insufficient
	Nicotine replacement	2 RCTs (5,705)	Higher quit rates with counseling and nicotine replacement	Insufficient; insufficient
	Education and counseling	2 RCTs (6,219)	Higher short-term quit rates, but not long-term rates in 1 RCT; no differences in another	Insufficient; insufficient
High blood pressure screening	Education and counseling	1 RCT (1,443)	No difference in rates of high blood pressure among underserved women	Insufficient; insufficient
Obesity screening; management	Education and counseling	4 RCTs (1,293); 1 cohort study (69); 1 before-after study (59)	Lower BMI in 3 studies; no differences in 3 others	Insufficient; insufficient
	Case management and outreach	1 RCT (207)	No differences in BMI among low-income Hispanic adults	Insufficient; insufficient

Abbreviations: BMI = body mass index; FOBT = fecal occult blood test; RCT = randomized controlled trial

Meta-Analysis of Studies of the Effectiveness of Patient Navigation To Increase Cancer Screening

The meta-analysis included 36 studies of the effectiveness of patient navigation interventions involving clinicians and health systems to increase screening for colorectal, breast, and cervical cancer in populations adversely affected by disparities. Patient navigation broadly refers to services intended to improve a patient's engagement in their healthcare by providing **personal guidance as they move through the healthcare system**. Services may include outreach activities with letters or calls, educational materials and sessions, assessment and addressing of barriers to screening, language translation, and appointment scheduling and reminders, among others that varied across studies. Comparison groups included patients receiving usual care or alternative services without patient navigation.

For colorectal cancer screening, 22 RCTs and 6 observational studies evaluated the effectiveness of navigation. Results of all but 4 studies indicated higher screening rates with navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups. Combining results of all studies in meta-analysis indicated increased colorectal cancer screening with navigation in both RCTs (risk ratio [RR] 1.64; 95% confidence interval [CI] 1.42 to 1.92; $I^2 = 93.7\%$; 22 trials) and observational studies (RR 2.63; 95% CI 1.46 to 4.85; $I^2 = 90.9\%$; 6 studies). In RCTs, navigation increased screening for fecal occult blood test/fecal immunochemical test (RR 1.69; 95% CI 1.33 to 2.15; $I^2 = 80.5\%$; 6 trials), colonoscopy/endoscopy (RR 2.08; 95% CI 1.08 to 4.56; $I^2 = 94.6\%$; 6 trials), and any type of test (RR 1.72; 95% CI 1.43 to 2.08; $I^2 = 93.9\%$; 14 trials).

For breast cancer screening, 10 RCTs and one before-after observational study evaluated the effectiveness of patient navigation, and all but one study indicated higher screening rates with navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups. Combining results of all RCTs indicated increased breast cancer screening

with navigation (RR 1.50; 95% CI 1.22 to 1.91; $I^2 = 98.6\%$; 10 trials). The single observational study was consistent with these results (RR 1.52; 95% CI 1.16 to 2.00).

For cervical cancer screening, three RCTs and one observational study indicated higher screening rates with patient navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups. Results were not combined in statistical meta-analysis because of high heterogeneity.

Discussion

Strength of Evidence and Applicability

For most KQs, the strength of evidence regarding the effect of a barrier (KQ 2) or effectiveness of an intervention (KQs 3, 4, 5) is low or insufficient because of the lack of studies or studies met criteria for poor quality, were highly heterogeneous, reported different types of outcomes, or had inconsistent results. For these questions, additional evidence is required before making a conclusion or concluding either that the findings are stable or that the estimate of effect is close to the true effect.

Evidence is strongest for studies of patient navigation services to increase colorectal (high), breast (moderate), and cervical cancer screening (moderate). Although the evidence base includes several small, poor quality studies, results are supported by additional large, well-conducted studies reporting increased screening rates regardless of patient populations and settings. While results were generally consistent, the magnitude of the observed effects varied across studies. Some patient navigation interventions included additional services, such as lay health workers, reminder calls and mailings, and motivational interviewing. These services likely enhance the effect of navigation, although additional effects of these services could not be determined from the studies themselves. Evidence is high for the effectiveness of telephone calls and prompts to improve colorectal cancer screening, and moderate for reminders including lay health workers encouraging breast cancer screening.

For most KQs, overall applicability regarding the effect of a barrier (KQ2) or effectiveness of a screening intervention (KQs 3, 4, 5) is low or insufficient because the study participants were highly selected and may not represent more general populations; and studies were small in size, usually involved only one or few clinical sites, and evaluated interventions tailored for specific population groups. However, applicability ratings may not be as important in studies of populations adversely affected by disparities as they are in studies of general populations. Different populations have different mediating and contributing factors, and interventions designed to reduce disparities may be targeted to the social, historical, and structural contexts of specific populations. Thus, interventions may be more or less effective across different populations. While variability across studies may limit the ability to apply results to other populations and settings, it also provides opportunities to evaluate unique approaches to reducing disparities in specific populations.

Limitations

Limitations of this review include using only English language articles and studies applicable to the United States, although this focus improves its relevance to the Pathways to Prevention Workshop on Achieving Health Equity in Preventive Services. This review addressed five KQs that limited its scope. Eligibility criteria for studies confined inclusion to specific populations,

interventions, comparators, and outcomes. Many additional issues relevant to achieving health equity in preventive services fall outside this scope. The number, quality, and applicability of studies evaluated in the evidence review varied widely. Few studies addressed the effects of impediments and barriers to preventive care, including no studies of provider barriers. The limited number of health technology-based studies precludes any conclusions about using them to improve preventive services in disadvantaged populations.

Current evidence on achieving health equity in preventive services is limited primarily by the lack of studies for specific preventive services, population groups, and interventions. Most studies involved screening for colorectal, breast, or cervical cancer, studies were not available for most of the preventive services that are the focus of this review. Although the database search identified an expansive literature on the topic of health disparities, many studies were not relevant to the KQs for this systematic review. While the effectiveness of the preventive services covered in this review has been previously established and supported by USPSTF recommendations, research evaluating the effectiveness of interventions to reduce disparities in receipt of these services is generally lacking. The lack of studies and methodological deficiencies of existing studies reflect a limited and fragmented evidence base.

Future Research Needs and Opportunities

Future research is needed to address gaps and deficiencies of existing studies. Additional research on unstudied populations experiencing adverse effects of healthcare disparities would include racial, ethnic, and socioeconomically disadvantaged populations, underserved rural populations, sexual and gender minority populations, and others subject to discrimination. Studies should expand to include more than one site or geographic region to improve statistical power for subgroup comparisons and improve understanding of similarities and differences across defined groups. Members of the target population should be involved in planning studies to inform the study design, interventions, and outcome measures. Studies evaluating interventions found to be successful in existing studies, such as patient navigation or clinician-linked outreach and education, should be extended to additional populations and settings. Additional research is needed to evaluate the effectiveness of interventions to reduce disparities for preventive services that have not been addressed by existing studies, including cardiovascular disease and diabetes.

Conclusions

This review included 120 studies (in 125 publications) of populations adversely affected by disparities in preventive health services from multiple racial, ethnic, and socioeconomically disadvantaged groups. Studies primarily evaluated barriers and interventions related to screening for colorectal, breast, and cervical cancer, with additional studies on smoking cessation and obesity management, and single studies of screening for lung cancer and high blood pressure. No studies evaluated the effect of impediments and barriers on the part of providers to the adoption, promotion, and implementation of preventive services that contribute to disparities (KQ1).

Eighteen studies evaluated the effect of impediments and barriers on the part of populations (KQ2). Results of studies were mixed for type of insurance coverage and lack of a regular healthcare provider. Impediments and barriers with effects on the use of preventive services included older age, living in a rural or economically deprived location, and issues related to access. Low income, Spanish or limited-English language, and low health literacy were not barriers.

Eleven studies evaluated the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation and dissemination of preventive services in settings that serve populations adversely affected by disparities (KQ4). Most technology interventions did not increase screening rates or smoking quit rates compared with alternative approaches.

Twelve studies evaluated the effectiveness of clinician-based interventions (KQ3) and 88 studies evaluated health system interventions to reduce disparities in use of preventive services (KQ5), predominantly screening for colorectal, breast, and cervical cancer. Colorectal cancer screening rates were higher with patient navigation; telephone calls, prompts, and other outreach methods; screening checklists; provider training; and practice changes involving community engagement. Results were mixed for educational videos. Breast cancer screening rates were higher with patient navigation; lay health workers; patient education; screening checklists; and practice changes involving community engagement, but not with telephone calls, prompts, and other outreach methods. Cervical cancer screening and diagnostic resolution rates were higher with patient navigation; telephone calls and prompts; and practice changes involving community engagement. Interventions with lay health workers and a screening checklist were not effective.

Overall, evidence is strongest for patient navigation services to increase colorectal, breast, and cervical cancer screening, telephone calls and prompts to increase colorectal cancer screening, and for reminders including lay health workers encouraging breast cancer screening. Evidence is low or insufficient for most other interventions and outcomes because of the lack of studies and methodological limitations of existing studies.

References

1. Disparities. HealthyPeople.gov.
<https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities#5>. Accessed May 23, 2019.
2. HD Pulse. National Institute on Minority Health and Health Disparities; 2017.
<https://hdpulse.nimhd.nih.gov/>. Accessed May 23, 2019.
3. Smedley B, Stith A, Nelson A, editors. Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. National Academies Press (US). Copyright 2002 by the National Academy of Sciences. All rights reserved. Washington, DC: 2003. PMID: 25032386.
4. HealthCare.gov. Preventive Services.
<https://www.healthcare.gov/glossary/preventive-services/>. Accessed May 23, 2019.
5. Methods Guide for Effectiveness and Comparative Effectiveness Reviews. Rockville, MD: Agency for Healthcare Research and Quality.
<https://effectivehealthcare.ahrq.gov/topics/center-methods-guide/overview>. Accessed May 23, 2019.
6. U.S. Preventive Services Task Force. U.S. Preventive Services Task Force Procedure Manual. Rockville, MD; 2018.
<https://www.uspreventiveservicestaskforce.org/Page/Name/procedure-manual>. Accessed May 23, 2019.
7. Shea BJ, Hamel C, Wells GA, et al. AMSTAR is a reliable and valid measurement tool to assess the methodological quality of systematic reviews. J Clin Epidemiol. 2009 Oct;62(10):1013-20. doi: 10.1016/j.jclinepi.2008.10.009. PMID: 19230606.
8. Trikalinos TA, Balion CM. Chapter 9: Options for Summarizing Medical Test Performance in the Absence of a “Gold Standard”. J Gen Intern Med. 2012;27(1):67-75. doi: 10.1007/s11606-012-2031-7. PMID: 22648677.
9. Morton SC, Murad MH, O'Connor E, et al. Quantitative Synthesis-An Update. Methods Guide for Effectiveness and Comparative Effectiveness Reviews. (Prepared by the Scientific Resource Center under Contract No. 290-2012-0004-C). AHRQ Publication No. 18-EHC007- EF. Rockville, MD: Agency for Healthcare Research and Quality; 2008.

Introduction

Purpose

This systematic evidence review summarizes research on achieving health equity in 10 preventive services for cancer, cardiovascular disease, and diabetes in adults by identifying the effects of impediments and barriers that create disparities and the effectiveness of strategies and interventions to reduce them. It is guided by five Key Questions (KQs) developed to inform the June, 2019 National Institutes of Health (NIH) Office of Disease Prevention's Pathways to Prevention Workshop on Achieving Health Equity in Preventive Services (<https://prevention.nih.gov/research-priorities/research-needs-and-gaps/pathways-prevention/achieving-health-equity-preventive-services>), cosponsored by the National Institute on Minority Health and Health Disparities (NIMHD), the National Heart, Lung, and Blood Institute (NHLBI), the National Cancer Institute (NCI), and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). This review also serves as a resource for health researchers, policymakers, planners, and other stakeholders to inform future efforts to achieve health equity in preventive services.

Background

Health Equity and Health Disparity: Definitions and Populations

Health equity is defined by Healthy People 2020 as the “attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and healthcare disparities.”¹ NIMHD defines a *health disparity* as “a health difference that adversely affects disadvantaged populations based on one or more health outcomes.”² The main health outcomes are: (1) higher incidence or prevalence of disease including earlier onset or more aggressive progression, and premature or excessive mortality from specific conditions; (2) a population health measure of greater global burden of disease such as Disability Adjusted Life Years (DALY); and (3) worse outcomes on self-reported measures of daily functioning or symptoms from specific conditions.²

Populations adversely affected by disparities as defined by the NIMHD include racial and ethnic minority populations (African Americans/Blacks, Hispanics/Latinos, American Indians/Alaska Natives, Asians, and Native Hawaiians and Other Pacific Islanders), socioeconomically disadvantaged populations, underserved rural populations, sexual and gender minority populations (lesbian, gay, bisexual, or transgender), and/or others subject to discrimination.² These populations have poorer health outcomes attributed to being socially disadvantaged, which results in being underserved in the full spectrum of healthcare.²

Social determinants of health underlie health disparities and extend beyond recognized disadvantaged populations. Social determinants of health are “conditions in which people are born, grow, live, work, and age.”³ They affect health outcomes and contribute to health inequity through pathways that typically do not involve the use, or non-use, of healthcare services.⁴ Social determinants include socioeconomic factors, such as income, food insecurity, access to education, and literacy; social and community contexts, such as institutional discrimination, incarceration, and social cohesion; and environmental factors, such as crime and violence, pollution, quality of housing and other environmental conditions.⁴ While social determinants can

affect health outcomes directly, they may also be associated with differential access to and use of healthcare.

The existence of health disparities in the United States is well known including disparities in preventive health services,⁵ such as routine screenings, examinations, and patient counseling to prevent illnesses and other health-related conditions.⁶ Health disparities in preventive services are the focus of this report.

Challenges in Achieving Health Equity in Preventive Services

Overall, Americans use preventive services at approximately half the recommended rates.⁷ Access and utilization of preventive healthcare differs across racial and ethnic groups,^{8,9} among adolescents,¹⁰ and for individuals with mental illness¹¹ or disabilities,¹² among others. Screening for cancer (colorectal, breast, cervical) and cardiovascular risk varies by poverty level and insurance status.¹³⁻¹⁵ However, evidence about ways to reduce health disparities is often not available to inform clinical practice recommendations. In a report to Congress, the U.S. Preventive Services Task Force (USPSTF) identified evidence gaps that prevent it from making recommendations for specific racial and ethnic populations and age groups.¹⁶ These gaps include screening for breast cancer in African-American women, prostate cancer in African-American men, and illicit drug use in children and adolescents.

Achieving health equity in prevention is particularly challenging because nearly everyone in the population is eligible for preventive services, and, consequently, disparities can occur across multiple sociodemographic dimensions as defined by Healthy People 2020.¹⁷ In addition, the effectiveness of prevention relies on specific clinical pathways of services, which create multiple opportunities for disadvantaged groups to “fall through the cracks.” As a result, the scope and complexity of this topic is immense and can be imagined as the large number of sociodemographic dimensions across which disparities might exist, multiplied by the number of preventive services considered.

The complexity of this issue is illustrated in an example of a clinical pathway for a preventive service in the conceptual diagram below (Figure 1). The first step involves gaining access to healthcare, encompassed by affordability (e.g., copays, deductibles, coinsurance payments), availability (e.g., enough providers in area, appointment availability), accessibility (e.g., geographic considerations, ease of travel to and from appointments), accommodation (e.g., flexible work schedules, clinic hours), and acceptability (e.g., racial/ethnic, gender considerations to foster productive patient-provider relationships).^{18,19} After accessing healthcare, eligibility for the preventive service must be determined by identifying risk factors or other criteria (e.g., age, sex); followed by delivery of the preventive service (e.g., screening test, counseling intervention); followup of abnormal results (e.g., biopsy after mammography); and either diagnosis of the targeted health condition or resumption of routine screening at specified intervals. Each step in the pathway represents a potential gap or barrier that might give rise to a disparity resulting in inadequate preventive care for disadvantaged groups. Different preventive services present variations of this pathway.

Figure 1. Conceptual diagram

The multiple levels of influence that impact the successful navigation of the preventive service pathway are illustrated in the conceptual diagram for this review.

Successful navigation of the preventive service pathway is subject to multiple levels of influence, including those at societal, health system, clinician, and patient levels. Societal influences are particularly relevant to preventive services because accessibility is currently enhanced by provisions of the Affordable Care Act (ACA)²⁰ that mandate insurance coverage for U.S. Preventive Services Task Force (USPSTF) A- and B-level recommendations, immunizations recommended by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices, and recommendations from the Health Resources and Services Administration's Bright Futures program and Women's Preventive Services Initiative. While major goals of the ACA, including expanded coverage, reduced costs, and improved healthcare quality and population health, are directed at reducing health disparities,⁵ these goals may not be achieved for everyone and do not address all societal influences. Effective implementation of preventive services at the health system level is dependent upon additional influences that vary across healthcare organizations.²¹ Finally, clinician and patient level influences introduce issues related to professional, group, and individual factors.

Approach to Review and Key Questions

This review addresses five KQs on achieving health equity in preventive services related to three high-burden diseases in the United States: cancer, cardiovascular disease, and diabetes.

Specific preventive services are based on 10 A- or B-level recommendations from the USPSTF (Table 1). KQs were developed by members of an NIH planning committee and a nonfederal Technical Expert Panel and include the following:

Key Question 1: What is the effect of impediments and barriers on the part of providers to the adoption, promotion, and implementation of evidence-based preventive services that contribute to disparities in preventive services? Which of them are most common?

Key Question 2: What is the effect of impediments and barriers on the part of populations adversely affected by disparities to the adoption, promotion, and implementation of evidence-based preventive services that contribute to disparities in preventive services? Which of them are most common?

Key Question 3: What is the effectiveness of different approaches and strategies between providers and patients that connect and integrate evidence-based preventive practices for reducing disparities in preventive services?

Key Question 4: What is the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation, and dissemination of evidence-based preventive services in settings that serve populations adversely affected by disparities?

Key Question 5: What is the effectiveness of interventions that healthcare organizations and systems implement to reduce disparities in preventive services use?

Table 1. Preventive services included in review

Condition	Preventive Service	Population	Outcomes Related to Access and Services	Health Outcomes
Cancer	Colorectal cancer screening	Adults age 50 to 75 years	Rates of screening based on screening modality, followup procedures, and biopsies	Colorectal cancer incidence; advanced colorectal cancer; cancer-specific mortality, morbidity, quality of life, harms of screening
	Breast cancer screening	Women age 40 years and older ^a	Rates of screening mammography, followup imaging, and biopsies	Breast cancer incidence, advanced breast cancer, breast cancer mortality, and all-cause mortality, quality of life, harms of screening
	Cervical cancer screening	Women age 21 to 65 years	Rates of screening, followup procedures, biopsies, and colposcopy	Early detection of disease; invasive cancer incidence; disease specific mortality, morbidity, quality of life, harms of screening

Condition	Preventive Service	Population	Outcomes Related to Access and Services	Health Outcomes
	Lung cancer screening	Adults age 55 to 80 years with a smoking history	Rates of screening, followup procedures, and biopsies; smoking cessation	Cancer specific mortality, morbidity, and quality of life, harms of screening
	Tobacco smoking cessation: behavioral and pharmacotherapy interventions ^b	Adults	Rates of utilization of management services; smoking cessation; changes in tobacco smoking	Disease specific morbidity; mortality; perinatal morbidity/mortality; and quality of life, harms of interventions
Cardiovascular disease	Aspirin use to prevent CVD and colorectal cancer: preventive medication	Adults age 50 to 59 years with 10% or more 10-year CVD risk	Use of low-dose aspirin for prevention purposes	CVD events (MI, CHD); colorectal cancer incidence; disease specific mortality, morbidity, quality of life, harms of low dose aspirin
	Healthful diet and physical activity for CVD prevention in adults with cardiovascular risk factors: behavioral counseling	Adults with obesity and CVD risk factors	Utilization of counseling services; changes in diet and physical activity	Cardiovascular specific mortality, morbidity, quality of life, harms of counseling
	High blood pressure screening	Adults age 18 years and older	Rates of screening; measurable changes in blood pressure	Hypertension related mortality; CVD; CHD; stroke; heart failure; end stage kidney disease, harms of screening
Diabetes	Abnormal blood glucose and type 2 diabetes screening	Adults age 40 to 70 years who are overweight or obese	Rates of screening; development of type 2 diabetes; late stage diagnosis; healthcare utilization related to diabetes	Disease specific mortality, morbidity, quality of life, harms of screening
	Obesity in adults: screening and management ^b	All adults (screening); adults who are overweight or obese (management)	Rates of screening and utilization of management services	Disease specific morbidity, mortality, function, and quality of life, harms of screening and management

Abbreviations: CHD = coronary heart disease; CVD = cardiovascular disease; MI = myocardial infarction

^a Breast cancer screening for women age 40 to 49 is a C-level USPSTF recommendation, but is covered under the ACA.

^b Also relevant to cardiovascular disease prevention.

Scope of Review and PICOTS

The scope of this review is confined to five KQs regarding achieving health equity for the 10 clinical preventive services in the United States healthcare environment. The USPSTF recommendations are intended for implementation in primary care clinical settings, although additional resources may be necessary to successfully deliver services, such as mammography for breast cancer screening. Scope is further defined by the specific populations, interventions, comparators, outcomes, timing, and settings (PICOTS) of studies included in the review.

Research on disparities can be structured using a conceptual framework outlining phases that describe the focus of specific studies.²² In this framework, the five KQs for this review can be considered within the second (KQ1, KQ2) and third (KQs 3-5) phases of research (Table 2).

Table 2. Relationship of the three phases of disparities research and Key Questions of review

Phase	Focus	KQ in Review
First: detecting	Define health disparities and vulnerable populations, measure disparities in vulnerable populations, consider selection effects and confounding factors	Not included
Second: understanding	Identify determinants of health disparities at patient, provider, clinical encounter, and healthcare system levels	KQ1, KQ2
Third: reducing	Intervene, evaluate, translate and disseminate, change policy	KQs 3-5

Abbreviations: KQ = Key Question

For some aspects of this review, criteria for studies are intentionally broad in order to identify research that may be unanticipated at the beginning of the search process. Criteria are more restrictive for other parts of the review in order to manage its scope. For example, studies specifically concerning individuals with disabilities are excluded because the many types of disabilities to consider would greatly expand the systematic review. However, studies with broad inclusion criteria that also enrolled individuals with disabilities are included if studies otherwise meet eligibility criteria. Table 3 lists pre-specified inclusion and exclusion criteria that guided review of potentially eligible abstracts and articles.

Population

Populations adversely affected by disparities are those defined by NIMHD and include racial and ethnic minority populations (African Americans/Blacks, Hispanics/Latinos, American Indians/Alaska Natives, Asians, and Native Hawaiians and Other Pacific Islanders); socioeconomically disadvantaged populations; underserved rural populations; sexual and gender minority populations; and/or others subject to discrimination who have poorer health outcomes often attributed to being socially disadvantaged, which results in being underserved in the full spectrum of healthcare.²

Adults comprising the intended target populations for the USPSTF preventive service recommendations are included for all KQs. Target populations are asymptomatic for the condition of interest and vary according to the preventive service as listed in Table 1. KQ1 includes all types of healthcare providers, such as institutions (e.g., healthcare organizations or systems) and clinicians (e.g. primary care physicians, physician assistants, nurse practitioners); all KQs include populations adversely affected by disparities; KQ3 includes clinicians in healthcare organizations and systems serving populations and patients adversely affected by disparities, while KQ5 includes the health systems themselves. Excluded populations are individuals symptomatic for the condition of interest or not eligible for the preventive service; adolescents, children, and pregnant women; populations not adversely affected by disparities (except when used as a comparator); institutionalized individuals; and studies enrolling only individuals with disabilities.

Intervention

KQs 3, 4, and 5 examine the effectiveness of interventions to improve use of preventive services and health outcomes related to the 10 included preventive services as defined in Table 1. Interventions for KQ3 include approaches and strategies connecting providers and patients for reducing disparities in preventive services; KQ4 includes health technologies and digital enterprises to improve adoption, implementation, and dissemination of preventive services; and

KQ5 includes healthcare organization level interventions to reduce disparities in use of preventive services.

Comparators

The review includes studies evaluating the impact of barriers and interventions between disadvantaged and non-disadvantaged populations (e.g., minority vs. majority) and also within populations affected by disparities (e.g., among Latinos). Specific types of comparisons include screened versus unscreened populations; served versus not served populations; intervention versus no intervention, usual care, or alternative intervention; populations with barriers versus those without; populations adversely affected by disparities versus those unaffected. Studies without comparisons are excluded.

Outcomes

Clinical outcomes for all KQs include differences in the incidence, morbidity, mortality, burden of disease, function and quality of life; and other adverse health conditions that exist among specific population groups. Intermediate outcomes include differences in measures of access to preventive services including rates of screening and followup procedures, utilization of services, behavior change, and improvements in intermediate health outcomes. Adverse effects or harms of interventions are also included for KQs 3, 4, and 5 (Table 1 and Table 3).

Timing

Any duration of study execution and followup are included.

Setting

Included settings are consistent with the scope of the USPSTF clinical recommendations and include settings applicable to primary care clinical practice, such as outpatient clinics, community health clinics, and other settings where primary care is delivered in addition to settings referable from primary care settings. Settings are located in the United States or in countries with a “very high” United Nations Human Development Index²³ that are relevant to care in the United States.

Table 3. Inclusion and exclusion criteria for studies

PICOTS	Inclusion and Exclusion Criteria
Populations	<p>Include: Adults, asymptomatic for the condition and eligible for the screening or preventive service (target populations vary according to the preventive service; see Table 1) KQ1: Healthcare providers including institutions (e.g., healthcare organizations or systems) and clinicians (e.g. primary care physicians, physician assistants, nurse practitioners) KQs 1, 2, 4, & 5: Populations adversely affected by disparities KQ3: Populations adversely affected by disparities, providers serving populations adversely affected by disparities</p> <p>Exclude: Individuals symptomatic for the condition of interest or not eligible for the preventive service; adolescents, children, pregnant women; populations not adversely affected by disparities unless comparator; institutionalized individuals; individuals with severe and persistent mental illness or cognitive impairment; studies enrolling only individuals with disabilities</p>

PICOTS	Inclusion and Exclusion Criteria
Interventions	Include: KQs 3-5: 10 preventive services as defined in Table 1 KQ3: Approaches and strategies connecting providers and patients for reducing disparities in preventive services KQ4: Health technologies and digital enterprises to improve adoption, implementation, and dissemination of preventive services KQ5: Healthcare organization level interventions to reduce disparities in preventive service use Exclude: Interventions not relevant to the KQs
Comparisons	Include: Screened versus unscreened populations; served versus not served populations; intervention versus no intervention or usual care; populations with barriers versus those without; populations adversely affected by disparities versus those unaffected Exclude: No comparison
Outcomes	Include: For all KQs, clinical outcomes: Differences in the incidence, morbidity, mortality, burden of disease, function and quality of life; other adverse health conditions that exist among specific population groups (see Table 1) For all KQs, intermediate outcomes: Differences in measures of access to preventive services including rates of screening and followup procedures, utilization of services, behavior change, and improvement in intermediate health outcomes For all KQs, adverse effects or harms of services or interventions Exclude: Outcomes not relevant to KQs
Timing	Include: Any duration of followup; no exclusions
Clinical Setting	Include: Settings applicable to U.S. primary care settings, including primary care outpatient clinics, community health clinics, and others; settings referable from primary care settings Exclude: All other settings, including community health case-finding
Country Setting	Include: All KQs: Research conducted in the United States or in populations similar to U.S. populations with services and interventions applicable to U.S. practice (i.e., countries with a United Nations Human Development Index of “very high”) Exclude: All KQs: Research not relevant to primary care settings in the United States
Study designs	Include: All KQs: Original research, including RCTs, nonrandomized controlled trials, prospective cohort studies with a concurrent control group; systematic reviews. KQs 1, 2, and 5: Before-after cohort studies without a control group in addition to above Exclude: All other designs including cross-sectional studies, case reports, case series, studies with historical (rather than concurrent) control groups, retrospective cohort studies.
Language	Include: English language article Exclude: Article written in languages other than English

Abbreviations: KQ = Key Question; PICOTS = populations, interventions, comparators, outcomes, timing, and setting; RCT = randomized controlled trial

Defining Barriers, Impediments, and Their Effects

For the purposes of this review, a barrier is defined as a factor that blocks access to or completion of a preventive service. An impediment is a factor that complicates or delays access to or completion of a preventive service. While some barriers and impediments may be clearly attributed to either a provider or population (e.g. a clinician’s bias towards certain patients), others are difficult to categorize.

To meet inclusion criteria for KQ1 and KQ2, studies needed to report the effects of barriers and impediments, not just their association or existence. That is, studies were only included if they examined whether a barrier or impediment resulted in or explained differential preventive service use, but not if they merely demonstrated the existence of a hypothesized barrier. For example, a study demonstrating that patients reported travel distance as a barrier to preventive service use would not be included unless it also demonstrated that distance was associated with lower screening rates. Although several types of study designs are eligible for inclusion, trials or observational studies with comparison groups, or before-after studies that assess differences between groups, are most likely to report measures of effect.

There is substantial heterogeneity in how barriers are defined and categorized in studies, particularly regarding patient-level barriers in preventive services addressed by KQ2. For

included studies for KQ2, effects of barriers are based on how study investigators identified and framed barriers in individual studies. For example, an evaluation of the effect of primary language on the uptake of mammography screening in a trial of a culturally-tailored educational program would be included in the review if the primary language was identified *a priori* as a potential barrier evaluated in the study. Studies that less clearly framed their analysis around evaluating the effect of a barrier or barriers, and instead adjusted for a host of predictors, were not included. Instead of barriers, these studies focused on enabling predictors or factors more proximally involved in facilitating utilization of preventive services.

Defining Interventions and Their Effectiveness

Studies meeting inclusion criteria for KQs 3, 4, and 5 evaluated the effectiveness of an intervention on intermediate outcomes (i.e., measures of utilization or uptake such as screening rates, or measures of effects on health experienced by patients such as lipid levels); or health outcomes (i.e., measures of effects on health experienced by patients such as reduction in cancer death). These studies were designed as randomized or nonrandomized trials, observational studies with comparison groups, or before-after studies with comparisons.

Studies of the effectiveness of clinician-patient interventions (KQ3) were differentiated from studies of the effectiveness of health system interventions (KQ5) by having a major component of care based in the clinical provider's setting or in the context of the clinical interaction. Interventions occurring outside of clinical or health system settings, such as in communities, were included only if the interventions were directly or indirectly connected to clinics or health systems. These connections are illustrated by the solid and dotted lines in Figure 2. The solid lines depict interventions with direct connections between the patient and the clinical provider or healthcare system. The dashed lines depict interventions that may not have a direct connection to a clinician or health system, but bring patients to these settings, such as through a patient navigator assisting with making appointments. These types of studies are included in the review. Studies that exist outside these connections are excluded from the review, such as community-based studies that do not have a direct or indirect connection to a clinical setting (e.g., national smoking cessation quit line). Settings for KQ1 and KQ2 are depicted in Figure 2.

Figure 2. Relationship of Key Questions, interventions, and settings

Interventions may take place primarily within clinical settings (KQ3) or health systems (KQ5), and may involve direct (solid line) or indirect (dotted line) connections to communities outside these settings.

Abbreviations: KQ = Key Question

Analytic Framework

The analytic framework represents the relationships of the KQs and the target population, interventions, and outcomes included in this review (Figure 3). The questions are depicted by linkages between interventions and outcomes as numbered below.

Figure 3. Analytic framework

Outcomes vary by preventive service and are specified in Table 1

Abbreviations: KQ = Key Question

Methods

This review follows standard methods for systematic reviews²⁴ that are further described in the full protocol available at the Effective Health Care website (<https://effectivehealthcare.ahrq.gov/topics/health-equity-preventive/protocol>). The protocol was registered with PROSPERO (CRD42018109263). Development of the purpose, scope, and Key Questions (KQs) for this review involved representatives from the National Institutes of Health (NIH) Office of Disease Prevention, the Agency for Healthcare Research and Quality (AHRQ), and the co-sponsoring NIH Institutes and Centers in addition to experts in the field who constituted a Technical Expert Panel; a presentation of the draft protocol to a panel of content area experts assembled by NIH; and posting of the protocol for public comments on a website for four weeks before beginning the review. Earlier drafts of the report were reviewed by AHRQ, NIH, and experts in the field and posted on a website for four weeks for public comments.

Search Methods

In collaboration with investigators, a research librarian initially searched Ovid® MEDLINE®, PsycINFO®, and SocINDEX databases from January 1, 1996 to July 26, 2018 and updated searches on July 5, 2019 (Appendix A). The search strategy was reviewed by a second librarian with systematic review expertise using the validated Peer Review of Electronic Search Strategies (PRESS) tool.²⁵ Searches also included the Veterans Affairs Health Services Research and Development citations database and manual review of reference lists of key articles. Sources for unpublished literature included reports produced by government agencies, healthcare provider organizations, and others. Members of a Technical Expert Panel, reviewers, and speakers at the Pathways to Prevention Workshop provided additional references. Authors of studies were contacted when important information regarding methods or results was omitted from a publication or for unpublished data.

Inclusion and Exclusion Criteria

Pre-established eligibility criteria were developed by investigators to determine inclusion and exclusion of abstracts and articles in accordance with the Methods Guide for Effectiveness and Comparative Effectiveness Reviews.²⁴ Eligibility criteria were defined by populations, interventions, comparators, outcomes, timing, and setting (PICOTS) (described above and in Table 3). Populations and health outcomes differ by preventive service (see Table 1). Two team members independently reviewed abstracts identified through searches to select eligible articles; two team members subsequently independently reviewed full-text articles meeting inclusion criteria; disagreements were resolved by discussion and consensus among investigators.

Data Abstraction and Management

After studies were selected for inclusion (Included studies are listed in Appendix B), data were abstracted into evidence tables including: study design, year, setting, number of participants, population and clinical characteristics, with particular emphasis on specific populations adversely affected by disparities in terms provided by the original study, details and characteristics about the intervention, and results relevant to each KQ. All study data were verified for accuracy and completeness by a second team member. Studies excluded at the full-text level with reasons for exclusion are listed in Appendix C.

Assessing Risk of Bias of Individual Studies

The risk of bias (quality or internal validity) of individual controlled trials, systematic reviews, and observational studies was independently dual-rated by investigators using criteria from the U.S. Preventive Services Task Force (USPSTF).²⁶ Systematic reviews were assessed using the AMSTAR (A MeaSurement Tool to Assess systematic Reviews) quality rating instrument.²⁷ These criteria and methods were used in conjunction with the approach recommended in the AHRQ Methods Guide.^{24,28} Studies were rated good, fair, or poor as specified by the quality assessment criteria. Disagreements were resolved by consensus. Appendix D depicts an algorithm for classifying study designs. Detailed instructions and criteria for assessing the quality of studies are provided in Appendix E.

Studies rated *good* have the least risk of bias, and their results are considered valid. Good quality studies include clear descriptions of the population, setting, interventions, and comparison groups; a valid method for allocation of patients to treatment; low dropout rates and clear reporting; appropriate means for preventing bias; and appropriate outcome measurement.

Studies rated *fair* may be susceptible to some bias, though not enough to invalidate the results. These studies may not meet all the criteria for a rating of good quality, but no flaw is likely to cause major bias. The study may be missing information, making it difficult to assess limitations and potential problems. The fair quality category is broad, and studies with this rating vary in their strengths and weaknesses. The results of some fair quality studies are likely to be valid, while others may be only possibly valid.

Studies rated *poor* have significant flaws that imply biases of various types that may invalidate the results. They may have a serious flaw in design, analysis, or reporting; large amounts of missing information; discrepancies in reporting; or serious problems in the delivery of the intervention. The results of these studies will be at least as likely to reflect flaws in the study design as the true difference between the compared interventions. Studies rated poor were not excluded from the review, but were downgraded in synthesizing the evidence.

Assessing Applicability of Individual Studies

Applicability (external validity) was independently dual-rated by investigators using criteria from the USPSTF.²⁶ Disagreements were resolved by consensus. Studies were rated good, fair, or poor as specified by the applicability criteria.

Studies rated *good* differ minimally from the U.S. primary care population, setting, or providers and only in ways that are unlikely to affect the outcome. This rating indicates that it is highly probable (>90%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

Studies rated *fair* differ from the U.S. primary care population, setting, or providers in a few ways that have the potential to affect the outcome in a clinically important way. This rating indicates that it is moderately probable (50% to 89%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

Studies rated *poor* differ from the U.S. primary care population, setting, or providers in many ways that have a high likelihood of affecting the clinical outcome. This rating indicates that probability is low (<50%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

Data Synthesis

Investigators developed evidence tables describing study characteristics, results, and ratings for included studies and summary tables highlighting main findings. Data synthesis involved a hierarchy-of-evidence approach, where the best evidence was considered most highly for each KQ. Qualitative data were summarized descriptively. Appendix F provides evidence tables for each KQ, while Appendix G provides the quality ratings for individual studies. Selected relevant studies of community-based interventions captured in searches for this review that did not meet full inclusion criteria (based on Figure 2 above) are not included in the results or data synthesis, but study details are included in Appendix H as a resource.

Statistical Meta-Analysis

Results of studies of patient navigation interventions to increase screening rates were combined using meta-analysis to obtain summary estimates of effect. Meta-analysis was considered separately for studies of screening for colorectal, breast, and cervical cancer. If a study reported outcomes for more than one type of cancer screening, the results were included in multiple relevant meta-analyses. To determine the appropriateness of meta-analysis, investigators considered clinical and methodological differences and assessed statistical heterogeneity. If heterogeneity among the included studies was deemed too much to produce a meaningful estimate, the results of the studies were not combined in a meta-analysis. Small study effects (potential publication bias) were assessed using funnel plot and the Egger's test when the number of studies in the meta-analysis was larger than 10 (Appendix I).²⁹

Studies were eligible for meta-analysis when the following conditions were met: 1) the intervention was described in the publication as patient navigation; 2) when not described explicitly as patient navigation, the intervention included identifiable components of patient navigation, such as assistance with patient scheduling or followup, assistance with travel to and from an appointment, and/or accompanying patients to appointments; 3) screening rates were explicit outcomes that were compared between the intervention and control groups. Studies meeting criteria for poor quality were included in the meta-analysis because the rating criteria are more suited to efficacy trials of medications than effectiveness trials of personalized patient interventions. Trials receiving poor-quality ratings may provide useful findings nonetheless.

The screening outcome was binary (screened/not screened) and risk ratio (RR) was used as the effect measure. If an adjusted RR or odds ratio (OR) was reported, it was used in the meta-analysis (an adjusted OR was first converted to an adjusted RR).³⁰ Otherwise, the RR was calculated from the reported raw numbers. When a study reported outcomes at more than one time point, results from the longer time point were used in the overall analysis. In studies with two intervention arms with navigation components,³¹ results of the two arms were first combined before they were included in the meta-analysis. Meta-analysis was conducted separately for randomized controlled trials and observational studies. Studies of cervical cancer screening were not combined because of their high heterogeneity, but are described in the results for completeness.

The presence of statistical heterogeneity among the studies was assessed using Cochran's χ^2 tests, and the magnitude of heterogeneity using the I^2 statistic.³² The RRs were combined by using a profile likelihood random effects model to account for variation among studies.^{33,34}

Subgroup analysis was performed to explore whether the combined estimates differed by study level characteristics when this information was provided by studies. Estimates based on

specific populations adversely affected by disparities were not made because they varied widely across studies, although basic descriptions of the 16 different groups are included for each study in tables accompanying the forest plots.

For colorectal cancer screening studies, subgroup analysis was based on type of screening test (fecal occult blood test/fecal immunohistochemistry test; colonoscopy/endoscopy; any type), screening adherence at baseline (no adherence; some adherence), followup time points (6 months; 1 year; 18 months; 5 years), and study quality rating (good; fair; poor) when at least two studies reported results. For breast cancer screening studies, subgroup analysis was based on screening adherence at baseline (no adherence; some adherence), followup time points (1 year; 18 months; 2 years; 5 years; other), and study quality rating (fair; poor).

Annualized percentage estimates of screening rates with navigation compared with controls were created by standardizing the screening data to 12 months, assuming consistent screening rates over time. These were calculated as simple unweighted proportions across studies, and percent navigation divided by percent control does not equal the pooled RR. While these estimates do not provide formal inferences, they are intended to provide clinical context and facilitate the interpretation of the RRs.

All analyses were performed by using STATA® 14.2 (StataCorp, College Station, TX), and all results were provided with 95 percent confidence intervals.

Grading the Strength of Evidence for Major Comparisons and Outcomes

The strength of evidence for each KQ and outcome was initially assessed by one investigator using the approach described in the AHRQ Methods Guide.²⁴ To ensure consistency and validity of the assessment, the grades were then reviewed by the entire team of investigators for: study limitations (low, medium, or high level); consistency (consistent, inconsistent, or unknown/not applicable); directness (direct or indirect); precision (precise or imprecise); and reporting bias (suspected or undetected).

The strength of evidence was assigned an overall grade of high, moderate, low, or insufficient by evaluating and weighing the combined results of the above domains. *High* strength of evidence indicates high confidence that the estimate of effect lies close to the true effect for the outcome; the body of evidence has few or no deficiencies; and the findings are stable, (i.e., another study would not change the conclusions). A *moderate* grade indicates moderate confidence that the estimate of effect lies close to the true effect for the outcome; the body of evidence has some deficiencies; and the findings are likely to be stable, but some doubt remains. A *low* grade indicates limited confidence that the estimate of effect lies close to the true effect for the outcome; the body of evidence has major or numerous deficiencies (or both); and additional evidence is needed before concluding either that the findings are stable or that the estimate of effect is close to the true effect. A grade of *insufficient* indicates that there is no evidence, unable to estimate an effect, or there is no confidence in the estimate of effect for the outcome; and no evidence is available or the body of evidence has unacceptable deficiencies, precluding conclusions. Appendix J presents strength of evidence for each KQ.

Assessing Overall Applicability

Overall applicability (external validity) for each KQ was rated *high*, *moderate*, *low*, or *insufficient* through team consensus. These ratings were estimated by examining the

characteristics of the patient populations (e.g., demographic characteristics and characteristics of specific populations adversely affected by disparities, criteria used for diagnosis, presence of co-morbidities); sample sizes of the studies; clinical settings where the interventions occurred (e.g., primary care, community setting, type of provider); and levels of influence that may impact specific populations adversely affected by disparities (see Figure 1).

Results

Results of Literature Search

A total of 17,956 abstracts were identified through database searches and additional sources (reference lists, reviewers) and reviewed for inclusion; of these, 1,981 full-text articles meeting initial criteria were reviewed in detail. One hundred twenty-five articles representing 120 unique studies met inclusion criteria; eight studies addressed more than one Key Question (KQ) (Figure 4).

Figure 4. Literature flow diagram

Abbreviations: KQ = Key Question; VA HSR&D = Veterans Affairs Health Services Research and Development Service

^a Additional sources include suggested references, reference lists, etc.

^b Some are included in multiple Key Questions.

Types of Studies Included

Table 4 lists the numbers of studies (out of a total of 120) meeting inclusion criteria by KQ and preventive service. Most studies evaluated the effectiveness of interventions to increase screening rates for colorectal, breast, and cervical cancer. These studies were designed as randomized controlled trials (RCTs), nonrandomized trials, and before-after studies comparing screening rates between intervention versus usual care or alternative care groups. Ten studies evaluated interventions to increase screening for more than one type of cancer and five studies met criteria for more than one KQ.

Table 4. Number of studies included in review by Key Question and preventive service

Condition	Preventive Service	KQ1. Effect of Impediments and Barriers of Providers	KQ2. Effect of Impediments and Barriers of Populations	KQ3. Effectiveness of Patient- Provider Approaches	KQ4. Effectiveness of Health Information Technologies	KQ5. Effectiveness of Health System Interventions
Cancer	Colorectal cancer screening	0	5	6	4	50 ^a
	Breast cancer screening	0	10	2	3	26 ^b
	Cervical cancer screening		7	3	1	13 ^c
	Lung cancer screening	0	0	0	0	1
	Tobacco smoking cessation	0	3	1	2	6
Cardio-vascular disease	Aspirin use to prevent CVD and CRC	0	0	0	0	0
	Healthful diet and physical activity for CVD prevention	0	0	0	0	0
	High blood pressure screening	0	0	0	0	1
Diabetes	Abnormal blood glucose and type 2 diabetes screening	0	0	0	0	0
	Obesity screening and management	0	0	1 ^d	2	7

Abbreviations: CRC = colorectal cancer; CVD = cardiovascular disease; KQ = Key Question

Note: Some studies are included for multiple Key Questions or preventive services.

^a 50 studies in 54 publications

^b 26 studies in 27 publications

^c 13 studies in 14 publications

^d 1 study in 2 publications

Key Question 1. Effect of Impediments and Barriers of Providers

No studies met inclusion criteria for KQ1. While the search identified studies that investigated potential barriers and impediments related to healthcare providers and systems, no studies directly addressed the impact of hypothesized barriers and impediments on disparities in preventive service use, or on utilization rates in disadvantaged populations.

Key Question 2. Effect of Impediments and Barriers of Populations Adversely Affected by Disparities

Key Question 2. Overview

Eighteen studies evaluated the effect of impediments and barriers on the part of populations adversely affected by disparities to the adoption, promotion, and implementation of preventive services. Studies included racial and ethnic minorities, including African Americans, Hispanics, Korean Americans, and Chinese Americans; and rural and low-income patients. Studies involved screening for colorectal, breast, or cervical cancer, and smoking cessation.

Key Question 2. Key Findings

- Results of studies were mixed for type of insurance coverage and lack of a regular healthcare provider.
- Impediments and barriers with effects on the use of preventive services included older age, rural or economically deprived location, and issues related to access.
- Low income, Spanish or limited-English language, and low health literacy were not barriers.

Key Question 2. Results of Studies

Eighteen studies meeting inclusion criteria evaluated the effects of impediments and barriers on the part of populations adversely affected by disparities to the adoption, promotion and implementation of evidence-based preventive services (Appendix F, Tables F-1 and F-2).³⁵⁻⁴⁷

Studies involved screening for colorectal, breast, or cervical cancer, including six studies (in 7 publications) of screening for multiple services (e.g., breast and cervical cancer screening), and smoking cessation. No studies of other preventive services were identified or met inclusion criteria. Most studies were primarily designed to evaluate interventions to increase use of a preventive service, and barriers were assessed by various methods of secondary analysis. Eleven^{35-38,41,42,44,46-48} studies specifically enrolled racial and ethnic minority populations including Hispanic/Latino,^{41,46,48,49} African-American,^{35-37,44,47} Korean-American,³⁸ and Chinese-American.⁴² Five^{39,45,50-52} studies enrolled rural and low-income populations, including one in France;³⁹ the remaining studies were set in the United States. Most studies were conducted in community settings, although five^{36,37,40,43,46} studies were in community health centers, primary care clinics,^{36,37,48,49,51,52} and hospitals. Studies enrolled 166 to 8,347 participants with mean ages, when reported, between 36 to 63 years. Twelve^{36-39,41,42,44-46,49,51,52} studies exclusively enrolled women.

Major limitations of RCTs include high loss to followup, inadequate description of randomization, and unbalanced groups at baseline. Major limitations of cohort studies include

unclear or high differential loss to followup and attrition, and unclear blinding of outcome assessors and data analysts. While blinding of patients and health workers in several studies may not be feasible, studies frequently did not adequately describe these efforts or considerations (Appendix G, Tables G-1, G-2, G-3, and G-4).

All studies included evaluations of a heterogeneous set of specific barriers with no consensus across studies on how barriers were defined or assessed. Instead, evaluations of the effect of barriers on the use of preventive services were largely ad-hoc and determined by each study.

Key Question 2. Effects of Barriers to Colorectal Cancer Screening

Five studies examined the effects of barriers to colorectal cancer screening including type of insurance coverage among low-income patients,^{40,43} patients' attitudes towards screening in an African-American population,⁴⁴ acculturation/primary language among Spanish-speaking women,⁴⁹ and health literacy among socioeconomically disadvantaged adults⁵⁰ (Table 5).

Two fair quality RCTs showed mixed effects of insurance coverage on screening. A trial of 240 low-income patients in safety-net clinics overdue for colorectal screening evaluated access-related barriers.⁴⁰ Patients were randomized to a 6-month multimodal intervention (outreach, prompts to clinicians, and mailing of home testing kits) versus usual care. In logistic regression models, neither insurance coverage nor household income was related to screening.

A cluster RCT tested a cancer screening checklist and chart stickers designating whether screening was ordered or completed to increase screening for colorectal, breast, and cervical cancer among 1,196 low-income patients at a community health center.⁴³ The study compared patients under the county health plan, which provided healthcare for uninsured persons who did not qualify for public programs, with those who had Medicaid, Medicare, or other coverage and adjusted for baseline characteristics including age, sex, race, and comorbidities, among others. Patients with Medicare coverage were less likely to obtain colorectal screening compared with patients covered under the county health plan (adjusted odds ratio [aOR] 0.73, 95% confidence interval [CI] 0.54 to 0.998). Screening for patients with Medicaid or other sources of insurance coverage did not differ from patients covered under the county health plan.

A secondary data analysis of participants of a RCT examined the effects of patients' attitudes, benefits, and barriers on colorectal cancer screening in a community-based sample of 257 African-American adults.^{44,53} Participants were randomized to receive one of three interventions or to the control group: 1) reduced out of pocket, reimbursement for personal expenses incurred during screening; 2) one-on-one education, meeting with a health educator for 3 weekly sessions; 3) group education, meeting as a group with a health educator for 4 weekly sessions. In adjusted logistic regression analyses, scores on the investigator developed Attitudes, Benefits, and Barriers scale were associated with a higher likelihood of screening (aOR 1.12, 95% CI 1.01 to 1.24). However, the study did not provide details on how the scale was constructed, how barriers were defined and operationalized in the multi-domain scale, or directionality and interpretation of scale values. Screening had no relationship to scores on other scales used in this study (Fatalism Scale, Rosenberg Self-esteem Scale, Social Support Scale, Social Network Diversity Scale).

A secondary data analysis of patients in Federally Qualified Community and Migrant Health Centers participating in a RCT assessed the effect of acculturative status (defined as Spanish or English language preference) on the effectiveness of a prevention care management intervention in improving colorectal cancer screening for 1,070 women overdue for screening.⁴⁹ Participants were randomized to usual care or care management, where a care manager provided support to

overcome screening barriers and assistance scheduling appointments. In adjusted logistic regression analyses, screening was not higher in English or Spanish-speaking women receiving the care management intervention (Spanish-speaking aOR 1.31, 95% CI 0.78 to 2.19).

A fair quality RCT in a community-based setting evaluated the effect of limited health literacy on the effectiveness of a web-based decision aid, Communicating Health Options through Interactive Computer Education (CHOICE), on colorectal cancer screening completion among 264 socioeconomically disadvantaged adults.⁵⁰ The control group received a web-based program delivering information on prescription drug refills and safety. In adjusted logistic regression analyses, the intervention did not increase screening for adults with limited (aOR 1.7, 95% CI 0.69 to 4.4) or adequate literacy (aOR 1.9, 95% CI 1.1 to 5.0).

Table 5. Studies of the effects of barriers to colorectal cancer screening

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Beach et al., 2007 ^{a,b,49}	Spanish-speaking women	Preferred language (Spanish, English)	Federally Qualified Community/Migrant Health Centers New York City, New York	Secondary analysis of RCT data (1,070)	Care management with reminder calls, assistance in overcoming barriers, providing emotional support, and help scheduling appointments versus usual care	Screening up-to-date at followup (any test): Spanish-speaking: aOR 2.12 (95% CI 1.54 to 2.90); English-speaking: aOR 1.62 (95% CI 1.08 to 2.45); Interaction, Spanish language/study group: aOR 1.31 (95% CI 0.78 to 2.19)	Fair; fair
Hendren et al., 2014 ^{a,40}	Low-income adults	Insurance status and type; household income	Large safety-net primary care practice; Rochester, New York	RCT (240)	Multimodal intervention including: 1) letters; 2) automated telephone calls; 3) point-of-care prompts reminding clinicians and patients of past due status; 4) mailing home test kit versus control	Screening (colonoscopy, FIT, FOBT) by insurance status (none is reference): private, OR 1.58 (95% CI 0.38 to 6.53); Medicare, OR 3.61 (95% CI 0.83 to 15.55); Medicaid, OR 2.53 (95% CI 0.57 to 11.21); by household income (<\$30,000 is reference): >\$40,000, OR 1.88 (95% CI 0.69 to 5.09); \$30,000 to \$39,000, OR 1.98 (95% CI 0.83 to 4.76)	Fair; good
Miller, Jr et al., 2011 ⁵⁰	Socio-economically disadvantaged adults	Health literacy	Community-based, Winston-Salem, North Carolina	RCT (264)	Subanalysis of patients with limited and adequate health literacy in trial of CHOICE, an interactive, web-based decision aid versus attention control	Completed any screening test: Limited health literacy aOR 1.7 (95% CI 0.69 to 4.4); adequate health literacy aOR 1.9 (95% CI 0.70 to 5.0)	Fair; fair
Roetzheim et al., 2004 ^{a,b,43}	Low-income adults	Insurance type	8 clinics; Hillsborough County, Florida	Cluster RCT of 8 practices (1,196)	Cancer screening checklist completed by patients and stickers to designate whether screening was ordered and completed versus usual care	Screening (FOBT) by insurance type (county is reference): Medicare, OR 0.73 (95% CI 0.54 to 0.998); Medicaid, OR 0.83 (95% CI 0.60 to 1.16); other, OR 0.82 (95% CI 0.54 to 1.23)	Fair; fair
Smith et al., 2017 ⁴⁴	African American adults	Screening attitudes	Community (not further described)	Secondary analysis of participants who did not receive screening in a RCT (257)	Randomized to a group: 1) reduced out of pocket: reimbursed for personal screening expenses; 2) one-on-one education: met with health educator in 3 weekly sessions; 3) group education: met with health educator in four weekly sessions; 4) control	Screening (any type) and Attitudes, Barriers, and Beliefs Scale: OR 1.121 (95% CI 1.013 to 1.242); screening had no relationship to other scales (Fatalism Scale, Rosenberg Self-esteem Scale, Social Support Scale, Social Network Diversity Scale)	NA; fair

Abbreviations: aOR = adjusted odds ratio; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; NA = not applicable; OR = odds ratio; RCT = randomized controlled trial

^a Also includes breast cancer screening (Table 6).

^b Also includes cervical cancer screening (Table 7).

Key Question 2. Effects of Barriers to Breast Cancer Screening

Ten studies examined the effects of barriers to breast cancer screening among racial and ethnic minorities, including African-American,³⁷ Hispanic,^{41,46,49} and Chinese-American women,⁴² and among rural³⁹ and low-income women^{40,43,51,52} (Table 6).

A before-after study in community health centers and primary care clinics administered a tailored case management intervention over five years to address barriers to mammography screening among 437 African-American women age 40 years and older.³⁷ The study examined predictors of mammography uptake (at least one occurrence of mammography use during the study period) and predictors of receiving recommended repeated, longitudinal mammography screening after the case management intervention. The study occurred when routine mammography screening was recommended for all women age 40 and older.

Predictors of mammography uptake for women age 40 and older included no regular healthcare provider at baseline (aOR 0.20, 95% CI 0.07 to 0.62) and housing concerns (aOR 0.40, 95% CI 0.21 to 0.77), while insurance coverage was not a predictor. For women age 50 and older, no predictors were related to uptake. Predictors of repeated, longitudinal mammography screening for women age 40 and older included no insurance (aOR 0.54, 95% CI 0.35 to 0.85), family history of breast cancer (aOR 0.64, 95% CI 0.44 to 0.94), mammogram at baseline (aOR 2.16, 95% CI 1.51 to 3.09), and born outside the United States (aOR 1.68, 95% CI 1.15 to 2.47). Among women age 50 and older, no insurance (aOR 0.42, 95% CI 0.20 to 0.87), mammogram at baseline (aOR 1.94, 95% CI 1.07 to 3.52) and born outside the United States (aOR 2.41, 95% CI 1.29 to 4.49) were predictors.

A secondary data analysis of Federally Qualified Community and Migrant Health Centers patients participating in a RCT assessed the effect of acculturative status (defined as Spanish or English language preference) on the effectiveness of a prevention care management intervention in improving mammography screening for 1,317 women overdue for screening.⁴⁹ Participants were randomized to usual care or care management, where a care manager provided support to overcome screening barriers and assistance scheduling appointments. In adjusted logistic regression analyses, screening was not higher in English or Spanish-speaking women receiving the care management intervention (Spanish-speaking aOR 1.51, 95% CI 0.94 to 2.42).

A fair quality RCT of 851 rural, low-income women seen in federally funded community health centers evaluated a lay health advisor intervention on uptake of breast cancer screening.⁵¹ The intervention consisted of 3 in-person visits with the lay health advisor and included educational materials and followup phone calls and mailings. Women in the control group received a National Cancer Institute brochure about cervical cancer screening. Not knowing where to get a mammogram (risk ratio [RR] 0.44, 95% CI 0.24 to 0.82) and cost (RR 0.83, 95% CI 0.70 to 0.97) were associated with lower screening mammography. Other factors were not associated including difficulty finding time for screening (RR 0.77, 95% CI 0.59 to 1.02), no insurance (RR 0.96, 95% CI 0.83 to 1.10), difficulty getting to the doctor's office (RR 1.01, 95% CI 0.71 to 1.45), and not feeling respected by doctors and nurses (RR 0.43, 95% CI 0.11 to 1.65).

A retrospective chart review study of 8 rural Accountable Care Organization primary care clinics evaluated associations between health insurance and primary language barriers and mammography screening among 8,347 rural women.⁵² This study conducted multilevel analyses to assess whether obtaining biennial mammography screening was affected by patient, provider, and county-level characteristics. Relative to non-Hispanic white women, non-Hispanic Black women (OR 0.32, 95% CI 0.14 to 0.75), and women described as "other race/ethnicity" (OR 0.76, 95% CI 0.61 to 0.94) had lower use of mammography, although the specific definition of

“other race/ethnicity” category was not specified. Hispanic women (OR 0.85, 95% CI 0.56 to 1.28) and women whose primary language is English (OR 1.02, 95% CI 0.74 to 1.43) were not less likely to be screened. Women who were uninsured (OR 0.22, 95% CI 0.10 to 0.46) or publicly insured (OR 0.83, 95% CI 0.69 to 1.00) were less likely to be screened compared with privately insured women.

Two studies examined barriers to screening in Hispanic women and indicated conflicting results regarding health insurance coverage. A faith-based breast and cervical cancer educational and *promotora* (lay health worker) intervention was compared with a control group receiving diabetes prevention education in a fair quality cluster RCT of 1,333 Latina women.⁴¹ The study was conducted in community-based settings across three sites in Arkansas, Buffalo, and New York City and spanned two years (2007 to 2009) with followup at 2 and 8 months. Results indicated increased screening for women with health insurance (OR 2.48, 95% CI 1.67 to 3.70), and among women with Puerto Rican ethnicity compared with Latinas not born in the United States or Puerto Rico. Although several other barriers to screening were examined, including financial (lack of money) and access-related barriers (lack of time), results were not provided.

A before-after study of an outreach program with *promotoras* assessed access-related barriers to mammography screening for 229 Latina immigrants in Alabama.⁴⁶ Barriers to screening examined in the study included lack of health insurance, not knowing where to get screening, limited English proficiency, recent arrival to the United States (lived in Alabama less than 5 years), procrastination, embarrassment, fear of finding cancer, and lack of a doctor’s recommendation for screening. In multivariable analysis, Latina immigrants with health insurance were less likely to schedule a mammogram compared with Latina immigrants without health insurance (adjusted prevalence ratio [aPR] 0.45, 95% CI 0.26 to 0.78). Other barriers were not predictors of mammography screening in this study.

A fair quality RCT of a community-based population of 300 Chinese-American immigrants in Portland, Oregon compared a two-part culturally-tailored breast cancer educational intervention coupled with individualized counseling sessions with a control group receiving a mammography brochure published by the National Cancer Institute.⁴² The study was conducted over one year (2010 to 2011) with followup at 3, 6, and 12 months. Barriers to screening included in final adjusted models were not married/partnered, older age, and older age at migration to the United States, while lower educational attainment, employment (part-time or unemployed compared with full employment), lower income, limited English proficiency, not having a regular healthcare provider, not having a healthcare provider recommendation, and lack of health insurance coverage were not barriers in this study.

A fair quality cohort study assessed the effectiveness of mobile mammography screening in reducing economic and geographic barriers to breast cancer screening among rural and low-income women in a geographic region in Orne, France.³⁹ Screening participation rates were determined from mammography screening records from 2003 through 2012 and related to measures of geographic, area-level deprivation using the French version of the European Deprivation index and remoteness to screening sites. One group was invited to mammography screening at their radiologists’ offices, while another group was invited to screening at their radiologists’ offices or at a mobile mammography van. Among the radiologist office group, women residing in the most deprived areas were screened less compared with women in the least deprived areas (most deprived areas: fourth quintile, aOR 0.83, 95% CI 0.71 to 0.96; fifth quintile, aOR 0.81, 95% CI 0.69 to 0.95). Also, women living in areas farther from their radiologists’ offices were screened less than women residing closer (5 to 10 km, aOR 0.91, 95%

CI 0.81 to 1.01; 10 to 15 km, aOR 0.75, 95% CI 0.66 to 0.85; see Table 6 for additional data). Screening was not associated with area-level deprivation quintile or distance to radiologists' offices in the group offered screening at radiologists' offices or at a mobile mammography van.

Two studies of barriers to breast cancer screening in low-income women also evaluated barriers to colorectal cancer screening and are discussed in the above section.^{40,43} A fair quality RCT examined access-related barriers to mammography screening among 191 low-income patients in safety-net care clinics who were overdue for screening.⁴⁰ Patients were randomized to a 6-month multimodal intervention (outreach, prompts to clinicians) or usual care. In logistic regression models, patients with Medicare coverage had higher screening rates compared with uninsured patients (aOR 6.24, 95% CI 1.23 to 31.61). Other insurance coverage categories and household income were not predictors of mammography screening in this study. Another fair quality cluster RCT evaluated the effectiveness of a cancer screening checklist and chart stickers designating whether screening was ordered or completed to increase breast cancer screening among 1,196 low-income patients at a community health center.⁴³ Type of insurance (Medicare, Medicaid, or other sources) did not influence mammography screening compared with patients covered under the county health plan.

Table 6. Studies of the effects of barriers to breast cancer screening

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Beach et al., 2007 ^{a,b,49}	Spanish-speaking women	Preferred language (Spanish, English)	Federally Qualified Community/Migrant Health Centers New York City, New York	Secondary analysis of RCT data (1,317)	Care management with reminder calls, assistance in overcoming barriers, providing emotional support, and help scheduling appointments versus usual care	Screening up-to-date at followup: Spanish-speaking: aOR 1.86 (95% CI 1.39 to 2.50); English-speaking: aOR 1.23 (95% CI 0.85 to 1.78); interaction, Spanish language/study group: aOR 1.51 (95% CI 0.94 to 2.42)	Fair; fair
Clark, et al., 2009 ^{c,37}	African-American women	Insurance status; access; socio-economic factors	Community health centers and primary care clinics; Boston, Massachusetts	Before-after study (437)	Case management intervention provided services to address barriers to screening; compared changes in screening uptake before and after the intervention	Barriers age ≥40: no regular provider, aOR 0.20 (95% CI 0.07 to 0.62); housing concerns, aOR 0.40 (95% CI 0.21 to 0.77); not insurance status; barriers age ≥50: no statistically significant predictors	NA; fair
Guillaume, et al., 2017 ^{a,39}	Rural and/or low-income women	Income; distance from screening	Orne, France	Longitudinal cohort study (166)	Women invited to screening through radiologist office compared with women invited to screening through radiologist office or mobile mammography van	Invited by radiologist office: reduced screening for lowest income, 4 th quintile aOR 0.83 (95% CI 0.71 to 0.96); 5 th quintile, aOR 0.81 (95% CI 0.69 to 0.95); and greater distance from office, 5 to 10 km, aOR 0.91 (95% CI 0.81 to 1.01); 10 to 15 km, aOR 0.75 (95% CI 0.66 to 0.85); 15 to 20 km, aOR 0.61 (95% CI 0.53 to 0.70); 20 to 25 km, aOR 0.47 (95% CI 0.40 to 0.56); 25 to 30 km, aOR 0.47 (95% CI 0.39 to 0.57); >30 km, aOR 0.54 (95% CI 0.42 to 0.69); no associations with income or distance from radiologist office for van invitations; increased screening with van invitation, aOR 2.9 (95% CI 2.7 to 3.03)	Fair; fair
Hendren et al., 2014 ^{a,40}	Low-income	Insurance status and type	Large safety-net primary care practice; Rochester, New York	RCT (191)	Multimodal intervention including: 1) letters; 2) automated telephone calls; 3) point-of-care prompts reminding clinicians and patients the patient was past due for the service versus control	Screening by insurance status (none is reference): private, OR 1.50 (95% CI 0.36 to 6.19); Medicare, OR 6.24 (95% CI 1.23 to 31.61); Medicaid, OR 2.57 (95% CI 0.57 to 11.59); by household income (<\$30,000 is reference): >\$40,000, OR 2.65 (95% CI 0.84 to 8.43); \$30,000 to \$39,000, OR 1.44 (95% CI 0.49 to 4.29)	Fair; good

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Jandorf, et al., 2014 ^{b,41}	Latinas	Insurance; ethnicity	Community-based settings in Arkansas, Buffalo and New York City, New York	Cluster RCT (1,333)	Faith-based, peer-led breast and cervical cancer education sessions plus navigation at 2 months for those not yet screened versus diabetes education sessions	Increased screening: health insurance, OR 2.48 (95% CI 1.67 to 3.70); U.S. born Puerto Rican ethnicity compared with Latinas born outside the U.S. or Puerto Rico (OR not reported)	Fair; fair
Lee-Lin et al., 2015 ⁴²	Low-income Chinese-American immigrant women	Access; insurance; language; socio-economic factors	Chinese communities in Portland, Oregon	RCT (300)	Culturally responsive targeted breast health educational program versus standard brochure	Barriers to screening: marital status, age, and age at migration to the U.S.; not barriers: lower educational attainment, employment, income, English proficiency, having a regular healthcare provider, healthcare provider recommendation, mammography insurance coverage	Fair; fair
Paskett et al., 2006 ⁵¹	Rural, low-income women	Access; insurance	4 Federally funded community health centers Robeson County, North Carolina	RCT (851)	Lay health advisor intervention consisting of 3 in-person visits with educational materials and followup phone calls/mailings after each visit versus control group receiving brochure about cervical cancer screening	Too hard to find time: RR 0.77 (95% CI 0.59 to 1.02); do not know where to get a mammogram: RR 0.44 (95% CI 0.24 to 0.82); no insurance: RR 0.96 (95% CI 0.83 to 1.10); too hard to get to the doctor's office: RR 1.01 (95% CI 0.71 to 1.45); doctors and nurses do not treat me with respect: RR 0.43 (95% CI 0.11 to 1.65); cost is a barrier: RR 0.83 (95% CI 0.70 to 0.97)	Fair; poor
Roetzheim et al., 2004 ^{a,b,43}	Low-income women	Insurance type	8 clinics; Hillsborough County, Florida	Cluster RCT of 8 practices (1,196)	Cancer screening checklist completed by patients and stickers to designate whether screening was ordered and completed versus usual care	Screening by insurance type (county is reference): Medicare, OR 0.77 (95% CI 0.57 to 1.06); Medicaid, OR 0.89 (95% CI 0.64 to 1.26); other, OR 0.86 (95% CI 0.57 to 1.31)	Fair; fair
Wang et. al, 2018 ⁵²	Rural women	Race/ ethnicity; preferred language; health status and type	8 rural ACO primary care clinics Nebraska	Retrospective chart review (8,347)	Generalized estimating equations model and multi-level logistic regression models assessing receipt of mammogram versus patients not receiving biennial mammogram	Race/ethnicity (reference = Non-Hispanic White): Hispanic: aOR 0.85 (95% CI 0.56 to 1.28); non-Hispanic Black: aOR 0.32 (95% CI 0.14 to 0.75); other: aOR 0.76 (95% CI 0.61 to 0.94); preferred language is English: aOR 1.02 (95% CI 0.74 to 1.43); health insurance status (reference = private): uninsured: aOR 0.22 (95% CI 0.10 to 0.46); public: aOR 0.83 (95% CI 0.69 to 1.00)	NA; fair

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
White, 2012 ^{b,46}	Latina immigrants	Access; health insurance	Public and private clinical settings; Birmingham, Alabama	Before-after study (229)	No-cost mammograms offered to attendees at educational luncheons	Multivariable-adjusted prevalence ratio: knows where to get screening, aPR 1.07 (95% CI 0.92 to 1.24); lived in Alabama ≥5 years, aPR 1.09 (95% CI 0.96 to 1.24); has health insurance, aPR 0.45 (95% CI 0.26 to 0.78)	NA; poor

Abbreviations: ACO = Accountable Care Organization; aOR = adjusted odds ratio; aPR = adjusted prevalence ratio; CI = confidence interval; NA = not applicable; OR = odds ratio; RCT = randomized controlled trial; RR = risk ratio; U.S. = United States

^a Also includes colorectal cancer screening (Table 5).

^b Also includes cervical cancer screening (Table 7).

^c Also includes cervical cancer screening (Clark, 2011 in Table 7).

Key Question 2. Effects of Barriers to Cervical Cancer Screening

Seven studies examined the effects of barriers to cervical cancer screening among racial and ethnic minorities, including African-American³⁶ Hispanic,^{41,46} and Korean-American women;³⁸ and among rural and low-income women^{43,45,46,49} (Table 7).

A before-after study in community health centers and primary care clinics administered a tailored case management intervention over 5 years to improve cervical cancer screening among 732 African-American women age 18 years and older.³⁶ The study examined social and healthcare system barriers on the impact of care management to improve receipt of Pap test screening. Barriers included insurance coverage, lacking a regular provider, concerns communicating with providers, poor self-rated health, educational attainment, housing concerns, and social support for childcare. In multivariable models, barriers to screening included no regular clinical provider (aOR 0.20, 95% CI 0.11 to 0.37), concerns communicating with clinical providers (aOR 0.45, 95% CI 0.27 to 0.74), poor self-rated health (aOR 0.71, 95% CI 0.52 to 0.96), and low educational attainment (less than high school, aOR 0.54, 95% CI 0.30 to 0.99; high school or equivalent, aOR 0.50, 95% CI 0.28 to 0.88). In analyses examining repeated or longitudinal screening at recommended intervals, social support for childcare improved adherence (aOR 1.94, 95% CI 1.28 to 2.93) regardless of prior screening, while public insurance coverage (Medicaid/Medicare) was associated with lower adherence for women who had screening at baseline (aOR 0.51, 95% CI 0.27 to 0.97), but not for women without screening at baseline. Other barriers were not associated with repeated screening in this study.

A secondary data analysis of Federally Qualified Community and Migrant Health Centers patients participating in a RCT assessed the effect of acculturative status (defined as Spanish or English language preference) on the effectiveness of a prevention care management intervention in improving cervical cancer screening for 967 women overdue for screening.⁴⁹ Participants were randomized to usual care or care management, where a care manager provided support to overcome screening barriers and assistance scheduling appointments. In adjusted logistic regression analyses, Spanish-speaking women who received the care management intervention were not more likely to complete screening (aOR 1.75, 95% CI 1.0 to 3.06).

Two studies of Latina women are also included in the above section on screening for breast cancer. A before-after study of an outreach program with *promotoras* evaluated access-related barriers to cervical cancer screening among 782 Latina immigrants.⁴⁶ Latina immigrants who knew where to get a Pap test and those with health insurance were less likely to schedule screening (knew where to get screening, aPR 0.90, 95% CI 0.83 to 0.96; had health insurance, aPR 0.64, 95% CI 0.50 to 0.84). Recent arrival to the United States was not a predictor of scheduling a Pap test in this study. In a fair quality cluster RCT of 1,333 Latina women, a faith-based breast and cervical cancer educational and *promotora* intervention was compared with a control group receiving diabetes prevention education.⁴¹ However, none of the barriers examined were associated with cervical cancer screening including financial (lack of money) and access-related barriers (lack of time).

A fair quality RCT of 705 Korean-American immigrant women compared a multicomponent intervention to increase screening with an information only comparison group.³⁸ The intervention included navigation services and bilingual community health educators to address perceived risks, benefits, barriers, and cultural norms of cervical cancer screening. The comparison group involved bilingual community health educators delivering general information on health, cancer education, and screening guidelines. Barriers evaluated in this study included lack of insurance, and having a regular physician. In adjusted models, being insured was associated with lower

odds of screening (aOR 0.44, 95% CI 0.22 to 0.90), and having a regular physician was not associated with screening. Primary reasons for not screening included the perception by women that they were healthy or had no health problems, and having no time or being too busy.

A good quality RCT of 345 rural low-income women in community-based settings recruited from churches compared an intervention to increase screening with a wait-listed control group.⁴⁵ The intervention included the deployment of trained lay health advisors with similar characteristics to study participants who delivered tailored home visits and newsletters addressing barriers participants identified in a baseline assessment. The comparison group included wait-listed women. All participants attended an educational lunch program that delivered information on cervical cancer screening and prevention. Participant-perceived barriers were assessed at baseline, but not described. Statistically significant associations between participant characteristics and Pap test receipt included age, race, marital status, education, employment, annual household income, perceived financial status, health insurance coverage, perceived health status, and time since last Pap. In adjusted models, screening was less likely for women age 55 to 59 years than age 40 to 44 years (aOR 0.41, 95% CI 0.20 to 0.86), but more likely for women with Pap tests 1 to 5 years ago than more than 5 years ago (aOR 2.50, 95% CI 1.47 to 4.25). No other reported factors were associated with screening.

A fair quality cluster RCT tested a cancer screening checklist and chart stickers designating whether screening was ordered or completed to increase cancer screening among 1,196 low-income patients at a community health center.⁴³ This study was also included in the above sections on screening for colorectal and breast cancer. In this study, patients with Medicare coverage were less likely to obtain Pap screening compared with patients covered under the county health plan (aOR 0.63, 95% CI 0.43 to 0.92). Screening for patients with Medicaid or other sources of insurance coverage did not differ from patients covered under the county health plan.

Table 7. Studies of the effects of barriers to cervical cancer screening

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Beach et al., 2007 ^{a,b,49}	Spanish-speaking	Preferred language (Spanish, English)	Federally Qualified Community/Migrant Health Centers New York City, New York	Secondary analysis of RCT data (967)	Care management with reminder calls, assistance in overcoming barriers, providing emotional support, and help scheduling appointments versus usual care	Screening up-to-date at followup: Spanish-speaking: aOR 2.18 (95% CI 1.52 to 3.13); English-speaking: aOR 1.25 (95% CI 0.81 to 1.91); Interaction, Spanish language/study group: aOR 1.75 (95% CI 1.00 to 3.06)	Fair; fair
Clark, et al., 2011 ^{c,36}	African American	Access; socio-economic factors	Community health centers and primary care clinics; Boston, Massachusetts	Before-after study (732)	Case management intervention provided services to address barriers to screening; compared changes in screening uptake before and after the intervention	Barriers: no regular provider, aOR 0.20 (95% CI 0.11 to 0.37); concerns communicating with providers, aOR 0.45 (95% CI 0.27 to 0.74); poor self-rated health, aOR 0.71 (95% CI 0.52 to 0.96); less than high school, aOR 0.54 (95% CI 0.30 to 0.99); high school/GED, aOR 0.50 (95% CI 0.28 to 0.88)	NA; fair
Fang et al., 2017 ³⁸	Korean American	Insurance status; having a regular physician	Churches (community setting); Southeastern Pennsylvania and New Jersey	RCT (705)	Bilingual community health educators deliver general information on health, cancer education, screening guidelines versus information-only control group	Screening (intervention vs. control): OR 25.9 (95% CI 10.1 to 66.1); being insured: aOR 0.44 (95% CI 0.22 to 0.90); having a regular physician: aOR 0.93 (95% CI 0.46 to 1.86)	Fair; fair
Jandorf, et al., 2014 ^{a,41}	Latinas	Ethnicity	Community-based settings in Arkansas, Buffalo and New York City, New York	Cluster RCT (1,333)	Faith-based, peer-led breast and cervical cancer education sessions plus navigation at 2 months for those not yet screened versus diabetes education sessions	Increased screening for Puerto Rican ethnicity, OR 1.35 (95% CI 1.09 to 1.67)	Fair; fair
Roetzheim et al., 2004 ^{a,b,43}	Low-income	Insurance status and type	8 clinics; Hillsborough County, Florida	Cluster RCT of 8 practices (1,196)	Cancer screening checklist completed by patients and stickers to designate whether screening was ordered and completed versus usual care	Screening by insurance status (county is reference): Medicare, OR 0.63 (95% CI 0.43 to 0.92); Medicaid, OR 0.73 (95% CI 0.48 to 1.09); other, OR 1.04 (95% CI 0.63 to 1.72)	Fair; fair

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Studts et al., 2012 ⁴⁵	Rural, low-income	Socio-economic and demographic factors	Harlan, Knott, Letcher, and Perry counties in Appalachian Kentucky recruited through churches	RCT (345)	Trained lay health advisors similar in characteristics to participants delivered tailored home visits and newsletters addressing participant-identified barriers from baseline assessment; all participants attended an educational lunch program with information on cervical cancer screening and prevention versus wait list	Pap at 8 months followup: 31 (18%) vs. 19 (11%), aOR 2.73 (95% CI 1.08 to 6.89); factors associated with getting pap: age 55 to 59 years vs. 40 to 44, OR 0.41 (95% CI 0.20 to 0.86); previous Pap >1 and <5 years ago vs. >5 years ago, OR 2.50 (95% CI 1.47 to 4.25); not race, marital status, education, employment status, household income, perceived financial status, health insurance, perceived health status	Good; fair
White et al., 2012 ^{a,46}	Latina immigrants	Access; insurance status	Public and private clinical settings; Birmingham, Alabama	Before-after study (782)	Low-cost pap smears offered to attendees at educational luncheons	Screening: knows where to get screening, aPR 0.90 (95% CI 0.83 to 0.96); lived in Alabama ≥5 years: aPR 0.96 (95% CI 0.89 to 1.03); has health insurance, aPR 0.64 (95% CI 0.50 to 0.84)	NA; poor

Abbreviations: aOR = adjusted odds ratio; aPR = adjusted prevalence ratio; CI = confidence interval; NA = not applicable; GED = general equivalency diploma; OR = odds ratio;

Pap = Papanicolaou; RCT = randomized controlled trial

^a Also includes breast cancer screening (Table 6).

^b Also includes colorectal cancer screening (Table 5).

^c Also includes breast cancer screening (Clark, 2009 in Table 6).

Key Question 2. Effects of Barriers to Smoking Cessation

Three studies examined the effects of barriers to smoking cessation among African American^{35,47} and Latino⁴⁸ smokers (Table 8).

A secondary analysis of 879 African-American smokers in the intervention and control arms of a smoking cessation study at the posttest time point evaluated whether having a regular source of healthcare affected smoking behaviors.⁴⁷ In adjusted models, regular source of healthcare was associated with intent to quit in the next 30 days (aOR 1.46, 95% CI 1.04 to 2.05), ever receiving physician advice to quit (aOR 1.46, 95% CI 1.02 to 2.10), and smoking ≤ 10 cigarettes/day (aOR 1.42, 95% CI 1.00 to 2.03), but not with quit attempts in the past year (aOR 0.98, 95% CI 0.69 to 1.41) or intent to quit in the next 6 months (aOR 0.90, 95% CI 0.61 to 1.32).

A mediation analysis of baseline data prior to randomization in a RCT tested whether smoking motives, as measured by subscales of the Wisconsin Index of Smoking Dependence Motives (WISDM), explained higher rates of failed quit attempts reported by Black compared with White smokers.³⁵ This study enrolled 314 non-treatment seeking daily smokers (≥ 10 cigarettes per day) who also frequently used alcohol (≥ 14 drinks/week for men; ≥ 7 for women). Responses on the WISDM survey were used to identify mediators of racial differences in successful smoking cessation efforts using least squares and logistic regression analyses. Results indicated that race had an indirect effect on failed quit attempts through negative reinforcement ($b=0.05$, standard error [SE] 0.02; 95% CI 0.02 to 0.11), positive reinforcement ($b=0.05$, SE 0.02; 95% CI 0.17 to 0.12), and taste/sensory processes ($b=0.06$, SE 0.3; 95% CI 0.02 to 0.12), but not behavioral choice and craving. These findings suggest that Black smokers were less motivated to smoke to experience the positive reinforcement, negative reinforcement, and taste/sensory processes related to smoking compared with White smokers. However, lower motivation to smoke did not explain why Black smokers were less successful in quitting.

A moderation analysis of a before-and-after study of 615 Latinos in three urban hospital-based primary care clinics assessed whether acculturation moderated the relationship between smoking cessation and psychosocial factors (nicotine dependence and confidence).⁴⁸ The study involved analysis of a study cohort that received a brief smoking cessation intervention using the '5 A's' model. Participants who decided to quit received two followup counseling calls, a free nicotine replacement patch, behavioral skills training, a self-help manual, a community resource guide, and additional followup calls. Results indicated less acculturated Latinos were more likely to abstain from smoking at 6 months compared with non-Latino White smokers (OR 2.15; 95% CI 0.37 to 1.79) whereas there was no difference between more acculturated Latino and non-Latino White smokers (OR 0.82; 95% CI 0.37 to 1.79). After conducting formal moderator analyses, a logistic regression model indicated that the acculturation interaction term with confidence ($p<0.01$) and nicotine dependence ($p<0.01$) were predictive of smoking cessation.

Table 8. Studies of the effects of barriers to smoking cessation

Author, Year	Disparity Group	Barrier	Setting	Study Design (N)	Comparison	Results	Quality; Applicability
Ahluwalia, et al., 2002 ⁴⁷	African Americans	Regular source of healthcare	Large inner-city hospital; geographic location not reported	Secondary data analysis of an intervention study at the posttest assessment (879)	Regular source of healthcare compared with no regular source of care	Intent to quit in the next 30 days, aOR 1.46 (95% CI 1.04 to 2.05); ever receiving physician advice to quit, aOR 1.46 (95% CI 1.02 to 2.10); ≤ 10 cigarettes per day, aOR 1.42 (95% CI 1.00 to 2.03); quit attempts in the past year, aOR 0.98 (95% CI 0.69 to 1.41); intent to quit in the next 6 months, aOR 0.90 (95% CI 0.61 to 1.32)	NA; Fair
Bacio, et al., 2014 ³⁵	African Americans	Attitudes	Community sample; geographic location not reported	Secondary data analysis of baseline data for an RCT before randomization (314)	Mediation analysis of smoking motives and quit attempts for African American compared with White smokers	Race had an indirect effect on failed quit attempts for African Americans through negative reinforcement (indirect effect $b=0.05$, SE 0.02; 95% CI 0.02 to 0.11), positive reinforcement (indirect effect $b=0.05$, SE 0.02; 95% CI 0.17 to 0.12), and taste/sensory processes (indirect effect $b=0.06$, SE 0.3; 95% CI 0.02 to 0.12)	NA; Fair
Bock, et al., 2005 ⁴⁸	Latino	Acculturation (Spanish language preference)	3 urban hospital-based primary care clinics New England	Before-after (615)	Pre-post comparisons between racial/ethnic groups testing acculturation as a moderator between cognitive and psychosocial variables and smoking cessation outcomes	7 Day point prevalence abstinence at 6 months Latino, more acculturated (English-preferred): OR 0.82 (95% CI, 0.37 to 1.79) Latino, less acculturated (Spanish-preferred): OR 2.15 (95% CI, 1.74 to 5.02) Non-Latino White: reference Additional moderator analyses indicated the acculturation interaction term with confidence ($p<0.01$) and nicotine dependence ($p<0.01$) were predictive of smoking cessation in more acculturated Latino smokers	NA; fair

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; NA = not applicable; OR = odds ratio; RCT = randomized controlled trial; SE = standard error

Key Question 3. Effectiveness of Patient-Provider Approaches

Key Question 3. Overview

Twelve studies in 13 publications evaluated the effectiveness of approaches involving clinical providers and patients to improve screening for colorectal, breast, and cervical cancer; obesity management; and tobacco smoking cessation. Study populations included racial and ethnic minorities, including African Americans, Hispanics, Latino immigrants, Native Americans, and Asians; and low-income patients.

Key Question 3. Key Findings

- Colorectal cancer screening rates were higher with patient navigation, personalized risk assessment and telephone counseling for first-degree relatives of patients with colorectal cancer, educational videos with physician reminders, and a screening decision aid.
- Breast cancer screening rates were higher with mailed or in-person reminders for mammography screening involving lay health workers.
- Cervical cancer screening rates were higher for low-income Latina farm workers with outreach and health education, and for low-income Chinese-American women with education and navigation.
- A tobacco smoking cessation intervention for women smokers attending their child's pediatric visit improved smoking abstinence rates.
- A weight loss intervention provided by primary care physicians for low-income, overweight and obese African-American women was effective for initial weight loss, but not for sustained weight loss.

Key Question 3. Results of Studies

Studies of the effectiveness of clinician-patient interventions differ from studies of the effectiveness of health system interventions (KQ5) by having a major component of care based in the clinical provider's setting or in the context of the clinical interaction. Twelve studies in 13 publications met inclusion criteria (Table 9; Appendix F, Tables F-3 and F-4) including 10 RCTs (one good quality,⁵⁴ six fair,⁵⁵⁻⁶¹ three poor⁶²⁻⁶⁴); one fair quality nonrandomized trial;⁶⁵ and one poor quality observational study⁶⁶ (Appendix G, Tables G-1, G-2, G-3).

Six studies evaluated interventions for screening for colorectal cancer, two for breast cancer, two for cervical cancer, one for both breast and cervical cancer, and single studies for tobacco smoking cessation and obesity management. These include direct interventions aimed at the clinician or the patient, such as mailed reminders, telephone outreach, or aid-assisted decision making; and use of physician extenders, patient navigators, or health educators. Study populations included those with low income or no insurance, from racial and ethnic minority groups (Latino, Native American, Black, Asian), and from rural and urban settings. All studies were based in the United States; ranged in size from 21 to 2,357 participants; and were conducted in community health centers, community outreach linked with primary care, and academic health centers. Mean ages ranged from 21 to 74 years depending on the preventive service and population served. Major limitations of studies included low numbers of participants, lack of blinding, use of unclear outcome measures, or unclear accounting for confounders.

Key Question 3. Clinician Approaches for Colorectal Cancer Screening

Six studies evaluated interventions for colorectal cancer screening including patient navigation,^{58,62} printed materials with telephone counseling about personal cancer risk,⁵⁶ mailed materials and reminders,⁶⁴ an educational video and patient reminders,⁵⁵ and a decision aid.⁶³

A fair quality RCT evaluated the effect of patient navigators in a primary care setting to increase colorectal cancer screening rates among 465 low-income, mostly Haitian, patients eligible for screening.⁵⁸ A patient navigator coordinated scheduling and discussed risks and benefits after patients received an introductory letter with educational materials from their primary care physicians. Navigators offered screening by fecal occult blood test (FOBT) or colonoscopy. Screening rates using either modality were higher for navigation versus controls after one year followup (33.6% vs. 20.0%; RR 1.68, 95% CI 1.23 to 2.30).

A poor quality pilot study evaluated patient navigators among 21 low-income patients from racial minority groups (71% Hispanic, 21% African American, 8% other).⁶² Of navigated patients, 54 percent completed screening colonoscopy compared with 13 percent of non-navigated patients (RR 4.31, 95% CI 0.64 to 28.84).

A fair quality RCT of 1,280 unscreened first-degree relatives of patients with colorectal cancer recruited through a cancer registry evaluated the effectiveness of a risk notification intervention on colorectal cancer screening.⁵⁶ The study enrolled 403 Latino, 284 African American, 242 Asian, and 351 White participants. The intervention group received ethnically targeted and individually tailored print materials followed by telephone counseling that included personalized colorectal cancer risk assessment, while the control group received usual care. Overall screening rates at 6 months were higher for the print intervention alone compared with usual care (15% vs. 10%; OR 1.6, $p=0.006$), with no race-specific differences. Overall screening rates at 12 months were higher for the cumulative print plus telephone intervention (26% vs. 18%, OR 1.6, $p=0.001$). Stratified analyses at 12 months followup indicated the intervention was effective among White, Latino, and Asian sub-groups, but not among African Americans. This study is most applicable to patients with first-degree relatives with colorectal cancer.

A poor quality RCT evaluated an intervention to increase colorectal cancer screening for African-American patients in primary care practices using mailed reminders, tailored messages, and reminder calls.⁶⁴ Results may not be valid because of important study limitations including unclear baseline comparisons between groups; unclear masking of outcome assessors or analysts; poor reporting of attrition; and no accounting for confounders.

A fair quality RCT of 65 Latino immigrants evaluated a multilevel intervention in a primary care setting to increase colorectal cancer screening.⁵⁵ Patients in the intervention group viewed a Spanish language educational video about colorectal cancer screening while they waited for their visit, followed by a brochure, a reminder to hand to the physician notifying them of their eligibility for screening, and receipt of pre-visit education. Patients receiving the intervention had higher screening rates compared to those receiving usual care (55% vs. 18%, $p=0.002$).

A poor quality RCT assessed the impact of a decision aid on colorectal cancer screening among low-income patients in an urban clinical setting.⁶³ All clinicians received pre-trial training seminars about recommendations for screening, highlighting the role of shared decision making. Patients receiving the intervention were randomized to either the decision aid alone or the decision aid plus a personalized risk assessment tool with feedback, and compared with patients receiving usual care. Within 12 months of the study visit, screening completion rates were higher in the group receiving the decision aid alone (43.1% vs 34.8%, $p=0.046$), while there was no

difference in rates between groups receiving the decision aid plus risk assessment versus controls ($p=0.15$).

Key Question 3. Clinician Approaches for Breast Cancer Screening

Two studies evaluated interventions with lay health workers to increase mammography screening.^{65,54}

A fair quality nonrandomized controlled trial determined the effectiveness of using lay health workers to recommend screening on the physician's behalf and offer convenient screening opportunities with a nurse practitioner.⁶⁵ The study was conducted in an urban, low-income population (66 to 73% public insurance, Medicaid, or Medicare) of 1,483 African-American, Native American, and Asian women age 40 and older attending non-primary care outpatient clinics. Controls received usual care. Mammography screening rates at followup were higher with the intervention (69% vs. 63%, $p=0.009$). Using a model that included race-specific intervention effects, age, and insurance status on rates of screening at followup, the intervention showed an effect for Native American (aOR 2.59, 95% CI 1.25 to 5.37) and African-American women (aOR 2.06, 95% CI 0.98 to 4.34), while insurance status had no specific effect.

A good quality RCT of 2,357 very low-income women insured by a managed care organization evaluated the effect of a mailed prompt letter and counseling from lay health workers.⁵⁴ Women were randomized to either: 1) simple intervention using a prompt letter from the medical director; 2) intense intervention using a letter from their primary care provider and counseling from lay health workers; or 3) usual care. Women receiving the intense intervention were more likely to receive mammography screening compared with usual care (27.1% vs. 13.1%; RR 2.03, 95% CI 1.64 to 2.51) and compared with the simple intervention (RR 1.69, 95% CI 1.39 to 2.06); and when compared with the simple and usual care groups combined (RR 3.11, 95% CI 2.16 to 4.44).

Key Question 3. Clinician Approaches for Cervical Cancer Screening

Three studies evaluated the effectiveness of lay health workers^{65,59} and education and patient navigation⁶⁶ to increase cervical cancer screening.

A fair quality nonrandomized controlled trial determined the effectiveness of using lay health workers to recommend screening on the physician's behalf and offer convenient screening opportunities with a nurse practitioner.⁶⁵ This study also included breast cancer screening and is described above. Results indicated higher cervical cancer screening rates at followup for the intervention compared with usual care group overall (70.3% vs. 62.9%, $p=0.02$), however, rates varied by racial group (White, 62% vs. 51%; $p=0.020$; African American, 66% vs. 71%; $p=0.230$; Native American, 56% vs. 37%; $p=0.060$; other, 76% vs. 45%; $p=0.040$). A model that included race-specific intervention effects, age, and insurance status on rates of screening at followup demonstrated an effect of the intervention on White women only (aOR 1.72, 95% CI 1.09 to 2.71), with no effect on African American, Native American, or other races. Insurance status had no specific effect on screening.

A fair quality RCT evaluated interventions for 443 low-income, rural Latinas age 21 to 64 attending a Federally Qualified Health Center (FQHC) who were non-adherent with cervical cancer screening.⁵⁹ Participants were randomized to: 1) low-intensity intervention including a Spanish-language video sent to participants' homes informing them of the importance of cervical cancer screening; 2) high intensity intervention including a *promotora*-led (lay health worker) educational session at participants' homes in addition to the video; or 3) usual care. Patient

navigators provided outreach for followup. Results indicated higher screening rates with the high-intensity intervention compared with usual care (53.4% vs. 34.2%, $p<0.001$) and compared with the low-intensity intervention (53.4% vs. 38.7%, $p<0.01$).

A poor quality observational study evaluated an intervention that included cervical cancer education and patient navigation to increase cervical cancer screening for 134 Chinese-American women from two community-based organizations in New York City.⁶⁶ The intervention included education, interaction with a Chinese physician, and navigation assistance to identify and access free or low-cost screening services. Results indicated higher screening rates in the intervention than control group (70.0% vs. 11.1%, $p<0.001$).

Key Question 3. Clinician Approaches for Obesity Management

A fair quality RCT^{60,61} evaluated a tailored weight loss intervention provided by primary care physicians for 137 low-income African-American women. The intervention included five monthly physician-counseled office visits focused on weight loss, diet, physical activity, barriers to weight loss, and healthy alternatives when shopping and eating out. Women in the intervention group reduced their weight from baseline compared with women receiving usual care after 9 months (-1.52 kg vs. 0.61 kg, $p=0.01$), however, there were no differences at 12 and 18 month followup visits. Limitations of the study included lack of blinding for participants and providers, and high loss to followup (37%) by 18 months.

Key Question 3. Clinician Approaches for Tobacco Smoking Cessation

A fair quality RCT evaluated a smoking cessation intervention delivered in pediatric clinics for 303 low-income women.⁵⁷ The intervention group received a motivational message from the child's clinician during a clinic visit, a guide to quitting smoking, a 10-minute motivational interview with a nurse or study interventionist, and up to 3 outreach telephone counseling calls in the 3 months following the visit. Controls received usual care. At 3 and 12 months followup, quit rates were higher in the intervention group compared with controls (12 month rates, 17% vs. 8%; aOR 3.47, 95% CI 1.52 to 8.50).

Table 9. Studies of effectiveness of clinician approaches in reducing disparities in preventive care services

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Aragones et al., 2010 ⁵⁵	Colorectal cancer screening	Latino	Urban teaching hospital	RCT (65)	Spanish language educational video about screening; brochure in Spanish; patient-delivered one page reminder for the physician vs. usual care	Screening at 3 months: 15 (55%) vs 6 (18%); aOR 5.4 (95% CI 1.6 to 18.5)	Fair; poor
Bastani et al., 2015 ⁵⁶	Colorectal cancer screening	First degree relatives of colorectal cancer cases; Latino, African American, Asian, white	California Cancer Registry and community clinics	RCT (1,280)	Culturally-tailored printed educational materials and telephone counseling at 6 months if needed vs. none	Screening at 6 months (FOBT, sigmoidoscopy, or colonoscopy): overall 15% vs. 10%; OR 1.6, p=0.006; no race-specific differences; at 12 months: overall 26% vs. 18%, OR 1.6, p=0.001; Latino 24% vs. 14%, OR 1.9, p=0.027; African American 23% vs. 22%, OR 1.1, p=0.906; Asian 28% vs. 17%, OR 1.9, p=0.039; White 30% vs. 20%, OR 1.7, p=0.045	Fair; fair
Christie et al., 2008 ⁶²	Colorectal cancer screening	Hispanic, African American	Community health center; New York, New York	RCT (21)	Patient navigator to schedule colonoscopy and discuss risks and benefits vs. usual care	Screening rate: 53.8% vs. 13.0%, p=0.058; rate ratio 4.31 (95% CI 0.64 to 28.84)	Poor; poor
Lasser et al., 2011 ⁵⁸	Colorectal cancer screening	Low-income	Community health centers; Cambridge, Massachusetts	RCT (465)	Patient navigator to schedule colonoscopy and discuss risks and benefits vs. usual care	After 12 months, screening rates: 33.6% (79/235) vs. 20.0% (46/230); RR 1.68 (95% CI 1.23 to 2.30)	Fair; fair
Schroy, 2012 ⁶³	Colorectal cancer screening	Low-income	Urban, ambulatory care settings	RCT (825)	Decision aid alone; decision aid + personalized risk assessment tool with feedback; vs. general health information (attention control)	Screening completed: decision aid alone at 6 mo, 34.2% vs. 26.4%; p=0.049; at 12 mo, 43.1% vs. 34.8%, p=0.046; decision aid + risk assessment at 6 mo, 34.2 vs. 30%, p=0.292; at 12 mo, 43.1 vs. 37.1%, p=0.153	Poor; fair

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Siddiqui et al., 2011 ⁶⁴	Colorectal cancer screening	African American	Academic primary care practice; Philadelphia, Pennsylvania	RCT (1,430)	Mailed educational intervention (screening invitation, informational booklet, FOBT, reminder letter) vs. mailed educational intervention plus 2 tailored messages addressing personal barriers to screening vs. mailed educational intervention, tailored messages, and a reminder call vs. usual care	578 Whites compared with 852 African Americans, screening after 12 months: usual care aOR 1.01 (95% CI 0.64 to 1.61); all interventions aOR 1.44 (95% CI 1.12 to 1.86); mailed intervention: aOR 1.68 (95% CI 1.10 to 2.58); mailed plus messages aOR 1.42 (95% CI 0.92 to 2.21); mailed plus messages plus reminder aOR 1.25 (95% CI 0.81 to 1.92)	Poor; poor
Ahmed et al., 2010 ⁵⁴	Breast cancer screening	Low-income women	Tennessee coordinated care network	RCT (2,357)	Reminder letter vs. reminder letter, second prompt letter from clinician, then counseling from lay health workers if needed vs. usual care (monthly newsletters, health pamphlets, and access to community health outreach workers)	Mammograms completed: no letters 13% (105/786); reminder letter 16% (126/785), RR 1.20 (95% CI 0.95 to 1.53); reminder letter and prompts if needed 27% (213/786) vs. 13%; RR 2.03 (95% CI 1.64 to 2.51)	Good; good
Margolis et al., 1998 ⁶⁵	Breast and cervical cancer screening	Low-income women	Outpatient primary care clinics; Minneapolis, Minnesota	Non-randomized controlled trial (1,693)	Reminders from lay health aides with referral to a culturally sensitive women's cancer screening clinic vs. no additional contact	Breast cancer screening rate at followup: overall 69.3% vs. 62.9%, p=0.009; cervical cancer screening rate: overall 70.3% vs. 62.9%, p=0.02	Fair; fair
Thompson et al., 2017 ⁵⁹	Cervical cancer screening	Latina, rural	Farm workers clinic; Yakima Valley, Washington	RCT (443)	Spanish-language home video about cervical cancer screening vs. home video plus <i>promotora</i> -led educational session at home vs. usual care access to information at clinic	Pap test at 7 months: usual care 34.2% (50/146); home video 38.7% (58/150); video plus <i>promotora</i> 53.4% (78/146) vs. usual care p<0.001, vs. video alone p<0.01	Fair; fair

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Wang et al., 2010 ⁶⁶	Cervical cancer screening	Low-income Chinese-American women	Community-based organizations; New York, New York	Cohort (134)	Cervical cancer education combined with patient navigation vs. general health and cancer education	Screening at 12 mo: 70.0% (56/80) vs. 11.1% (6/54), p<0.001	Poor; good
Martin et al., 2006 ⁶⁰ Martin et al., 2008 ⁶¹	Obesity management	Low-income, African American women	Outpatient primary care clinics; Baton Rouge, Louisiana	RCT (137)	6 month tailored weight loss intervention delivered by primary care physician vs. usual care	Weight loss at 9 mo: -1.52 kg $\pm$ 3.72 kg vs. 0.61 $\pm$ 3.37 kg, p=0.01; at 12, 18 mo: no differences	Fair; fair
Curry, et al., 2003 ³⁷	Tobacco smoking cessation	Low-income women	Urban, university based clinics, Seattle, Washington	RCT (303)	Brief motivational message from child's clinician during scheduled clinic visit, self help guide to quitting smoking, in-person motivational interview with clinic nurse or study interventionist; up to 3 telephone counseling calls from nurse or interventionist vs. usual care	Self-reported 7-day prevalent abstinence at 3 mo: 10% vs. 4%, aOR 2.43 (95% CI 0.80 to 8.30); 12 mo: 17% vs. 8%, aOR 3.47 (95% CI, 1.52 to 8.50); sustained abstinence: 3% vs. 2%; aOR 2.39 (95% CI 0.38 to 19.10)	Fair; fair

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; FOBT = fecal occult blood test; kg = kilogram; mo = month; Pap = Papanicolaou; OR = odds ratio; RCT = randomized controlled trial; RR = risk ratio; vs. = versus

Key Question 4. Effectiveness of Health Information Technologies

Key Question 4. Overview

Eleven RCTs evaluated the effectiveness of health information technology (HIT) and digital enterprises to improve screening for colorectal, breast, and cervical cancer; smoking cessation; and obesity management in settings serving populations adversely affected by disparities. Interventions included patient reminders, electronic decision aids, interactive computer programs coupled with patient navigators, interactive educational modules, telemedicine, and multimodal approaches enhanced by technology. Study populations included Native Alaskan, American Indian, Hispanic, African American, rural, and low-income patients.

Key Question 4. Key Findings

- Most technology interventions did not increase screening rates or smoking quit rates compared with alternative approaches.
- Screening rates were higher in a study using an electronic health record (EHR) to identify patients eligible for colorectal cancer screening for mailings and phone calls, and in a RCT using an electronic decision aid with patient-ordered screening tests.
- A trial of smoking cessation counseling using telemedicine compared with telephone calls showed an increase in pharmacotherapy use, but no improvement in quit rates.
- Rates were higher with an intervention combining technological approaches to identifying and recruiting eligible patients for smoking cessation counseling and pharmacotherapy.
- An intervention for obesity management using a web- or telephone-based self-monitoring component resulted in lower body mass index (BMI).

Key Question 4. Results of Studies

Eleven RCTs meeting inclusion criteria evaluated the effectiveness of HIT to improve preventive health services in settings serving populations adversely affected by disparities (Table 10; Appendix F, Table F-5 and F-6).^{40,50,67-75} Studies examined different uses of technology to identify eligible patients and deliver interventions. All studies included comparison groups that typically received educational materials or other information considered the usual or standard of care.

Trials evaluated the effectiveness of different approaches to screening for colorectal, breast, and cervical cancer; smoking cessation; and obesity management. One trial evaluated both colorectal and breast cancer screening.⁴⁰ Seven studies enrolled low-income populations^{40,50,68,69,71-73} including a study in rural clinics⁷¹ and four studies of low-income women.^{68,71-73} Studies enrolled exclusively Hispanic/Latina women,⁷³ African-American women,^{67,68} Alaska Native and American Indian patients of a tribally-owned healthcare organization,⁷⁰ and mixed populations of ethnic and racial minorities.⁷⁴ One trial described enrolled patients as vulnerable.⁷⁵ All studies were conducted in primary care and community clinics in the United States and included between 179 to 1,717 participants. Mean ages, when reported, ranged from 39 to 58 years and included patients up to 75 years. Women comprised between 54 to 100 percent of study populations.

One study met criteria for good quality,⁷⁰ nine for fair,^{40,50,67-69,71,73-75} and one for poor⁷² (Appendix G, Tables G-1 and G-2). Major limitations include inadequate description of randomization and allocation concealment procedures.^{50,72} Studies frequently failed to adequately describe the masking of outcome assessors, care providers, and patients, although in some cases, it may have been impossible to blind providers and patients.^{40,67-74} Applicability was rated fair in eight of the eleven studies. Limitations were primarily due to unique populations, settings, interventions that required novel electronic enterprises (e.g., electronic kiosks) that may not be available in primary care practices, or complex interventions with multiple components.

Key Question 4. Health Information Technologies in Colorectal Cancer Screening Interventions

Four RCTs examined technology-based interventions to improve colorectal cancer screening in different populations.^{40,50,70,75} A good quality RCT was conducted in a tribally-owned healthcare organization offering primary care in Anchorage, Alaska.⁷⁰ The study population included 808 Native Alaskan and American Indian customer-owners of the organization who received preventive screening at no cost and were due for colorectal cancer screening. Participants in both the intervention and comparison groups received screening reminders by telephone, mail, and from physicians during in-person visits. In addition, the intervention group received text message reminders (up to 3 messages over the course of 2 months). Screening rates at 6-month followup were higher for the intervention group, although not statistically significantly different from comparison groups (15.6% vs. 11.1%; hazard ratio [HR] 1.42, 95% CI 0.97 to 2.09).

A fair quality RCT, the Mobile Patient Technology for Health-CRC (mPATH-CRC), was conducted in six community-based primary care practices within a large health system in North Carolina.⁷⁵ Participants included 450 “vulnerable patients” due for colorectal cancer screening. The intervention used an iPad to deliver an 8.6-minute decision aid about colorectal cancer screening. After viewing the decision aid, patients could order their own colorectal cancer screening tests, followed by electronic messages tailored to specific screening instructions. Patients in the control group viewed a 4.3-minute video produced by the Centers for Disease Control and Prevention about diet and exercise. At 24 weeks followup, screening was completed in 30 percent of intervention versus 15 percent of control patients (aOR 2.5, 95% CI 1.6 to 4.0). Subgroup analysis indicated higher screening rates among intervention group participants with higher versus lower income (37.5% above vs. 24.6% below \$20,000 income; p-value not reported), while screening rates did not differ by income in the control group (15.5% vs. 15.0%; p-value not reported).

Another fair quality RCT conducted in a community-based, university affiliated internal medicine practice in Winston-Salem, North Carolina tested a web-based decision aid to increase colorectal cancer screening in a socioeconomically disadvantaged population of 264 patients.⁵⁰ The decision aid, Communicating Health Options through Interactive Computer Education (CHOICE), included interactive, multimedia modules providing an overview of colorectal cancer screening followed by optional modules with details about specific tests. The aid was delivered to patients immediately before a healthcare provider visit and encouraged them to discuss screening with their providers. Patients in the comparison group viewed web-based material about prescription drug refills and safety before their visit. Completion of screening was assessed at 24 weeks by chart audit. Results indicated similar screening rates (19% decision aid vs. 14% controls; aOR 1.7, 95% CI 0.88 to 3.2), although patient readiness for screening was higher for

the decision aid patients compared with controls among patients in precontemplative or contemplative stages of readiness (52% vs. 20%; aOR 4.7, 95% CI 1.9 to 11.9).

A fair quality RCT conducted in a large primary care, safety-net practice in Rochester, New York enrolled 240 low-income patients overdue for colorectal cancer screening.⁴⁰ This trial also included a breast cancer screening intervention described below. The multimodal intervention for colorectal cancer screening consisted of reminder letters, automated telephone calls (technology component), point-of-care prompts for clinicians and patients, and mailed fecal immunohistochemistry test (FIT) kits for up to 6 months. The comparison group received usual care that was not controlled by the study. At 1-year followup, 38 percent of intervention patients compared with 17 percent of control patients had completed screening ($p=0.0002$). When adjusted for baseline differences, the intervention group remained more likely to complete screening compared with the control group (OR 3.22, 95% CI 1.65 to 6.30). Unadjusted subgroup comparisons based on race indicated that non-Hispanic Black patients and non-Hispanic White patients in the intervention group completed screening at higher rates than patients in the usual care group (44.2% vs. 14.6%; 34.6% vs. 16.1%, respectively; p -values not reported), while patients of other races, including Hispanic, in the intervention group completed screening at lower rates than those in the control group (20.0% vs. 30.0%, p -value not reported).

Key Question 4. Health Information Technologies in Breast Cancer Screening Interventions

Three RCTs evaluated the effectiveness of health information technologies for improving uptake of mammography screening among low-income women.^{40,68,72} A fair quality RCT conducted in a large primary care, safety-net practice in Rochester, New York enrolled 191 low-income women between ages 40 and 74 years who were overdue for breast cancer screening.⁴⁰ This trial also included a colorectal cancer screening intervention described above. The multimodal intervention for breast cancer screening consisted of reminder letters, automated telephone calls (technology component), and point-of-care prompts for clinicians and patients. The comparison group received usual care that was not controlled by the study. At 1-year followup, 30 percent of intervention patients compared with 17 percent of control patients completed screening ($p=0.034$). However, when adjusted for baseline differences, results were not statistically significant (OR 1.96, 95% CI 0.87 to 4.39). Unadjusted subgroup comparisons based on race indicated that non-Hispanic Black patients, non-Hispanic White patients, and patients of other races, including Hispanics, in the intervention group completed mammograms at higher rates than the usual care group, although the magnitude of differences varied (27.0% vs. 10.6%; 25.6% vs. 20.1%; 60.0% vs. 33.3%, respectively; p -values not reported).

A fair quality trial conducted in a single FQHC in Indianapolis, Indiana enrolled 179 low-income, African-American women.⁶⁸ The intervention consisted of an interactive computer program that used an algorithm to provide tailored messages to identify participants' views of breast cancer and to assess health beliefs, self-efficacy, barriers to screening and stage of readiness for breast cancer screening. This was combined with a lay health advisor who assisted patients in navigation services such as barriers counseling, referrals to low/no-cost mammograms, and assistance with scheduling appointments and transportation. The comparison group received a culturally appropriate pamphlet about breast cancer screening and a recommendation to schedule a mammogram by a lay health worker followed by mailed postcards with general nutrition information. At 6-months followup, 51 percent of intervention patients were adherent with screening versus 18 percent in the comparison group (aOR 4.3, 95%

CI 2.1 to 9.0). When assessing screening readiness, 76 percent of the intervention group and 38 percent of the comparison group showed improved readiness (aOR 4.9, 95% CI 2.3 to 10.4).

A poor quality RCT based in two Detroit Health Department primary care clinics randomized 1,717 women to one of two screening intervention groups or a control group.⁷² The trial used an electronic database to trigger reminders for patients in the intervention groups to receive letters instructing them to either: 1) visit their primary care physician for a mammogram referral (physician referral letter); or 2) schedule an appointment for a mammogram directly (direct referral letter). Patients in the control group did not receive a letter. At 1-year followup, differences between intervention and control groups were not statistically significant (physician referral letter aOR 1.10, 95% CI 0.77 to 1.56; direct referral letter aOR 1.28, 95% CI 0.92 to 1.82). Limitations of this study included not reporting the method for randomizing patients or techniques for allocation concealment. It was also unclear whether groups were similar at baseline and whether any masking for outcome assessors, care providers, or patients was performed.

Key Question 4. Health Information Technologies in Cervical Cancer Screening Interventions

A fair quality RCT of 943 low-income Latina women in community clinics in Los Angeles, San Jose, and Fresno, California evaluated an intervention to increase cervical cancer screening.⁷³ Interactive, electronic touch-screen kiosks were used to randomize eligible women to receive either eight interactive modules describing cervical cancer knowledge, risk factors, and screening procedures delivered in English or Spanish (intervention group), or language concordant educational materials consisting of an eight-panel brochure about gynecological cancers (control group). Women in both groups used the kiosk prior to randomization to complete a pre-test questionnaire that recorded their preferred language, demographic characteristics, and baseline assessments about their attitudes, knowledge, self-efficacy and behaviors related to cervical cancer. The mean duration of the intervention ranged from 24 to 28 minutes. At 6 months followup, screening rates were similar between groups (79.8% intervention vs. 74.3% control; aOR 1.14, 95% CI 0.84 to 1.55).

Key Question 4. Health Information Technologies in Smoking Cessation Interventions

Two fair quality RCTs evaluated technology-based smoking cessation interventions.^{69,71} A trial of 566 low-income patients in 20 rural primary care practices in Kansas compared four smoking cessation counseling sessions delivered in the clinic by telemedicine with usual care consisting of four telephone counseling sessions.⁷¹ In both groups, the sessions were delivered over a 3-month period and outcomes were assessed after 6 months. The counseling approach, intent, and educational materials were the same for telemedicine and telephone groups. Telemedicine counseling was video-based, and sessions were conducted via internet using a webcam and a desktop computer with specific software to facilitate the session. Telemedicine sessions occurred in a variety of clinic-based locations including exam rooms, administrative offices, and storage spaces. Clinic staff assisted in establishing a telemedicine connection between study counselors and the patient and with scheduling followup appointments. Rates of pharmacotherapy use were higher in the telemedicine group compared with the telephone group (55.9% telemedicine vs. 46.1% telephone, $p=0.03$), although other outcomes did not differ including rates of 7-day smoking cessation (9.8% telemedicine vs. 12.0% telephone, $p=0.406$).

and smoking abstinence following the first month of treatment (8.1% telemedicine vs. 7.6% telephone, $p=0.839$).

A fair quality RCT enrolled 707 patients with low socioeconomic status from 13 primary care practices in Boston, Massachusetts.⁶⁹ Smokers were identified electronically through an EHR and recruited by an automated interactive voice response outreach call. Patients were then randomized to a multimodal intervention or usual care. The intervention consisted of telephone-based motivational counseling with a tobacco treatment specialist, access to free nicotine replacement therapy patches, personalized community-based referrals, and integration of all components through updated EHR documentation. Nine months after randomization, 18 percent of intervention participants and 8 percent of control participants reported 7-day tobacco abstinence (OR 2.5, 95% CI 1.5 to 4.0).

Key Question 4. Health Information Technologies in Obesity Management

Two RCTs used interactive technology interventions to manage obesity.^{67,74} A fair quality RCT assessed a multimodal intervention with HIT components to decrease BMI in obese, predominantly African-American patients in three urban community health centers in Boston.⁷⁴ The 24-month intervention consisted of establishing behavioral change goals that were updated every 13 weeks, patient self-monitoring of progress using a project website or interactive voice response system, real-time feedback, behavioral skills training materials, counseling calls and optional monthly group counseling sessions in the community, information on community resources, and a walking kit that included a pedometer and maps. Patients also received at least one standardized message from their primary care provider about the importance of the intervention. The comparison group received usual care. The difference in mean BMI change between intervention and control groups at 24 months was small, but favored the intervention (mean change difference -0.38 , 95% CI -0.75 to -0.004).

A fair-quality trial conducted in six community health centers within a FQHC system in central North Carolina enrolled 185 overweight and obese Black women.⁶⁷ The intervention group received a multimodal intervention consisting of tailored behavior change goals (beginning with three goals identified through a computer algorithm with personalized progress reports and updated goals every two months), weekly self-monitoring via interactive voice response telephone calls, 12 monthly counseling calls with a dietitian, tailored skills training, and a 12-month YMCA membership. The control group received usual care. The difference in mean BMI change favored the intervention group at the end of the intervention (12 months) (mean change difference -0.6 , 95% CI -1.1 to -0.1) and six months after the intervention (mean change difference -0.6 , 95% CI -1.2 to -0.1).

Table 10. Studies of effectiveness of health information technologies in reducing disparities in preventive care services

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Miller, Jr. et al., 2018 ⁷⁵	Colorectal cancer screening	Vulnerable patients	6 community-based primary care practices within a large health system; North Carolina	RCT (450)	Decision aid (mPATH-CRC) using an iPad to deliver information on colorectal cancer screening followed by patients ordering screening tests and electronic messages vs. usual care and CDC video about diet and exercise	Screening within 24 wks (FIT, FOBT, colonoscopy, or sigmoidoscopy): 30.0% vs. 15.0%; aOR, 2.5 (95% CI 1.6 to 4.0); by income: <\$20,000/yr, 24.6% vs. 15.0%; ≥\$20,000/yr, 37.5% vs. 15.5%; by race/ethnicity non-Hispanic White: 27.2% vs. 12.0% other race/ethnicity: 33.7% vs. 19.1%	Fair; good
Miller, Jr. et al., 2011 ⁵⁰	Colorectal cancer screening	Socio-economically disadvantaged population	Community-based, university-affiliated internal medicine practice; Winston-Salem, North Carolina	RCT (264)	Web-based decision aid (CHOICE) delivered immediately before a healthcare provider visit vs. usual care and viewing material about prescription drug refills and safety	Screening within 24 wks (any screening test): 19% vs. 14%; aOR 1.7 (95% CI 0.88 to 3.2); increased readiness for screening ^a : 52% vs. 20%; aOR: 4.7 (95% CI 1.9 to 11.9)	Fair; fair
Muller et al., 2017 ⁷⁰	Colorectal cancer screening	Alaska Native and American Indian	Tribal owned and operated healthcare organization offering primary care; Alaska	RCT (808)	Screening reminders by telephone, mail, and physicians during in-person visits plus up to 3 text message reminders over 2 months vs. reminders without text messages	Screening after 6 months (FIT, FOBT, sigmoidoscopy, or colonoscopy): HR 1.42 (95% CI 0.97 to 2.09)	Good; fair
Hendren et al., 2014 ⁴⁰	Colorectal and breast cancer screening	Low-income	Large safety-net primary care practice; New York	RCT (366 ^b); colorectal cancer (240); breast cancer (191)	EHR identified patients past due for screening; 6 month intervention included letters, automated calls, point-of-care prompts, mailing home test kit for colorectal cancer screening vs. usual care	Screening at 1 year: colorectal cancer (colonoscopy, FIT, or FOBT) aOR 3.22 (95% CI 1.65 to 6.30); breast cancer aOR 1.96 (95% CI 0.87 to 4.39)	Fair; good

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Russell, et al., 2010 ⁶⁸	Breast cancer screening	Low-income, African-American women	Single FQHC; Indianapolis, Indiana	RCT (179)	Interactive computer program providing tailored messages to identify views on breast cancer; assess health beliefs, self-efficacy, barriers to screening, and stage of readiness for screening; and a lay patient navigator vs. culturally appropriate pamphlet about breast cancer screening, lay health advisor recommendation to schedule a mammogram, and mailed postcards about nutrition	Mammography at 6 months: 50.6% vs. 17.8%; aOR 4.3 (95% CI 2.1 to 9.0); aRR 2.7 (95% CI 1.8 to 3.7); improved readiness: 76.3% vs. 38.5%; aOR 4.9 (95% CI 2.3 to 10.4); aRR 2.0 (95% CI 1.5 to 2.3)	Fair; fair
Simon et al., 2001 ⁷²	Breast cancer screening	Low-income	2 Detroit Health Department primary care clinics; Michigan	RCT (1,717)	Letter to visit primary care physician for mammography referral vs. letter to arrange mammography directly vs. no letter	Screening after 1 year: referral letter vs. none aOR 1.10 (95% CI 0.77 to 1.56); direct letter vs. none aOR 1.28 (95% CI 0.92 to 1.82)	Poor; fair
Valdez et al., 2018 ⁷³	Cervical cancer screening	Low-income, Latina women	Community clinics; Los Angeles, San Jose, and Fresno, California	RCT (943)	Interactive modules in English or Spanish via an electronic, touch-screen kiosk about cervical cancer knowledge, risk factors, and screening procedures vs. mailed Spanish or English language educational materials	Pap test within 6 months: aOR 1.14 (95% CI 0.84 to 1.55)	Fair; fair
Richter et al., 2015 ⁷¹	Smoking cessation	Rural, low-income	20 primary care clinics; Kansas	RCT (566)	4 counseling sessions delivered in the clinic through telemedicine vs. counseling by telephone	Smoking cessation at 6-months for telemedicine vs. telephone: 7-day point prevalence 9.8% vs. 12.0%, p=0.406; prolonged abstinence 8.1% vs. 7.6%, p=0.839; pharmacotherapy use 55.9% vs. 46.1%, p=0.03	Fair; fair

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Haas, et al., 2015 ⁶⁹	Smoking cessation	Low socio-economic status	13 primary care practices; Boston, Massachusetts	RCT (707)	Smokers identified through practice EHR and recruited through an automated interactive voice response call for intervention: telephone-based motivational counseling; free nicotine replacement therapy; personalized community-based referrals to reduce social mediators of tobacco; integration of all components with documentation in EHR vs. usual care	7-day tobacco abstinence: 17.8% vs. 8.1%; OR 2.5 (95% CI 1.5 to 4.0)	Fair; good
Bennett et al., 2013 ⁶⁷	Obesity management	Black women	6 community health centers in a FQHC system; central North Carolina	RCT (185)	Obesity treatment: tailored behavior change goals, reports and updates; weekly self-monitoring; 12 monthly counseling calls with dietitian; tailored skills training materials; 12 month YMCA membership vs. usual care	BMI mean change differences intervention vs. control, 12 months: -0.6 (95% CI -1.1 to -0.1); 18 months: -0.6 (-1.2 to -0.1)	Fair; fair
Bennett et al., 2012 ⁷⁴	Obesity management	Racial and ethnic minorities	3 urban community health centers; Boston, Massachusetts	RCT (365)	24 month intervention: behavioral change goals, patient self-monitoring, counseling calls from educators, optional monthly group sessions, messages from primary care provider, behavioral skills materials, information on community resources, walking kit with pedometer vs. usual care	BMI mean change difference between intervention and control: -0.38 (95% CI -0.75 to -0.004)	Fair; fair

Abbreviations: aOR = adjusted odds ratio; aRR = adjusted risk ratio; BMI = body mass index; CDC = Centers for Disease Control and Prevention; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; EHR = electronic health record; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; FQHC = Federally Qualified Health Center; HR = hazard ratio; mPATH-CRC = Mobile Patient Technology for Health-CRC; OR = odds ratio; Pap = Papanicolaou; RCT = randomized controlled trial; vs. = versus; wks = weeks; YMCA = Young Men's Christian Association; yr = year

^a Only among participants who were in the precontemplation and contemplation stages at baseline (n=73 intervention vs. 61 control).

^b There is overlap between the two groups because some patients were eligible for both colorectal and breast cancer screening.

Key Question 5. Effectiveness of Health System Interventions

Key Question 5. Overview

Eighty-eight studies (in 92 publications) evaluated the effectiveness of interventions that healthcare organizations and systems implement to reduce disparities in use of preventive services. These include studies of 7 types of preventive services: 50 studies of colorectal cancer screening, 26 breast cancer screening, 13 cervical cancer screening, 1 lung cancer screening, 7 obesity screening and management, 6 smoking cessation, and 1 high blood pressure screening.

Studies generally compared enhanced interventions with usual care or alternative methods, and measured effectiveness through improved outcomes, such as higher screening rates. Interventions included those provided in clinical settings within health systems, such as patient navigators, telephone and mail contacts, checklists, and provider training; and those using community resources through partnerships or outreach, such as patient navigation in the community, lay health workers, telephone or mail contacts, patient education, and engagement with community resources (Figure 3). Study populations included racial and ethnic minority groups including Hispanic, African-American, and Asian patients; as well as rural, underserved, and low-income patients. Although studies were highly heterogeneous, most demonstrated improved outcomes with interventions.

Key Question 5. Key Findings

- Colorectal cancer screening rates were higher with patient navigation; telephone calls, prompts, and other outreach methods; screening checklists; provider training; and practice changes involving community engagement. Results were mixed for educational videos.
- Breast cancer screening rates were higher with patient navigation; lay health workers; patient education; screening checklists; and practice changes involving community engagement, but not with telephone calls, prompts, and other outreach methods.
- Cervical cancer screening and diagnostic resolution rates were higher with patient navigation; telephone calls and prompts; and practice changes involving community engagement. Interventions with lay health workers and a screening checklist were not effective.
- Lung cancer screening rates were higher with patient navigation in a single trial of low-income smokers at five community health centers.
- Tobacco smoking quit rates were higher with counseling and nicotine replacement, but mixed with patient navigation and education and counseling.
- Rates of high blood pressure were not reduced in a single trial involving lay health workers, education, community activities, and a behavior change prescription.
- Obesity education and counseling interventions had mixed results in lowering BMI, while case management with a lay health worker was ineffective.

Key Question 5. Results of Studies

The 88 studies included for KQ5 are described in Appendixes F (Tables F-7 and F-8) and G (Tables G-1, G-2, G-3, and G-4). Studies are organized by type of preventive service and type of

intervention. Several studies evaluated the effectiveness of interventions for more than one preventive service and are included in more than one place in this section of the review.

Key Question 5. Health System Interventions for Colorectal Cancer Screening

Fifty studies meeting inclusion criteria evaluated the effectiveness of interventions implemented by health systems to reduce disparities in colorectal cancer screening (Tables 11 and 12). These include 36 RCTs (in 37 publications) of which four met criteria for good quality,⁷⁶⁻⁷⁹ 18 (in 19 publications) fair quality,^{40,43,80-95} and 15 (in 16 publications) poor quality.^{31,53,96-109} The remaining studies include eight before-after studies,¹¹⁰⁻¹¹⁶ two prospective cohort studies,^{117,118} three nonrandomized trials,¹¹⁹⁻¹²¹ and one post-intervention time series study.¹²²

Studies enrolled participants from racial and ethnic minority groups;^{31,53,76,77,81,89,94,98,100,102,106,109,111,112,114,116,120} with low-income;^{40,43,76,78,82-85,87,91,92,101,103,104,107,108,110,113,119,121,122} from underserved populations,^{79-81,86,97,99,105,115,117,118} and from rural areas.^{93,123} Studies ranged in size from 78 to 4,423,743 patients (median 731). The reported mean ages of participants ranged from 56 to 70 years, and the majority were female (median 63%). Studies enrolled participants from single or multiple racial and ethnic groups, most commonly Hispanic, African American, non-Hispanic White, and Asian American. Forty-eight studies were conducted in the United States in primary care clinics, community-based sites, community health or safety-net clinics, FQHCs, and hospitals. One study was conducted in community clinics in France,⁸⁷ and one in England.¹²² Interventions included patient navigation, telephone calls, prompts and other outreach, educational videos, screening checklist, provider training, and practice changes involving community engagement.

Major limitations of studies rated fair or poor quality included inadequate or unclear masking of care providers or outcome assessors, allocation concealment, and randomization methods. Additional limitations included dissimilar or missing comparison groups at baseline, differential or high attrition, no intention-to-treat analysis for RCTs, and post-randomization exclusions. Limitations of applicability included narrow participant demographics; unique settings; specialty training, expertise, or ancillary providers needed for interventions; resource-intensive interventions; and low adherence.

Patient Navigation Within Health Systems

Twenty studies (in 21 publications) evaluated the effectiveness of patient navigation compared with usual care or other approaches to increase colorectal cancer screening within health systems.^{77,78,80,82-87,90,94,96-98,102,105,107,113,114,118,119,124} All but three studies^{87,124,102,119} indicated higher screening rates with patient navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups.

A good quality RCT in community health centers compared patient navigation with controls in 265 racial and ethnic minority, low-income adults (mean age 58 years).⁷⁸ The majority of participants were Latino (62%) and female (65%). The intervention included patient navigation services with in-clinic decision aid videos on FOBT or colonoscopy, barrier assessment, and FOBT kits. The attention control group viewed in-clinic food safety videos. Completion of colonoscopy or FOBT at 6 months was assessed using medical records. Screening was higher for navigation regardless of the screening modality (68% vs. 27%, p-value not reported; adjusted difference 40%, 95% CI, 29% to 51%).

In a good quality RCT in five primary care practices, effects of decision support and patient navigation were compared with minimal intervention in 400 Hispanic adults (mean age 57 years, 59% female).⁷⁷ The intervention included bilingual information and instructions for FOBT and colonoscopy, an FOBT kit, and telephone navigation to plan, schedule, and complete screening. The minimal intervention included bilingual information and screening instructions and an FOBT kit. Completion of FOBT or colonoscopy at 12 months was assessed using medical records. Screening adherence at 12 months was higher for the navigation group overall (77.7% vs. 43.3%, aOR 4.8, 95% CI, 3.1 to 7.6), and for both screening modalities individually (colonoscopy, 20.3% vs. 5.9%, aOR 8.79, 95% CI 4.1 to 18.7; FOBT, 57.4% vs. 37.4%, aOR 4.2, 95% CI, 2.6 to 6.7).

A fair quality RCT in university- and network-affiliated primary care clinics compared navigation to other services in 764 African Americans eligible for colorectal cancer screening.⁹⁴ The intervention included mailed materials, personalized messages based on identified barriers, colonoscopy contact number or FOBT kit, and patient navigation services. The comparison included all services except patient navigation. Completion of FOBT or colonoscopy was assessed using medical records. Screening was higher for the navigation group at 6 (aOR 2.1, 95% CI 1.5 to 2.9) and 12 months (aOR 1.7, 95% CI 1.2 to 2.3).

In a fair quality RCT at a safety-net hospital, effects of patient navigation were compared with usual care in 856 low-income adults age 50 to 74 years.⁸² The majority of the population was non-Hispanic Black or Hispanic (40.4% each) and female (57.1%). The intervention group received patient navigation services including assessment of personal screening barriers and assistance with prescriptions, appointments, and transportation. The usual care group received a phone call, screening instructions, and a mailed prescription for bowel preparation. Completion of colonoscopy at 6 months was determined by medical record review. Screening was higher for navigated compared with control participants (61.1% vs. 53.2%, $p=0.02$; aOR 1.51, 95% CI 1.12 to 2.03), and among Hispanic compared with non-Hispanic White participants regardless of the intervention (aOR 2.60, 95% CI 1.64 to 4.13). When assessed by income level, the intervention improved screening only among participants with a yearly income of \$20,000 to \$34,999 compared with those making less than \$10,000 (OR 2.09, 95% CI 1.33 to 3.31).

A fair quality RCT at a community and migrant health center examined effects of patient navigation compared with usual care on colorectal cancer screening in 1,413 low-income women (mean age 58.1 years).⁸³ The intervention group received patient navigation including assessment of personal screening barriers and assistance with communication, appointments, and transportation, while the usual care group received a phone call recommending preventive care. Completion of any colorectal cancer screening at 18 months was determined by medical record review. Screening rates improved from baseline to followup in both the intervention (39% vs. 63%, $p<0.001$) and control groups (39% vs. 50%, p -value not reported).

A fair quality RCT of 420 low-income patients compared patient navigation with usual care at a FQHC network (66% female, mean age 57.3 years).⁸⁶ The intervention group received automated phone calls and text messages, mailed home FIT kits, and patient navigation services for non-completers at 3 months. Usual care included computerized reminders and standing orders for FIT kits, and feedback for physicians on screening rates. Completion of FIT at 6 and 12 months was determined by medical record review. Screening was higher with navigation at 6 (36.7% vs. 14.8%, $p<0.001$) and 12 months (40% vs. 22.4%, $p<0.001$).

In a fair quality RCT conducted within Medicaid managed care organization plans, navigation was compared with usual care in 2,240 low-income women (mean age, 55.8 years).⁸⁴

The intervention group received a personalized letter, educational materials, a list of overdue screenings to share with physicians, and navigation services including telephone assessment and management of barriers. Completion of any screening test (FOBT, colonoscopy, flexible sigmoidoscopy, or barium enema) at 18 months was assessed by Medicaid claims data. Screening was higher with navigation (36.7% vs. 30.6%; aOR 1.32, 95% CI 1.08 to 1.62).

A fair quality RCT of 469 low-income women compared patient navigation with usual care at a large safety-net primary care practice.⁸⁵ The majority of the 323 participants were younger than 59 years (mean age 62.5 years) and White (64%). Intervention participants received telephone and mailed outreach, mailed FOBT kits, and point-of-care prompt sheets for patients and clinicians. Completion of any screening (colonoscopy, FOBT, flexible sigmoidoscopy, or barium enema) at 1 year was determined by medical record review. Screening was higher with navigation (28.8% vs. 10%; aOR 3.69, 95% CI 1.93 to 7.08). A fair quality RCT, as part of a multi-site trial sponsored by Centers for Medicare and Medicaid Services (CMS), compared navigation with usual care in 1,691 African Americans in Baltimore.⁹⁰ Approximately half of participants were aged 65 to 69 years, and 72.5 percent were female. The intervention included printed screening education materials from CMS and navigation services including assessment and management of screening barriers. Completion of FOBT screening at 1 year or colonoscopy or flexible sigmoidoscopy within the past 10 years was self-reported. The screening rate for all tests combined was higher with navigation compared with controls (94% vs. 91%, $p=0.04$; aOR 1.56, 95% CI 1.08 to 2.25). When assessed by specific modality, rates were higher with colonoscopy or flexible sigmoidoscopy (aOR 1.54, 95% CI 1.08 to 2.20), but not for FOBT (aOR 1.09, 95% CI 0.72 to 1.64).

In a poor quality RCT in a hospital-affiliated primary care clinic, navigation was compared with usual care in 1,223 low-income adults (mean age 63 years).¹⁰⁷ The majority were female (60%) and White (47%) or Latino (40%). Navigation included an introductory letter, educational materials, assessment and management of screening barriers, and appointment and transportation assistance. Completion of any screening test (colonoscopy, flexible sigmoidoscopy, FOBT, or barium enema) at 9 months was determined by medical record review. Screening was higher with navigation (27.4% vs. 11.9%, $p<0.001$).

A poor quality RCT at a rural hospital in Hawaii compared patient navigation with usual care on screening rates in 488 Native Hawaiian and Filipino patients eligible for Medicare (72.7% older than 65 years, 53.3% female).⁹⁸ The intervention included patient navigation from a lay health worker with information on screening, mail and telephone reminders, appointment scheduling, transportation, and other services. Usual care included nutrition and cancer education from other healthcare providers. Completion of FOBT at 6 months and endoscopy at 5 years was determined by patient self-report. Screening was higher with navigation for both FOBT (20.7% vs. 12.6%, $p=0.02$) and endoscopy (43.0% vs. 27.2%, $p<0.001$).

Four trials at FQHCs compared effects of patient navigation with other approaches. A fair quality RCT in Chicago compared navigation with usual care in 450 low-income patients.⁸⁰ The intervention included a mailed reminder letter, a mailed FIT kit, and automated phone and text message reminders. Non completers at 3 months received patient navigation services including a second mailed kit or standard script and contact information over voicemail. Usual care included computerized reminders, standing orders for FIT kits at clinics, and clinician feedback on screening rates. Screening at 6 months was determined by medical record review. Screening was higher with navigation (82.2% vs. 37.3%, $p<0.001$), and the trial was stopped early to expand the intervention to the control group.

In three FQHCs in Louisiana, a trial of 961 patients compared three interventions: 1) patient navigation including mailed FOBT kit, education, printed materials, tailored problem solving for barriers, and assistance with scheduling; 2) education without navigation including FOBT kit at clinic visit, education, and printed materials; and 3) recommendation including FOBT kit at clinic visit, recommendation for screening, and education materials.^{96,97} Completion of three FOBT kits over 3 years was highest for the navigation and education groups (13.6% navigation vs. 11.4% education without navigation vs. 4.7% recommendation, $p=0.005$).

In 13 FQHCs in Georgia, a nonrandomized trial of 809 patients compared navigation in clinics implementing a community screening program with control clinics.¹¹⁸ The intervention included navigation services with education, assessment and management of screening barriers, and appointment assistance. Navigators also conducted chart audits, managed provider reminder systems, and coordinated provider feedback on referral patterns. Screening rates (colonoscopy within 10 years, flexible sigmoidoscopy within 5 years, or FOBT within 1 year) at 18 months were determined by medical record review. Completion of any screening test was higher with navigation compared with controls (42.6% vs. 10.8%, $p<0.001$).

A poor quality RCT at a FQHC in New York City compared navigation with usual care in 78 patients (mean age 61.2 years, 74.4% female, 82.1% Hispanic).¹⁰⁵ Navigation included telephone assessment of screening barriers, patient education, and followup. Endoscopy or FOBT was determined by medical record review. Screening was higher with navigation at 6 months for endoscopy (23.7% vs. 5%, $p=0.02$), but similar at 3 months for FOBT (42.1% vs. 25%, $p=0.09$).

Two before-after studies demonstrated improved screening rates after implementing patient navigation. In one study, culturally tailored patient navigation with assessment and management of barriers for 3,115 patients at a community health center increased up-to-date colorectal cancer screening rates in Latinos versus non-Latinos at the end of 5 years (73.5% vs. 66%, $p<0.001$).¹¹⁴ In a before-after study in a public hospital, an intervention including patient navigation, direct referral systems, and enhancements to a gastrointestinal suite resulted in higher screening rates with colonoscopy compared with rates prior to the intervention (RR 3.0, 95% CI 1.9 to 4.7).¹¹³ Rates were higher in a subgroup of patients enrolled in Medicaid (48.4% vs. 17%, $p<0.001$).

Three studies indicated no differences in colorectal cancer screening rates with navigation compared with other approaches. In a fair quality cluster RCT in France, navigation was compared with usual care in 16,267 patients in urban or rural and deprived or affluent geographical strata (mean age 58.7 years, 51.4% female).^{87,124} The intervention group received a tailored introductory letter, telephone assessment of screening barriers, mailed FOBT kit, and home visits as needed. The usual care group received a mailed FOBT kit that is standard practice in France. Screening was higher with navigation at 9 months compared with controls overall (24.3% vs. 21.1%, $p=0.003$; OR 1.19, 95% CI 1.10 to 1.29). When assessed by subgroups, screening rates were higher only for affluent (26% vs. 21.9%, $p=0.001$), but not deprived patients (22.8% vs. 20.2%, $p=0.07$).

In a poor quality RCT, effects of case management were compared with usual care at a screening center for 703 Black men (mean age 63 years).¹⁰² Case managers referred participants to community service agencies and called monthly to address sociocultural, economic, and individual barriers to screening, while control participants received usual care. After 3 years, rates of flexible sigmoidoscopy were similar between groups for low-income (68.9% vs. 51.3%, $p=0.10$) or moderate to high-income participants (53.8% vs. 62.5%, $p=0.22$).

In a cluster non-randomized trial in managed care network-affiliated primary care practices, navigation was compared with usual care among 416 patients with Medicaid (mean age 56 years,

57% female).¹¹⁹ More Black patients were enrolled at intervention (62%) than control clinics (31%). The intervention included an 11-minute video decision aid followed by telephone navigation to address barriers to screening including assistance with appointment scheduling. Screening with colonoscopy, FOBT, or sigmoidoscopy at 6 and 12 months were determined using Medicaid claims data. For all enrolled patients, screening rates were similar between groups at both 6 (9.2% vs. 7.5%, aOR 1.44, 95% CI 0.68 to 3.06) and 12 months (16.3% vs. 10.3%, OR 1.68, 95% CI 0.80 to 3.56). However, among the 27.6% of participants actually contacted by navigators, screening was higher than controls (OR 3.5, 95% CI 1.7 to 7.1).

Patient Navigation Involving Community Settings

Five poor quality trials evaluated the effectiveness of patient navigation involving community settings that connected patients with healthcare systems. Four trials indicated higher screening rates with patient navigation,^{31,101,120,53,106} while a trial comparing navigation with education sessions did not.⁵³

A RCT of 731 African-American patients recruited from barbershops in New York City compared: 1) telephone patient navigation including assessment and management of barriers; 2) patient navigation plus motivational interviewing; and 3) motivational interviewing alone.³¹ Screening was higher for navigation compared with interviewing alone (17.5% vs. 8.4%; aOR 2.28, 95% CI 1.28 to 4.06), and for navigation with interviewing compared with interviewing alone (17.8% vs. 8.4%; aOR 2.44, 95% CI 1.38 to 4.34).

A RCT of 303 low-income Hispanic patients recruited from a Medicare list and contacts at community-based organizations in Texas compared telephone patient navigation with mailed educational materials.¹⁰¹ Navigation included assessment of barriers and education on screening guidelines and Medicare coverage. Screening was higher with navigation (43.7% vs. 32.1%, $p=0.04$; aOR 1.82, $p=0.02$).

A nonrandomized trial of 167 Korean Americans recruited from churches in Los Angeles County, California compared group education on screening and patient navigation with group education alone.¹²⁰ Screening was higher with navigation at 12 months (77.4% vs. 10.8%; RR 7.14, 95% CI 3.81 to 13.37).

In a RCT in a community-based organization, effects of navigation (lay health worker delivered education session, telephone calls, home visits, navigation with referrals, appointment scheduling and transportation) were compared with lay health worker delivered education on healthy lifestyles in 640 Vietnamese Americans age 50 to 74 years with limited English proficiency (50% female).¹⁰⁶ Screening with FOBT or endoscopy at 6 months was determined by patient self-report and was higher for navigation than usual care (56% vs. 19%, $p<0.001$; aOR 5.45, 95% CI 3.02 to 9.82).

A RCT compared the effectiveness of patient navigation that included financial support with patient education alone on colorectal cancer screening.⁵³ The trial recruited 369 African Americans from community-based organizations in Atlanta, Georgia and compared three interventions: 1) navigation including transportation, scheduling, and payment assistance for out-of-pocket expenses; 2) one-on-one education with a health educator; 3) group education with a health educator; and 4) a pamphlet and list of screening resources. Results at 6 months indicated the highest screening rate for the group education intervention (22.2% group education; 17.4% one-on-one education; 16.7% navigation and financial support; 12.5% pamphlet).

Telephone Calls, Prompts, and Other Outreach

Fourteen studies in 15 publications evaluated the effectiveness of screening for colorectal cancer using telephone calls, prompts, and other outreach methods.^{40,76,79,81,88,91,93,99,100,109,110,112,117,122,125} All but two studies^{100,122} indicated increased screening, although results varied by subgroup in some studies.

A good quality RCT in a safety-net hospital system in Dallas, Texas evaluated two interventions compared with usual care in 5,999 underserved patients overdue for colorectal cancer screening.^{79,125} The intervention groups received a letter, invitation, telephone reminder, and either 1) contact numbers for scheduling a colonoscopy and mailed bowel prep kit, or 2) FIT kit and instructions. Completion of screening was determined by medical record review. At 12 months, the intervention groups were more likely to have completed colonoscopy (aOR 1.83, 95% CI 1.57 to 2.14) or FIT (aOR 3.84, 95% CI 3.28 to 4.5). Screening rates at 3 years continued to be higher for interventions (colonoscopy 38.4%, FIT 28%) compared with controls (10.7%, $p<0.001$).

In a good quality RCT in an academic safety-net practice, effects of three interventions were compared with a minimal intervention in 1,008 low-income, Black, Hispanic, and White patients eligible for colorectal and/or breast cancer screening.⁷⁶ A bilingual letter with information on scheduling and the availability of free screening through a state program was sent to all participants and served as usual care for the control group. In addition, interventions included either 1) contact for an outreach worker and a personal telephone call with motivational interviewing to address screening barriers; 2) an automated telephone message to contact the outreach worker, and paper prompts for physicians at the patient's point-of-care; or 3) an automated telephone message to contact the outreach worker only. Completion of screening was determined by electronic medical records. Screening rates were higher for patients receiving personal calls (21.5%; aOR 2.0, 95% CI 1.1 to 3.9) or physician prompts (19.6%; aOR 1.9, 95% CI 1.0 to 3.7) compared with usual care (12.2%). Rates were not higher with the automated message only (15.3%; aOR 1.2, 95% CI 0.6 to 2.4).

A fair quality RCT in a large primary care safety-net practice in Rochester, New York enrolled 240 low-income patients overdue for colorectal cancer screening.⁴⁰ The intervention included a letter, automated telephone calls, point-of-care prompts, and mailed home test kit for colorectal cancer screening, and was compared with usual care. Completion of any colorectal cancer screening was assessed using medical records. At 12 months, screening was higher with the intervention (37.7% vs. 16.7%, $p<0.001$; aOR 3.22, 95% CI 1.65 to 6.30).

In a fair quality RCT in a community clinic in King County, Washington, effects of two interventions were compared with usual care in 501 underserved, Hispanic adults (53% female).⁸¹ The majority were aged 50 years to 59 years (57%). The interventions included either 1) a mailed packet with a letter signed by the medical director, FOBT kit and instructions, and *promotora*-led telephone outreach including education, reminders, and home visits to reinforce the education material; or 2) a mailed packet only. Completion of FOBT screening was assessed by medical record review. Screening at 9 months was higher in outreach (31%) and mailed packet only (26%) intervention groups compared with controls (2%, $p<0.001$); while rates between intervention groups were similar ($p=0.28$).

A fair quality RCT in a safety-net system in Texas evaluated effects of a telephone and mail intervention compared with usual care in 5,994 underserved adults (mean age 59 years, 64% female).⁸⁸ The participants were primarily White (41%), Hispanic (29%), or Black (24%). The intervention included mailed invitations, automated and live reminder telephone calls, and either

assistance with bowel prep for colonoscopy or a mailed FIT kit. Completion of screening was determined by claims data. Screening at 12 months was higher with the intervention for colonoscopy (24.6%) and FIT (40.7%) compared with control (12.1%, $p < 0.001$ for both).

In a fair quality RCT in rural family medicine clinics in Iowa, three interventions were compared with usual care in 743 adults (mean age 61.1 years, 52% female, 98.7% White).⁹³ Interventions included either 1) a reminder in the patient's chart; mailed education materials, a refrigerator magnet, and FIT kit; and structured telephone calls providing education and assessment and management of screening barriers; 2) chart reminder and mailed materials; or 3) chart reminder only. Completion of any screening test (colonoscopy, flexible sigmoidoscopy, FOBT, or barium enema) was assessed by medical record review. Screening rates for any test were higher in the telephone and mail group (57.2%; aOR 6.38, 95% CI 0.9 to 10.5) and mail group (56.5%; aOR 6.29, 95% CI 3.8 to 10.4) compared with the control group (17.8%); while rates were similar in the chart reminder only group (20.5%; aOR 1.23, 95% CI 0.7 to 2.1).

A fair quality RCT conducted in a FQHC compared a mailing intervention with usual care among 202 low-income patients (mean age 60 years).⁹¹ The population was primarily female (62%), and included White (27%), Black (28%), Hispanic (20%), and Asian (14%) participants. Intervention participants received a personalized letter encouraging screening along with a fact sheet, FOBT kit, and instructions; those not responding to the letter received reminder calls from bilingual lay health workers. Control participants received usual care. Rates of screening colonoscopy, FOBT, or sigmoidoscopy were higher in the intervention versus control group (30% vs. 5%, $p < 0.001$), with the majority (94%) selecting FOBT for screening.

A large poor quality cluster RCT of 41,193 participants evaluated a mailed letter, FIT kit, and reminder letter compared with usual care in underserved adults at FQHCs in Oregon and California.⁹⁹ Rates of any screening test (colonoscopy, flexible sigmoidoscopy, or FIT) at 18 months were higher with the intervention compared with control (18.3% vs. 14.5%; adjusted mean difference 3.8, 95% CI 0.6 to 7.0). FIT screening rates at 12 months also were higher in the intervention group (13.9% vs. 10.4%; adjusted mean difference 3.4, 95% CI 0.1 to 6.8, $p = 0.05$).

A poor quality RCT in a Seattle community clinic assessed differences in screening rates in 210 Chinese-American adults (63% female).¹⁰⁹ Intervention participants reviewed a video in person with a health educator and received a mailed pamphlet and FOBT kit. At 6 months, FOBT completion rates were higher with the intervention (69.5% vs. 27.6%; aOR 6.38, 95% CI 3.44 to 11.85).

A fair quality nonrandomized trial reported effects of a mailing intervention versus usual care with 119 low-income patients at a general medicine clinic in Chicago, Illinois (mean age 64 years).¹²¹ The population was primarily Black (82%) and female (73%). The intervention group received three FOBT cards and personalized letter encouraging screening, as well as instructions and reminders 2 weeks prior to the appointment. Rates of FOBT screening after 12 months were statistically significantly higher in the intervention versus control group (40.7% vs. 5.0%, OR 13.0, 95% CI 3.6 to 45.5, $p < 0.001$).

A poor quality nonrandomized trial in 8 FQHCs in Louisiana evaluated effects of 2 telephone and mail interventions compared with usual care in 961 underserved adults (mean age 58.4 years, 77% female, 67% Black).¹¹⁷ Intervention included either 1) in person, nurse-led education and motivational interviewing and followup by telephone; or 2) in person, educational video and mailed FOBT kit and instructions. At 12 months, FOBT completion rates were higher with the nurse intervention compared with usual care (60.6% vs. 38.6%; adjusted screening ratio [aSR] 1.60, 95% CI 1.06 to 2.42). Rates were similar between the video intervention group compared

with controls (57.1%; aSR 1.36, 95% CI 0.85 to 2.18) and between intervention groups (aSR 1.18, 95% CI 0.97 to 1.42).

In a 10-year before-after study, a California health system mailed FIT kits and implemented point-of-care prompts to increase screening for 868,934 patients including racial and ethnic minorities.¹¹² In the years following the program implementation, patients were more likely to be up-to-date with colorectal cancer screening compared with the pre-implementation period (1 to 3 years post-intervention, RR 1.60, 99% CI 1.59 to 1.60; 4 to 7 years, RR 2.05, 99% CI 2.04 to 2.05). However, only patients of Asian Pacific Islander or multiple race backgrounds had slightly higher screening rates than non-Hispanic Whites before and after program implementation. This may have been due to higher uptake of the mailed FIT kits by non-Hispanic Whites compared with other racial and ethnic backgrounds.

In another before-after study, 18 primary care practices in a large health system implemented an intervention to identify and contact patients overdue for screening.¹¹⁰ When patients did not respond to an initial letter, patient delegates provided telephone counseling, education, and assistance managing screening barriers. At baseline, rates of colorectal cancer screening (colonoscopy, sigmoidoscopy, barium enema, or computed tomography colonography) differed by education level (65.7% less than high school vs. 74.5% high school or higher, $p<0.001$). After 1 year, rates continued to differ (69.4% vs. 76.7%, $p<0.001$), but slightly less (0.68%, $p<0.001$).

A post-intervention multiple time series study in England evaluated effects of population-based screening by socioeconomic deprivation and racial and ethnic diversity in 4,423,734 patients aged 60 to 64 years.¹²² Eligible participants received biennial mailed invitations, FOBT kits and instructions, and prepaid envelopes to return the kit, followed by a reminder letter if there was no response. Over a 5 year period, screening was more likely for female patients (OR 1.48, 95% CI 1.46 to 1.51), but less likely for patients living in more deprived areas (OR 0.99, 95% CI 0.98 to 0.99) or more ethnically diverse areas (OR 0.99, 95% CI 0.99 to 0.99).

Screening rates were not higher after an outreach intervention in a poor quality RCT in a Seattle community clinic that compared effects of a culturally tailored calendar with cancer-focused health messages with a calendar without messages in 5,065 American Indian/Alaska Native patients.¹⁰⁰ The trial included colorectal and breast cancer screening as well as tobacco smoking cessation. The majority of participants were female (56%); ages ranged from 18 years to 93 years, but colorectal cancer screening was assessed only in participants aged 50 years or older. Screening rates were similar to controls for both FOBT (2.9% vs. 3.1%, $p=0.81$) and colonoscopy (0.3% vs. 0.7%, $p=0.20$).

Educational Videos

Four trials evaluated the effects of educational videos on rates of colorectal cancer screening. Two trials found no differences in screening rates among Black patients in Texas,^{89,103} while two trials indicated increased screening among low-income patients after interventions that included educational videos.^{92,108}

In a fair quality RCT, 89 patients (69% female, mean age 57.5 years) at tertiary care center-affiliated primary care clinics were randomized to watch a 30-minute screening video (intervention) or an 11-minute hypertension video (control).⁸⁹ Screening rates were similar at 3 months (21% intervention vs. 28%, control; $p=0.45$). In a poor quality RCT, effects of an educational video were compared with a minimal intervention in 160 low-income patients attending an outpatient community clinic (mean age 61, 84.4% female).¹⁰³ Intervention

participants watched a video and completed a questionnaire, received an order for an FOBT kit and instructions from a nurse, and made appointments for the kit return and followup visit. Controls received all but the video. After 3 months, screening rates were similar between groups (intercorrelation 0.07, $p>0.05$).

A fair quality RCT compared two types of videos in 202 low-income patients at a FQHC.⁹² Participants were primarily female (64%) and Black (72%); mean age was 56 years. The intervention group watched a 12-minute educational video with communication training on asking for colorectal cancer screening, a brochure with communication tips, and telephone counseling about barriers if there was no response within 1 month. The control group watched a generic 10-minute educational video on colorectal cancer screening and received a screening brochure with no communication tips. Rates of FOBT or colonoscopy screening at 2 months were higher in the intervention group (19.6% vs. 9.9%, aOR 2.35, 95% CI 1.14 to 5.56).

In poor quality trial of 1,372 low-income patients (mean age 60 years) in community-based primary care clinics, a video intervention was compared with usual care.¹⁰⁸ Less than half of the population was female (45%); the population included Black (37%), White (30%), Hispanic (20%), and Asian (11%) participants. The intervention included a nurse reminder sheet, visual aids explaining the FOBT test and prep, video and written instructions, and a prepaid return envelope. Rates of colonoscopy, sigmoidoscopy, and FOBT after 18 weeks were higher for the intervention than control group (24.2% vs. 13.4%, $p<0.001$; OR 2.22, 95% CI 1.24 to 3.95).

Screening Checklist

A fair quality RCT of 1,196 patients compared an intervention with usual care in a primary care network serving disadvantaged populations.^{43,95} Intervention clinics received reminder checklists including screening status stickers for patients to complete at visits, while control clinics received no materials. Completion of FOBT at 12 months was determined by medical record review. Screening rates were higher among patients attending intervention clinics compared with control clinics at 12 (40.1% vs. 11.9%, $p<0.001$; aOR 2.56, 95% CI 1.65 to 4.01),⁴³ but not 24 months (28.2% vs. 12.6%, $p=0.19$; aOR 1.17, 95% CI 0.92 to 1.48).⁹⁵

Provider Training

Specific aspects of screening improved after provider training in two before-after studies. A study of 248 African-American patients in an academic affiliated clinic in Washington, D.C. evaluated screening rates before and after implementing an education program for internal medicine residents.¹¹¹ Training included didactic seminars, observation of screening modalities, exams, and charting. Colonoscopy rates at 6 months were higher after the education program (59.1% vs. 26.7%, $p<0.001$), although rates of FOBT did not change. A study among rural, primary care practices (66 practices with 3,844 patient records) compared screening rates before and after an academic detailing intervention for clinicians, including clinical performance measures, patient counseling, and practice changes. After 6 months, more colonoscopy results were documented (15.7%) than at baseline (2.4%, $p=0.01$).

Practice Changes Involving Community Engagement

A before-after study in four FQHCs evaluated practice changes and engagement with community resources on colorectal cancer screening for 97,433 patients.¹¹⁵ The intervention, including self-management goal setting with patients, documentation of screening rates, screening result notifications, evaluation of abnormal results, and inclusion of community

resources to support cancer screening, led to higher rates of colorectal cancer screening compared with rates prior to the intervention (21.2% vs. 8.6%, $p<0.001$).

Table 11. Studies of effectiveness of health system interventions for colorectal, breast, and cervical cancer screening combined

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Braun et al., 2015 ⁹⁸	Colorectal, breast, cervical	Native Hawaiian and Filipino	Hospital; Moloka'i, Hawai'i	RCT (488)	Patient navigation based on <i>Kukui Ahi</i> model involving lay health worker vs. general health education from another healthcare entity	Screening: FOBT in past year, 20.7% vs. 12.6% (p=0.02); endoscopy in past 5 years, 43.0% vs. 27.2% (p<0.001); mammogram in past year, 61.7% vs. 42.4% (p=0.003); pap smear in past 2 years, 57.0% vs. 36.4% (p=0.001)	Poor; poor
Dietrich et al., 2006 ⁸³	Colorectal, breast, cervical	Low-income	Community and Migrant Health Centers; New York City, New York	RCT (1,413)	Navigation with telephone calls, motivational support, barrier management, appointment scheduling, reminders, transportation assistance vs. telephone recommendation to screen	Screening rates: mammography increase by 0.1 (17%) vs. control, p<0.001; cervical cancer increase by 0.07 (10%) vs. control, p<0.001; colorectal screening increase by 0.24 (>60%) vs. control, p<0.001	Fair; fair
Doorenbos et al., 2011 ¹⁰⁰	Colorectal, breast, cervical, tobacco smoking cessation	American Indian, Alaska Native	Community health clinic; Seattle, Washington	RCT (5,065)	Culturally tailored calendar with cancer focused, health related messages, vs. calendar without messages	Screening rates: FOBT: 2.9% vs. 3.1%, p=0.81; colonoscopy: 0.3% vs. 0.7%, p=0.20; mammogram: 13.6% vs. 14.8%, p=0.50; tobacco smoking cessation: nicotine patch use: 0.6% vs. 0.8%, p=0.48; cessation counseling: 4.5% vs. 4.5%, p=0.99; cessation counseling referral: 0% vs. 0.9%, p=0.51	Poor; poor
Fiscella et al., 2011 ⁸⁵	Colorectal, breast	Low-income	Large safety net primary care practice; New York	RCT (469; colorectal (323); breast cancer (271))	Navigation with two letters and a phone call; mailed kits for patients not responding to outreach; point-of-care prompt sheets for patients and clinicians vs. usual care	Screening rates within past year: colorectal (colonoscopy, FOBT, flexible sigmoidoscopy, barium enema), aOR 3.69 (95% CI 1.93 to 7.08); mammography, aOR 3.44 (95% CI 1.91 to 6.19)	Fair; good

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Fortuna et al., 2014 ⁷⁶	Colorectal, breast	Low-income, racial and ethnic minority	Academic internal medicine safety-net practice, Rochester, New York	RCT (1,008)	All groups received a bilingual letter with scheduling information, contact for outreach worker, and information on free screening (usual care); intervention also received: 1) personal call from outreach worker with motivational interviewing and navigation; 2) automated message to call outreach worker, paper prompts for physician during patient's point of care; or 3) automated message to call outreach worker	Mammography screening rates: personal call, 27.5%; aOR 2.2 (95% CI 1.2 to 4.0); physician prompt, 28.2%; aOR 2.1 (95% CI 1.1 to 3.7); automated call, 22.8%; aOR 1.3 (95% CI 0.7 to 2.4); colorectal cancer screening rates: personal call, 21.5%; aOR 2.0 (95% CI 1.1 to 3.9); physician prompt, 19.6%; aOR 1.9 (95% CI 1.0 to 3.7); automated call, 15.3%; aOR 1.2 (95% CI 0.6 to 2.4)	Good; fair
Hendren et al., 2014 ⁴⁰	Colorectal, breast	Low-income	Large safety-net primary care practice; Rochester, New York	RCT; colorectal cancer (240); breast cancer (191)	Intervention over 6 months with letter, automated telephone calls, point-of-care prompts, mailing test kit for colorectal cancer screening vs. usual care	Screening at 1 year: colorectal (colonoscopy, FIT, FOBT), aOR 3.22 (95% CI 1.65 to 6.30); breast, aOR 1.96 (95% CI 0.87 to 4.39)	Fair; good
Jandorf et al., 2014 ⁴¹	Breast, cervical	Latinas	Community-based settings in Arkansas, Buffalo, and New York City, New York	Cluster randomized trial (1,333)	Faith-based, peer-led breast and cervical cancer education sessions, plus navigation at 2 months for those not yet screened vs. diabetes education sessions	Mammography at baseline, 2 months, and 8 months combined: 56.7% intervention vs. 62.2%, p=0.043, OR 8.56 (95% CI 5.85 to 12.53); pap at baseline, 2 months, and 8 months combined: 62.7% intervention vs. 64.6% control, p=NS	Fair; fair
Jibaja-Weiss et al., 2003 ¹²⁶	Breast, cervical	Low-income	Community health centers; Houston, Texas	RCT (1,574)	1) Personalized tailored letter using specific breast and cervical risk factor info from EMR, or 2) personalized form letter with risk factors, importance of screening, encouragement to schedule screening, vs. 3) usual care	Screening rates at 12 months, cervical: 23.7% letter vs. 43.9% letter + information vs. 39.9% control, p<0.001; breast: 13% letter vs. 30.5% letter + information vs. 20.7% control, p<0.001	Fair; fair

Author, Year	Preventive Service	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Navarro et al., 1998 ¹²⁷	Breast, cervical	Low-income, Hispanic	Community settings in San Diego County, California	RCT (512)	Weekly, culturally appropriate education sessions on breast and cervical cancer screening led by <i>consejeras</i> vs. weekly <i>consejera</i> -led education sessions on community living skills	Mammography in past year (n=113): 21.4% intervention vs. 7.0% control, p=0.029; cervical screening in past year: 23.1% intervention vs. 16.2% control, no difference	Poor; fair
Roetzheim et al., 2004; ⁴³ Roetzheim et al., 2005 ⁹⁵	Colorectal, breast, cervical	Low-income	8 clinics; Hillsborough County, Florida	Cluster RCT (1,196)	Cancer screening checklist completed by patients and stickers to designate whether screening was ordered and completed vs. usual care	Screening rates at 12 months: cervical, OR 1.57 (95% CI 0.92 to 2.64); breast, OR 1.62 (95% CI 1.07 to 9.78); FOBT, OR 2.56 (95% CI 1.65 to 4.01) Screening rates at 24 months: breast, OR 1.26 (95% CI 1.02 to 1.55); cervical, OR 0.88 (95% CI 0.68 to 1.15); FOBT, OR 1.17, (95% CI 0.92 to 1.48)	Fair; fair
Taplin et al., 2008 ¹¹⁵	Colorectal, breast, cervical	Underserved	4 FQHCs; United States nationwide	Before-after study (97,433)	Pre vs. post-intervention including practice changes with self-management goal setting, documentation of screening rates, results notification, evaluation of abnormal results, and community resources to support cancer screening	Screening rates: colorectal (colonoscopy, sigmoidoscopy, FOBT), 21.2% vs. 8.6%, p<0.001; breast, 39% vs. 23.2%, p<0.001; cervical, 37.2% vs. 25.2%, p<0.001	NA; poor

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; EMR = electronic medical record; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; FQHC = Federally Qualified Health Center; NA = not applicable; NS = not significant; OR = odds ratio; Pap = Papanicolaou; RCT = randomized controlled trial; vs. = versus

Table 12. Studies of effectiveness of health system interventions for colorectal cancer screening

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Arnold et al., 2016a ⁹⁷ , Arnold 2016b ⁹⁶	Underserved	Three FQHCs; Louisiana	Group-randomized trial (961)	Navigation (mailed FOBT kit, education, printed materials, tailored problem solving for barriers and assistance with scheduling) vs. education without navigation (FOBT kit at clinic, education, printed materials) vs. recommendation (FOBT kit at clinic visit, recommendation for screening, education materials)	Completion of three FOBT kits over 3 years: 13.6% navigation vs. 11.4% education without navigation vs. 4.7% recommendation, $p=0.005$; screening ratio navigation vs. recommendation, 2.65 (95% CI 1.47 to 4.77); education vs. recommendation, 2.39 (95% CI 1.21 to 4.72)	Poor; poor
Baker et al., 2014 ⁸⁰	Underserved	FQHC; Chicago, Illinois	RCT (450)	Navigation (mailed FIT kit, letter from PCP, automated call and text message, patient navigation at 3 months for nonresponders) vs. no navigation (computerized reminders, standing orders for FIT, clinician feedback on screening rates)	Completion of FIT within 6 months: 82.2% navigation vs. 37.3% no navigation, $p<0.001$	Fair; Fair
Berkowitz et al., 2015 ¹¹⁰	Socio-economically disadvantaged	18 primary care practices; Boston, Massachusetts	Before-after (49,733)	Electronically identify patients overdue for screening, contact, and track them with initial reminder letter, assignment to a patient delegate, and, for non-responders and high-risk patients, referral to patient navigation	Baseline screening (colonoscopy, sigmoidoscopy, barium enema, CT colonography), disadvantaged vs. not: 65.7% vs. 74.5%, $p<0.001$; post-intervention: 69.4% vs. 76.7%, $p<0.001$; increase over time: 3.7% vs. 2.2%, $p<0.001$ (2.7% overall, $p<0.001$); decline in difference over time: 0.68%, $p<0.001$	NA; good
Blumenthal et al., 2010 ⁵³	African American	Community-based organizations; Atlanta, Georgia	RCT (369)	Financial support (payment for out of pocket expenses) and navigation including transportation, scheduling, and payment assistance vs. one on one education with health educator vs. group education with health educator vs. pamphlet and list of screening resources	Any type of screening at 6 months: 16.7% financial support vs. 17.4% one on one education vs. 22.2% group education vs. 12.5% pamphlet, no differences	Poor; poor
Cole et al., 2017 ³¹	African American	Patients recruited from barbershops; New York City, New York	RCT (731)	Telephone patient navigation including assessment and management of barriers vs. patient navigation plus motivational interviewing vs. motivational interviewing	Any type of screening at 6 months: navigation vs. interviewing, 17.5% vs. 8.4%, aOR 2.28 (95% CI 1.28 to 4.06); navigation plus interviewing vs. interviewing, 17.8% vs. 8.4%, aOR 2.44 (95% CI 1.38 to 4.34)	Poor; fair

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Coronado et al., 2011 ⁸¹	Hispanic, underserved	Community-based clinic; King County, Washington	RCT (501)	1) <i>Promotora</i> -led telephone patient navigation including assessment and management of barriers, plus home visits, mailed FOBT card and letter from medical director; or 2) mailed FOBT card and letter only; vs. 3) usual care	FOBT screening at 9 months: 31% navigation plus mailing vs. 26% mailing only vs. 2% control; either intervention vs. control, $p < 0.001$; navigation plus mailing vs. mailing only, $p = 0.28$	Fair; fair
Coronado et al., 2018 ⁹⁹	Underserved	26 FQHCs; Oregon and California	Cluster RCT (41,193)	Mailed FIT kit, letter from clinic, reminder letter, process improvement for clinics vs. usual care	FIT completion in 12 months: 13.9% vs. 10.4%, adjusted MD 3.4 (95% CI 0.1 to 6.8); any screening (FIT, COL/FS) in 18 months: 18.3% vs. 14.5%, adjusted MD 3.8 (95% CI 0.6 to 7.0)	Poor; fair
Davis et al., 2013 ¹¹⁷	Underserved	8 FQHC-associated clinics; Louisiana	Prospective cohort (961)	1) Nurse-led patient education, FOBT kit, motivational interview, followup calls; or 2) staff-led patient education, video, FOBT kit vs. 3) usual care (FOBT kit)	FOBT completion in 12 months: 60.6% nurse education vs. 57.1% staff education vs. 38.6% control, $p < 0.0001$; adjusted screening ratio nurse education vs. control, 1.60 (95% CI 1.06 to 2.42); adjusted screening ratio, staff education vs. control, 1.36 (95% CI 0.85 to 2.18); adjusted screening ratio, nurse vs. staff education, 1.18 (95% CI 0.97 to 1.42)	Poor; good
DeGroff et al., 2017 ⁸²	Low-income	Hospital and community health center; Boston, Massachusetts	RCT (856)	Telephone patient navigation including management of screening barriers vs. computerized reminders, standing orders for FIT, clinician feedback on screening rates	Colonoscopy within 6 months: 61.1% navigation vs. 53.2% not navigation, $p = 0.02$, OR 1.51 (95% CI 1.12 to 2.03); Hispanics more likely than Whites to screen, OR 2.60 (95% CI 1.64 to 4.13)	Fair; fair
Dietrich et al., 2013 ⁸⁴	Low-income	3 Medicaid managed care organization plans; New York City, New York	RCT (2,240)	Telephone outreach including assessment and management of barriers, personalized letter and overdue screening card, educational materials, appointment reminders and scheduling assistance if requested vs. usual care	Any screening (FOBT, COL/FS, barium enema) at 18 months: 36.7% vs. 30.6%, aOR 1.32 (95% CI 1.08 to 1.62)	Fair; good
Dignan et al., 2014 ¹²³	Rural	Primary care practices; Appalachian Kentucky	Before-after study (66 practices with 3,844 patient records)	Academic detailing for clinicians: screening efficacy, clinical performance measures, patient counseling, and creating a screening-friendly practice environment	Change in rates at 6 months: no differences in FOBT, colonoscopy, or any screening recommended or results documented; for documented recommendations: more colonoscopy results 15.7% vs. 2.4%, $p = 0.01$	NA; fair

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Enard et al., 2015 ¹⁰¹	Low-income, Hispanic	Recruited from Medicare list and contacts at community organizations; Texas	RCT (303)	Telephone patient navigation including assessment of barriers, education on screening guidelines and Medicare coverage vs. mailed education materials	Screening rates (COL/FS or FOBT): 43.7% navigation vs. 32.1% mailed materials, p=0.04; aOR 1.82, p=0.02	Poor; good
Ford et al., 2006 ¹⁰²	African American	Screening center for another trial; Detroit, Michigan	RCT (703)	Case management to reduce barriers with referrals to community services and agencies; at least monthly calls vs. usual care	Adherence to flexible sigmoidoscopy over 3 years: low income (≤ 1.5 x federal poverty level), 68.9% vs. 51.3%, p=0.10; moderate to high income, 53.8% vs. 62.5%, p=0.22	Poor; poor
Friedman et al., 2001 ¹⁰³	African American, low-income	Outpatient community clinic; Houston, Texas	RCT (160)	Educational video and questionnaire; ACS brochure and order for FOBT kit to give to physician; FOBT kit, instructions from nurse, appointments for FOBT return to lab and followup visit vs. all but video	Compliance with FOBT screening at 3 months, intercorrelation with treatment group: 0.07, p>0.05	Poor; poor
Friedman and Borum, 2007 ¹¹¹	African American	Academic affiliated clinic; Washington, D.C.	Before-after study (248)	Pre vs. post-intervention including education for internal medicine residents with didactic seminars, observation of screening modalities, exam, and charting	Colonoscopy rates at 6 months: 59.1% post-intervention vs. 26.7%, p<0.001; no differences in rates of rectal exam or FOBT	NA; fair
Goldberg et al., 2004 ¹²¹	Low-income, African American	Comprehensive general medicine clinic; Chicago, Illinois	Non-randomized trial (119)	Personalized and signed letter with reminders and instructions 2 weeks prior to appointment, mailed 3 FOBT cards, vs. usual care	FOBT screening at index appointment: 35.6% vs. 3.3%, OR 16.0 (95% CI 3.5 to 71.4), p<0.001; FOBT screening after index appointment: 5.1% vs. 1.7%, OR 3.2 (95% CI 0.3 to 31.3), p=0.36; FOBT screening within 12 months: 40.7% vs. 5.0%, OR 13.0 (95% CI 3.6 to 45.5), p<0.001	Fair; good
Goldman et al., 2015 ⁸⁶	Underserved	FQHC; Chicago, Illinois	RCT (420)	Navigation (mailed FIT kits, phone calls and text messages, patient navigation at 3 months for nonresponders) vs. usual care	Screening rates at 6 months: 36.7% navigation vs. 15.2% usual care, p<0.001; at 12 months: 40.0% vs. 23.3%, p<0.001	Fair; good
Guillame et al., 2017b ⁸⁷ De Mil et al., 2018 ¹²⁴	Low socio-economic status	Urban and rural strata of deprivation and affluence; France	Cluster RCT (16,267)	Introductory letter, telephone calls to address barriers, FOBT kit, potential for home visit as needed, vs. usual care (FOBT kit)	FOBT at 9 months: 24.3% vs. 21.1%, p=0.003; OR 1.19 (95% CI 1.10 to 1.29); FOBT at 9 months, deprived: 22.8% vs. 20.2%, p=0.07; FOBT at 9 months, affluent: 26% vs. 21.9%, p=0.001	Fair; fair

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Gupta et al., 2013 ⁸⁸	Underserved	Safety-net system; Texas	RCT (5,994)	Mailed invitation, automated reminder telephone calls, live reminder telephone calls, assistance with scheduling and prep instructions for colonoscopy or FIT vs. usual care	Screening at 1 year: 24.6% colonoscopy vs. 40.7% FIT vs. 12.1% control, $p < 0.001$, across all groups and between groups	Fair; good
Hirst et al., 2018 ¹²²	Low socio-economic status, racial and ethnic minority	National Health Service bowel cancer screening program hub; England	Post-intervention multiple time series (4,423,734)	Biennial invitations, FOBT kit and instructions, prepaid envelope; reminder letter after 4 weeks non-response by quintiles of deprivation and area-based ethnic diversity	Uptake among adequately screened, female: OR 1.48 (95% CI, 1.46 to 1.51); highest deprivation: OR 0.99 (95% CI, 0.98 to 0.99); highest ethnic diversity: OR 1.0 (95% CI, 1.0 to 1.0); year (linear): OR 0.95 (95% CI, 0.95 to 0.95); for one unit increase in deprivation, probability of FOBT kit return: -0.36%; for one unit increase in area-based ethnic diversity, probability of FOBT kit return: -0.21%	NA; fair
Hoffman et al., 2017 ⁸⁹	African American	Primary care clinics; Houston, Texas	RCT (89)	Tailored, entertainment-education decision aid video (30 minutes) vs. generic hypertension video (11 minutes)	Completed screening (colonoscopy, FOBT, sigmoidoscopy) at 3 months: 21% vs. 28%, $p = 0.45$	Fair; poor
Honeycutt et al., 2013 ¹¹⁸	Underserved	13 FQHCs; Georgia	Prospective cohort (809)	Letters, automated telephone calls, point-of-care prompts reminding clinicians and patients the patient was past due for the service, and mailed FIT/FOBT kit vs. usual care	Rates of adherence (colonoscopy in 10 years, sigmoidoscopy in 5 years, FOBT in 1 year): 42.6% vs. 10.8%, $p < 0.001$; effect measure White vs. Black, 1.23, $p > 0.05$	Fair; poor
Horne et al., 2015 ⁹⁰	African Americans	Unclear; CMS-funded multisite trial in Baltimore associated with Johns Hopkins	RCT (1,691)	Health navigators conduct chart audits, manage provider reminder systems, coordinate screening and followup, provide patient education and appointment reminders, assist in overcoming barriers to screening, coordinate provider feedback on referral patterns vs. usual care	Screening overall: 94% vs. 91%, $p = 0.04$; aOR 1.56 (95% CI 1.08 to 2.25); FOBT: aOR 1.09 (95% CI 0.72 to 1.64); colonoscopy/sigmoidoscopy: aOR 1.54 (95% CI 1.08 to 2.20)	Fair; fair
Inadomi et al., 2012 ¹⁰⁴	Low socio-economic status; racial and ethnic minority	Community health network; San Francisco, California	Cluster RCT (997)	Physician recommendation of either colonoscopy or FOBT in patient's preferred language; if selected, schedule for procedure and offer ride home vs. patient choice of FOBT or colonoscopy with no recommendation	Completed screening colonoscopy (referent): 38%; completed screening FOBT: 67%, aOR 3.50 (95% CI, 2.48 to 4.93); completed screening of either FOBT or colonoscopy: 69%, aOR 3.69 (95% CI, 2.63 to 5.16)	Poor; fair

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Jandorf et al., 2005 ¹⁰⁵	Underserved	1 FQHC; New York City, New York	RCT (78)	Telephone patient navigation by research assistant: patient education, assessment of barriers, followup vs. usual care	FOBT at 3 months: 42.1% vs. 25%, $p>0.05$; endoscopy at 6 months: 23.7% vs. 5%, $p=0.02$	Poor; good
Jean-Jacques et al., 2012 ⁹¹	Low-income, racial and ethnic minority	1 FQHC; Chicago, Illinois	RCT (202)	Personalized letter encouraging screening, fact sheet, FOBT kit and instructions; if no response after 2 weeks, up to 3 reminder calls from bilingual lay health educators; if no response after 6 weeks, another mailed letter and kit vs. usual care	Screening at 4 months (FOBT, sigmoidoscopy, colonoscopy): 30% vs. 5%, $p<0.001$	Fair; fair
Katz et al., 2012 ⁹²	Low socio-economic status, racial and ethnic minority	1 FQHC; Columbus, OH	RCT (270)	Educational video (12 minutes) with communication training, prevention brochure, communication tips brochure; if no response in 1 month, telephone barriers counseling to ask PCP for screening, vs. general educational video on screening and prevention brochure	Screening (FOBT or colonoscopy) at 2 months: 19.6% vs. 9.9%, aOR 2.35 (95% CI, 1.14 to 5.56)	Fair; fair
Leone et al., 2013 ¹¹⁹	Medicaid	12 managed care network-affiliated primary care practices; North Carolina	Cluster non-randomized trial (416)	Six intervention clinics: mailed packet with study invitation, survey, and CHOICE decision aid (11-min educational DVD); after one month, followup telephone call to address barriers, assist with appointment scheduling vs. six control clinics	Screening (colonoscopy, FOBT, sigmoidoscopy) at 6 months: 9.2% vs. 7.5%, aOR 1.44 (95% CI, 0.68 to 3.06); screening at 12 months: 16.3% vs. 10.3%, unadjusted OR 1.68 (95% CI, 0.80 to 3.56)	NA; fair
Levy et al., 2013 ⁹³	Rural	16 rural family medicine clinics; Iowa	RCT (743)	1) Structured telephone call to provide education, assess and manage barriers, plus chart reminder, educational materials, fridge magnet, FIT kit; or 2) chart reminder, educational materials, fridge magnet, FIT kit; or 3) chart reminder only vs. usual care	Screening (colonoscopy, flexible sigmoidoscopy, FOBT, barium enema) at 15 months: 57.2% telephone vs. 56.5% chart plus materials vs. 20.5% chart reminder only vs. 17.8% control, $p<0.0001$; telephone aOR 6.38 (95% CI 3.9 to 10.5); chart plus materials aOR 6.29 (95% CI 3.8 to 10.4); chart reminder only OR 1.23 (95% CI 0.7 to 2.1)	Fair; good

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Ma et al., 2009 ¹²⁰	Korean American	Churches; Los Angeles County, California	Non-randomized trial (167)	Navigation (group education on screening and patient navigation) vs. no navigation (group education on general preventive health)	Screening rates (colonoscopy, flexible sigmoidoscopy, or FOBT) at 12 months: 77.4% navigation vs. 10.8% no navigation, RR 7.14 (95% CI 3.81 to 13.37); patients without screening in prior year, 76.7% vs. 12%, RR 6.39 (95% CI 3.42 to 11.95)	Poor; poor
Mehta et al., 2016 ¹¹²	Racial and ethnic minority	Kaiser Permanente Northern California	Before-after study (868,934)	Pre vs. post-intervention including mailed FIT kits and EMR prompts during clinic visits	Up-to-date screening: 2010-2013 vs. 2004-2006, rate ratio 2.05 (95% CI 2.04 to 2.05); 2007-2009 vs. 2004-2006, rate ratio 1.60 (95% CI 1.59 to 1.60)	NA; good
Myers et al., 2014 ⁹⁴	African American	Primary care clinics; Philadelphia, Pennsylvania	RCT (764)	Navigation with mailed materials, personalized message based on identified barriers, colonoscopy contact number or SBT kit, patient navigation vs. all but navigation	Screening at 6 months: aOR 2.1 (95% CI 1.5 to 2.9); 12 months: aOR 1.7 (95% CI 1.2 to 2.3)	Fair; fair
Myers et al., 2019 ⁷⁷	Hispanic	Five health system-affiliated primary care practices; Pennsylvania	RCT (400)	Mailed bilingual information for SBT and colonoscopy, SBT kit, and telephone navigation (identify preferred test, develop plan, schedule prescreen visit for colonoscopy or review for kit return, add plan to EHR) vs. usual care (all but navigation)	Screening at 12 months: 77.7% vs. 43.3%; aOR 4.8 (95% CI 3.1 to 7.6); SBT at 12 months: 57.4% vs. 37.4%; aOR 4.2 (95% CI, 2.6 to 6.7); colonoscopy at 12 months: 20.3% vs. 5.9%; aOR 8.79 (95% CI 4.1 to 18.7)	Good; fair
Nash et al., 2006 ¹¹³	Low-income racial or ethnic minority	Public hospital; New York City, New York	Before-after study (1,767)	Pre vs. post-intervention including patient navigator, direct endoscopic referral system, GI suite enhancements	Screening colonoscopy: RR 3.0 (95% CI 1.9 to 4.7); 40% post-intervention vs. 10%, p<0.001; Medicaid patients, 48.4% post-intervention vs. 17%, p<0.001	NA; fair
Nguyen et al., 2015 ¹⁰⁶	Vietnamese American	Community-based organizations; Santa Clara County, California	RCT (640)	Navigation (lay health worker education session, telephone calls, home visits, navigation including referrals, appointment scheduling and transportation) vs. lay health worker education on healthy lifestyle	Screening rates (colonoscopy, sigmoidoscopy or FOBT) at 6 months: 56% navigation vs. 19% education, p<0.001; aOR 5.45 (95% CI 3.02 to 9.82)	Poor; poor

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Percac-Lima et al., 2009 ¹⁰⁷	Low-income, racial or ethnic minority	Hospital-affiliated primary care clinic; Chelsea, Massachusetts	RCT (1,223)	Patient navigation including introductory letter, educational materials, addressing barriers, appointment scheduling and reminders, bowel prep assistance, transportation and appointment attendance as needed vs. usual care	Screening (colonoscopy, sigmoidoscopy, barium enema, FOBT) at 9 months: 27.4% vs. 11.9%, $p<0.001$; colonoscopy: 20.8% vs. 9.6%, $p<0.001$	Poor; fair
Percac-Lima et al., 2014 ¹¹⁴	Latino, non-English speakers, non-Latino	Hospital-affiliated community health center; Philadelphia, Pennsylvania	Before-after study (3,115)	Pre vs. post-intervention including culturally tailored patient navigation with assessment and management of barriers	Screening (colonoscopy, sigmoidoscopy, colonography, or barium enema) before intervention: Latino 47.5% vs. non-Latino 50.4%, no difference; after intervention, Latino 73.5% vs. non-Latino 66%, $p<0.001$;	NA; fair
Potter et al., 2011 ¹⁰⁸	Low-income, racial or ethnic minority	Six community-based primary care clinics; San Francisco, California	Group RCT (1,372)	Nurse reminder sheet, visual aids explaining FOBT test and prep, simple multilingual written instructions, video instructions, and stamped envelopes to return kits vs. usual care	Screening (colonoscopy, sigmoidoscopy, FOBT) at 18 weeks: 24.2% vs. 13.4%, $p<0.001$; OR 2.22 (95% CI, 1.24 to 3.95); at 12 months: 45.5% vs. 35.6%, $p<0.001$; FOBT at 18 weeks: 21.6% vs. 11.8%, $p<0.001$, OR 2.25 (95% CI, 1.56 to 3.24); FOBT at 12 months: 33.8% vs. 21.7%, $p<0.001$	Poor; fair
Reuland et al., 2017 ⁷⁸	Low-income, racial or ethnic minority	2 community health centers, Albuquerque, New Mexico and Charlotte, North Carolina	RCT (265)	Navigation using screening decision aid videos about FOBT/FIT or colonoscopy, distribution of FOBT/FIT kits vs. attention control (food safety videos)	Screening at 6 months: 68% vs. 27%, $p=NR$; adjusted difference 40% (95% CI 29% to 51%); FOBT/FIT at 6 months: 54% vs. 21%, $p=NR$; colonoscopy at 6 months: 14% vs. 6%, $p=NR$	Good; good
Singal et al., 2016 ⁷⁹ Singal et al., 2017 ¹²⁵	Underserved	Safety-net hospital system; Dallas County, Texas	RCT (5,999)	1) Mailed letter with invitation, telephone call reminder for nonresponders, phone number to call for scheduling, mailed bowel prep, appointment reminder phone call; or 2) mailed letter with invitation, telephone call reminder for nonresponders, FIT kit, instructions vs. 3) usual care	Screening at 12 months: 42.4% colonoscopy vs. 58.8% FIT vs. 29.6% control; either intervention vs. control $p<0.0001$, colonoscopy vs. FIT, $p<0.001$; compared with usual care: colonoscopy aOR 1.83 (95% CI 1.57 to 2.14); FIT aOR 3.84 (95% CI 3.28 to 4.5); screening at 3 years: 38.4% colonoscopy vs. 28% FIT vs. 10.7% usual care, $p<0.001$.	Good; good

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Tu et al., 2006 ¹⁰⁹	Chinese Americans	Community clinic serving primarily Asians; Seattle, Washington	RCT (210)	Health educator delivered education, video, pamphlet, mailed FOBT kit, instructions	FOBT screening at 6 months: 69.5% vs. 27.6%, aOR 6.38 (95% CI 3.44 to 11.85)	Poor; fair
Tu et al., 2014 ¹¹⁶	Vietnamese Americans	Two primary care community health centers; Seattle, Washington	Before-after (2,276)	Educational DVD and pamphlet promoting screening translated into Vietnamese, given to eligible patients by medical assistant vs. control clinic	Screening (baseline vs. 2 years): FOBT aOR 1.42 (95% CI 0.84 to 2.39); sigmoidoscopy aOR 0.60 (95% CI 0.10 to 3.72); colonoscopy aOR 1.38 (95% CI 0.89 to 2.13); any screening aOR 1.42 (95% CI 0.95 to 2.15)	NA; fair

Abbreviations: ACS = American Cancer Society; aOR = adjusted odds ratio; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; CMS = Centers for Medicare and Medicaid Services; COLS/FS = colonoscopy or flexible sigmoidoscopy; CT = computed tomography; DVD = digital versatile disk; EHR = electronic health record; EMR = electronic medical record; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; FQHC = Federally Qualified Health Center; GI = gastrointestinal; MD = mean difference; NA = not applicable; NR = not reported; OR = odds ratio; PCP = primary care provider; RCT = randomized controlled trial; RR = risk ratio; SBT = stool blood test; vs. = versus

Key Question 5. Health System Interventions for Breast Cancer Screening

Twenty-six studies (in 27 publications) evaluated the effectiveness of health system interventions to improve screening for breast cancer among women age 40 and older (**Tables 11 and 13**). Studies evaluated interventions for breast cancer screening only,^{42,51,68,128-139} both breast and cervical cancer screening,^{41,126,127} both breast and colorectal cancer screening,^{40,76,85} and breast, cervical, and colorectal cancer screening combined.^{43,83,95,98,100,115} One RCT met criteria for good quality,⁷⁶ 15 RCTs in 16 publications met criteria for fair quality,^{40-43,51,68,83,85,95,126,129-131,134,135,138} and 7 RCTs for poor.^{98,100,127,128,132,137,139} The remainder included two before-after studies^{115,133} and one post-intervention time series study.¹³⁶

Studies enrolled participants from racial and ethnic minority groups, with low income, and from rural areas. All studies were conducted in the United States, ranged in size from 91 to 97,433 participants (median 512), and were conducted in hospitals, FQHCs, other community health centers, and community settings with connections to health systems. Reported mean ages ranged from 34 to 68 years, although all studies reported breast cancer screening data for women age 40 and older. Interventions included patient navigation, telephone calls, prompts and other outreach, patient education, lay health workers, screening checklist, and practice changes involving community engagement.

Major limitations of studies rated fair or poor quality included inadequate or unclear masking of care providers or outcome assessors, allocation concealment, and randomization methods. Additional limitations included differential or high attrition, no intention-to-treat analysis for RCTs, failure to control for confounding variables, and post-randomization exclusions. Limitations of applicability included narrow participant demographics; unique settings; specialty training, expertise, or ancillary providers needed for interventions; resource-intensive interventions; and low adherence.

Patient Navigation

Seven RCTs^{51,85,98,132,134,137} and one before-after observational study¹³³ of patient navigation in health systems indicated increased mammography screening among low-income racial and ethnic minority women, while one RCT indicated no differences.⁸³

A fair quality RCT of 3,895 patients in three internal medicine practices at a safety-net hospital in Boston compared patient navigation with usual care.¹³⁴ Patient navigators contacted participants by phone at least three times over a 2-week period to provide culturally tailored services, address barriers, and schedule appointments. Navigators were fluent in Spanish, Portuguese, or Cape Verdean Creole, and additional language support was provided as needed. Based on medical record data at 9 months followup, screening was higher with navigation (aOR 2.5, 95% CI 1.9 to 3.2).

A fair quality RCT of 851 low-income, racial and ethnic minority women seen in federally funded community health centers compared navigation services by a lay health advisor with usual care.⁵¹ The intervention consisted of three in-person visits with the lay health advisor and included educational materials and management of screening barriers, assistance with mammography scheduling, two followup phone calls, and two postcard mailings. Women in the usual care group received a letter and National Cancer Institute brochure about cervical cancer screening. Based on medical record review at 12 months, screening rates were higher with navigation (42.5% vs. 27.3%; RR 1.56, 95% CI 0.29 to 1.87).

In a fair quality RCT of 469 low-income women, patient navigation to improve colorectal and breast cancer screening was compared with usual care at a large safety-net primary care practice.⁸⁵ Navigation services included telephone and mailed outreach and point-of-care prompt sheets for patients and clinicians. Completion of mammography at 1 year was determined by medical record review and indicated higher screening with navigation (41% vs. 16.8%; aOR 3.44, 95% CI 1.91 to 6.19).

A poor quality RCT of 1,358 African-American women on Medicare compared patient navigation with usual care at community settings in Baltimore (70.7% $\leq$ 75 years old).¹³² The intervention group received patient education materials developed by CMS, along with navigation services that included addressing screening barriers, appointment scheduling and attendance, and coaching on patient-provider communication. The usual care group received patient education materials only. Screening rates over 2 years were higher with navigation (93.3% vs. 87.5%; aOR 2.26, 95% CI 1.59 to 3.42).

In a poor quality RCT, navigation using a community health worker was compared with usual care in 376 low-income, racial and ethnic minority women overdue for mammography at hospital-affiliated primary care practices in Rochester, New York.¹³⁷ The majority of participants were White (42%) or Black (36%) and the mean age was 63 years. The intervention included personalized reminder letters from primary care providers and a community health worker and navigation services with education, assessment and management of screening barriers, and assistance with appointments, finances, and dependent care. Screening rates at 16 weeks were higher with navigation (25% vs. 9.8%; RR 2.57, 95% CI 1.53 to 4.35).

A poor quality RCT at a rural hospital in Hawaii compared patient navigation using a lay health worker with usual care in Native Hawaiian and Filipino women eligible for Medicare.⁹⁸ The trial compared screening rates for 260 women receiving culturally-focused patient navigation to improve breast, cervical, and colorectal cancer screening with 132 women receiving education on nutrition and cancer. At 12 months followup, self-reported rates of breast cancer screening were higher with navigation (61.7% vs. 42.4%, $p=0.003$).

A small before-after study evaluated patient navigation with 91 Bosnian refugee and immigrant women at a community health center in Massachusetts (mean age 54 years).¹³³ Women received navigation services in person and by telephone including assistance with transportation, appointment scheduling and attendance, and insurance issues. At 12 months, screening was higher with navigation (67% vs. 44%, $p=0.001$). A post-intervention multiple time series from the same center compared screening rates for 1,664 refugees 5 years after completion of the patient navigation intervention.¹³⁶ After the intervention, screening rates were significantly higher in refugee compared with English-speaking populations (90.5% vs. 81.9%, $p=0.006$), while 5 years later rates were comparable (76.5% vs. 80.5%, $p=0.46$).

No differences were reported in a fair quality RCT of 1,413 patients in 11 federally qualified community and migrant health centers in New York City that compared telephone-based patient navigation targeting breast, cervical, and colorectal cancer screenings with a single call from study staff.⁸³ Patient navigation included multiple calls from prevention care managers over a period of 18 months or until participants were up-to-date on all three screenings. The single call included answering questions about preventive care, providing an update of usual care status, and advising participants to obtain needed preventive care from their primary care provider. Based on medical record review at 18 months followup, there was no difference between groups in mammography adherence (mean difference in percentage points 0.12, 95% CI 0.06 to 0.19).

Telephone Calls, Prompts, and Other Outreach

Of 5 RCTs,^{40,128,138,129,139} screening rates were higher with telephone calls, prompts, and other outreach methods in only one.¹²⁸

A poor quality RCT of 1,104 low-income women in Florida compared the use of scripted loss/risk-framed messages with usual care for incoming calls inquiring about mammograms for women 50 to 64 years old. Loss/risk-framed messages focused on increasing risks with age, the fact that symptoms are often not present, and the effectiveness of mammography. At 6 months followup, women receiving loss/risk-framed messages were more likely to have been screened (aOR 1.91, 95% CI 1.20 to 3.05).¹²⁸

A fair quality RCT of 366 women in a large primary care practice in Rochester, New York⁴⁰ compared personalized reminder letters including information about free screening options, automated telephone calls, and point-of-care prompts with usual care. Based on medical record data at 1-year followup, screening was higher with the intervention (29.7% vs. 16.7%; $p=0.034$), although differences diminished after adjusting for age, race/ethnicity, insurance, and median income (aOR 1.96, 95% CI 0.87 to 4.39).

A fair quality RCT of 320 women in an FQHC in Birmingham, Alabama serving predominantly low-income African-American/Black patients evaluated the effectiveness of a two-stage stepped care intervention to improve screening mammography.¹³⁸ In Stage 1, eligible women were randomized to a personalized reminder letter or usual care. In Stage 2 occurring 6 months later, the 237 women who had not yet been screened were randomized to a tailored counseling call or tailored letter. Tailored counseling calls were conducted by African-American/Black female healthcare workers to identify and overcome barriers to screening and provide personalized risk information. At the end of the call, women were reminded of a free mammography program and provided contact information. Tailored letters described the woman's relative risk for breast cancer, recommended scheduling an appointment (along with contact information), and reminded them of the free mammography program. At followup, there were no differences in self-reported screening for intervention versus usual care groups at the end of Stage 1 (14% vs. 14%) or Stage 2 (15% vs. 13%).

A fair quality RCT of 430 low-income African-American/Black and Hispanic women in Los Angeles compared a culturally, ethnically, and individually tailored telephone counseling intervention with usual care.¹²⁹ Women randomized to the intervention were mailed bilingual educational brochures and contacted three times by telephone over a 6-month period by a mature African-American/Black or Hispanic counselor. Counselors discussed the importance of screening mammography, scheduled low or no cost screenings, and addressed barriers. Self-reported screening at 6 months followup was similar between groups (37% vs. 29%).

A poor quality RCT of 193 Chinese immigrant women compared a culturally and individually tailored bilingual telephone intervention addressing barriers to screening with a mailed brochure.¹³⁹ All women participated in a baseline phone interview to evaluate knowledge and identify barriers, and a followup call four months later. Self-reported screening at 4 months followup was similar between groups (40% vs. 33%).

Patient Education

Screening rates were higher in two RCTs of educational interventions.^{42,131} A fair quality RCT of 200 Chinese immigrant women in Portland, Oregon evaluated a culturally targeted group

education session followed by individual telephone counseling versus informational brochures.⁴² The education session included culturally relevant materials with information about breast cancer incidence and risk factors, and common general and cultural barriers and how to overcome them. Within 10 days of the education session, women received individual counseling by telephone aimed at overcoming barriers. When needed, the intervention included appointment setting, translation services, financial assistance for screening, childcare, and transportation. Based on self-report, women in the education session were more likely to be screened at 3 months (OR 8.81, 95% CI 4.83 to 16.05), 6 months (OR 9.10, 95% CI 3.50 to 23.62), and 12 months (OR 4.61, 95% CI 1.59 to 13.37).

A fair quality trial of 141 Korean women in Los Angeles compared three interventions: 1) a culturally-tailored peer-group education program providing information about mammography, addressing cultural barriers, and providing access to low-cost mobile mammography; 2) access to low-cost mobile mammography; and 3) Korean language breast cancer screening brochure with information about local screening resources, cholesterol education and low-cost cholesterol testing, and osteoporosis screening.¹³¹ At 2 months followup, self-reported mammography screening rates were higher with education and low-cost mobile mammography (87%) and low-cost mobile mammography alone (72%) than with brochures (47%). Women randomized to education and low-cost mammography had similar screening rates as women receiving mobile mammography only (OR 0.39, 95% CI 0.13 to 1.19), but higher rates compared with women only receiving brochures (OR 0.13, 95% CI 0.04 to 0.38).

Lay Health Workers

Two RCTs of low-income Hispanic women indicated higher mammography screening rates with lay health worker interventions,^{127,130} while one did not;⁴¹ and a cluster RCT reported higher screening rates among African American women receiving education sessions and home visits.

In a fair quality RCT in four FQHCs in Washington state, 536 women were randomized to an intervention that included bilingual *promotora* (lay health worker) led motivational interviews with a home visit and followup telephone call versus usual care.¹³⁰ All women had access to free screening mammograms. Based on medical record data at 12 months followup, rates of mammography screening were higher in the *promotora*-led intervention group than the usual care group (19.6% vs. 11%, $p<0.01$). A poor quality community-based RCT of 512 women in San Diego County compared the effectiveness of *consejera* (natural helpers) led cancer education sessions with sessions on community living skills (control group).¹²⁷ Cancer education sessions included early detection of breast and cervical cancer, the importance of screening, and how to obtain services. At 1-year followup, self-reported screening rates increased more from baseline with the cancer education intervention (21.4% vs. 7%, $p=0.029$). In contrast, a fair quality cluster randomized trial of 1,333 Hispanic women from community-based settings in Arkansas, Buffalo, and New York City compared an intervention including faith-based, peer-led breast and cervical cancer education sessions and navigation at 2 months for those not yet screened with diabetes education sessions.⁴¹ Screening rates were lower for the intervention group (56.7% vs. 62.2%, $p=0.043$).

A fair quality cluster randomized trial of 192 rural African-American/Black women in 13 church communities in rural Alabama (unit of randomization was the church) compared two interventions with a nonintervention group.¹³⁵ Interventions included either 1) a 90-minute group education session provided by African-American/Black nurses to reduce fear and concerns about mammography and address the importance of screening and early detection; or 2) education

session and a home visit and followup by a home health educator who reviewed and answered questions, provided a culturally appropriate motivational brochure, scheduled screening appointments, addressed concerns and barriers, and provided transportation and coordinated childcare, if needed. At 3 months followup, self-reported screening rates increased more from baseline for women with education sessions and home visits (38.4%) than education alone (8.6%, $p<0.001$) or no intervention (8.1%, $p<0.001$).

Screening Checklist

A fair quality cluster RCT of 1,196 low-income women in eight county-funded primary care clinics in Hillsborough County, Florida compared use of a short, self-administered cancer screening checklist and chart stickers (red, yellow, green) indicating screening status with usual care.^{43,95} At both 12 and 24 month followup, screening was higher for women in the intervention clinics (12-month OR 1.62, 95% CI 1.07 to 9.78;⁴³ 24-month OR 1.26, 95% CI 1.02 to 1.55⁹⁵).

Practice Changes Involving Community Engagement

A before-after study in four FQHCs evaluated practice changes and engagement with community resources on breast cancer screening for 97,433 patients.¹¹⁵ The intervention, including self-management goal setting with patients, documentation of screening rates, screening result notifications, evaluation of abnormal results, and inclusion of community resources to support cancer screening, led to higher rates of breast cancer screening compared with rates prior to the intervention (39% vs. 23.2%, $p<0.001$).

Table 13. Studies of effectiveness of health system interventions for breast cancer screening

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Aboud et al., 2005 ¹²⁸	Low-income	County Health Clinics, Florida	Block RCT (1,104)	Scripted loss/risk-based messages for incoming calls about mammography vs. usual care	Screening at 6 months (adjusted for race and breast cancer symptoms): aOR 1.91 (95% CI 1.20 to 3.05)	Poor, poor
Allen and Bazargan-Hejazi, 2005 ¹²⁹	African American, Hispanic	Community Health Center in Los Angeles, California	RCT (430)	Culturally-tailored telephone counseling to overcome barriers vs. one telephone call to check receipt of mammogram	Screening at 6 months: 36.8% intervention vs. 29.0% control, p=0.12; aOR 1.76 (95% CI 1.06 to 2.92); 29.9% African American vs. 37.1% Hispanic vs. 28.1% White/others, p=0.296	Fair; fair
Coronado et al., 2016 ¹³⁰	Hispanic	FQHCs within 60 miles of Seattle, Washington	Block RCT (536)	A <i>promotora</i> -led, motivational interviewing intervention that included a home visit and telephone followup vs. usual care	Screening at 12 months: 19.6% intervention vs. 11% control, p<0.01	Fair; fair
Kim and Sarna, 2004 ¹³¹	Korean Americans	Churches in Los Angeles County, California	Cluster RCT (141)	1) Education about breast cancer screening and access to free or low-cost mobile mammography service or 2) mobile mammography access only vs. 3) cholesterol education and test, osteoporosis screening	Screening at 2 months: 87% education + access vs. 72% access vs. 47% control; control vs. education + access, OR 0.13 (95% CI 0.04 to 0.38); access vs. education + access, OR 0.39 (95% CI 0.13 to 1.19)	Fair; poor
Lee-Lin et al., 2015 ⁴²	Low-income, Chinese American	Asian health clinic in Portland, Oregon	RCT (200)	Culturally responsive targeted breast health educational program vs. standard brochure	Screening at 3 months: aOR 8.81 (95% CI 4.83 to 16.05); 6 months: aOR 9.10 (95% CI 3.5 to 23.62); 12 months: aOR 4.61 (95% CI 1.59 to 13.37)	Fair; fair
Marshall et al., 2016 ¹³²	African American	Community settings in Baltimore, Maryland	RCT (1,358)	CMS-developed patient education materials, navigation services including appointment assistance and communication coaching vs. patient education materials only	Screening past 2 years: 93.3% vs. 87.5%; aOR 2.26 (95% CI 1.59 to 3.42)	Poor; fair
Paskett et al., 2006 ³¹	Low-income, racial and ethnic minority women	Four federally funded community health centers Robeson County, North Carolina	RCT (897)	Lay health advisor intervention consisting of 3 in-person visits with educational materials, 2 phone calls, 2 postcard mailings to educate, manage barriers, and assist with appointment scheduling, vs. control group receiving physician letter and brochure about cervical cancer screening	Screening at 12 months: 42.5% vs. 27.3%, RR 1.56, 95% CI, 1.29 to 1.87, p<0.001	Fair; poor
Percac-Lima et al., 2012 ¹³³	Serbo-Croatian (Bosnian) refugees and immigrants	Hospital-affiliated community health center in Chelsea, Massachusetts	Before-after study (91)	Patient navigation including education, assistance with transportation, insurance, appointment scheduling vs. baseline	Mammography up-to-date at 1 year: 67% vs. 44%, p=0.001	NA; poor

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Phillips et al., 2011 ¹³⁴	Low-income, racial and ethnic minority	Safety-net hospital-affiliated internal medicine clinics in Boston, Massachusetts	RCT (3,895) ^a	Patient navigation as part of the primary care team, including assessment and management of individual barriers vs. usual care	Screening at 9 months: 87% vs. 76%, $p<0.001$; aOR 2.5 (95% CI 1.9 to 3.2); by race: African American, OR 1.9 (95% CI 1.4 to 2.6); Hispanic, OR 1.2 (95% CI 0.8 to 1.8); other, OR 2.1 (95% CI 1.3 to 3.3); by time since last mammogram at baseline: >24 months, aOR 5.6 (95% CI 3.9 to 8.2); 18 to 24 months, aOR 6.0 (95% CI 2.8 to 12.7); 12 to 18 months, aOR 3.5 (95% CI 1.8 to 6.5)	Fair; fair
Powell et al., 2005 ¹³⁵	African American, rural	Churches in rural Alabama	Cluster RCT (192)	1) Full program of educational session with African-American nurses and visit by local home health educator offering materials, needs and barriers assessment, basic navigation services; 2) partial program of educational session only vs. control	Screening at 3 months: 63% full vs. 70% partial vs. 61% control; increase from baseline, 38.4% full vs. 8.6% partial vs. 8.1% control, $p<0.001$	Fair; poor
Rodriguez-Torre et al., 2019 ¹³⁶	Refugees	Hospital-affiliated community health center in Chelsea, Massachusetts	Post-intervention multiple time series (1,664)	Patient navigation including education, assistance with transportation, insurance, appointment scheduling 5 years after intervention completion, vs. English-speaking patients	Adjusted screening rates over time, first year after intervention completion: 90.5% vs. 81.9%, $p=0.006$; second year: 88.7% vs. 82.1%, $p=0.31$; third year: 77.9% vs. 81.5%, $p=0.66$; fourth year: 81.9% vs. 84.6%, $p=0.71$; fifth year: 76.5% vs. 80.5%, $p=0.46$	NA; poor
Weber and Reilly, 1997 ¹³⁷	Low-income, racial and ethnic minority	Hospital-affiliated primary care practices in Rochester, New York	RCT (376)	Personalized letter from physician and community health worker, navigation services with assistance with transport, appointments, finances, dependent care vs. mailed letter and usual care	Mammogram at 16 weeks: 25% vs. 9.8%; RR 2.57 (95% CI 1.53 to 4.35)	Poor; fair
West et al., 2004 ¹³⁸	Low-income, African American	FQHC in rural Alabama locations	Multi-stage RCT (Stage 1, 320; Stage 2, 237)	Stepped-care intervention: personalized letter in Stage 1, personalized phone counseling in Stage 2 vs. usual care in each step; Stage 2 subjects were those not screened in Stage 1	Mammogram at 6 months: Stage 1, 14% intervention vs. 14% control; Stage 2, 15% vs. 13%; among women with no history of prior mammogram, 16% intervention vs. 7% control, $p=0.05$; cost as barrier 18% vs. 1% cost not barrier, $p=0.04$	Fair; fair

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Wu and Lin, 2015 ¹³⁹	Chinese	Community settings in Michigan	RCT (193)	Telephone intervention tailored to the results of a baseline survey about barriers, misconceptions and risks vs. standard NCI mammography brochure	Screening at 4 months: 40% intervention vs. 33% control, p=NS; 56% with insurance coverage vs. 34% without, p=0.03	Poor; fair

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; CMS = Centers for Medicare and Medicaid Services; FQHC = Federally Qualified Health Center; NA = not applicable; NCI = National Cancer Institute; NS = not significant; OR = odds ratio; RCT = randomized controlled trial; RR = risk ratio; vs. = versus

^a Unit of randomization was provider.

Key Question 5. Health System Interventions for Cervical Cancer Screening

Thirteen studies (in 14 publications) evaluated the effectiveness of interventions by health systems to improve cervical cancer screening (Tables 11 and 14). Six studies evaluated interventions for cervical cancer screening specifically;^{38,140-144} two trials evaluated interventions to increase followup after an abnormal screening;^{140,143} three studies included breast and cervical cancer screening;^{41,126,127} and five studies included interventions for breast, cervical, and colorectal cancer screening.^{43,83,95,98,100,115} One RCT met criteria for good quality,¹⁴⁴ five for fair quality,^{38,41,43,83,95,126} and five for poor.^{98,127,141-143} The remainder included one before-after study¹¹⁵ and one non-randomized trial.¹⁴⁰

Trials included women of racial and ethnic minorities, with low-income, and from rural areas. All studies were conducted in the United States, ranged in size from 210 to 97,433 (median 897), and were conducted in primary care, hospital, and community settings with connections to health systems. Mean ages ranged from 34 to 68 years. Interventions included patient navigation, telephone calls, prompts and other outreach, lay health workers, screening checklist, and practice changes involving community engagement.

Major limitations of studies rated fair or poor quality included inadequate or unclear masking of care providers or outcome assessors, allocation concealment, and randomization methods. Additional limitations included differential or high attrition and no intention-to-treat analysis for RCTs. Limitations of applicability included narrow participant demographics; unique settings; specialty training, expertise, or ancillary providers needed for interventions; resource-intensive interventions; and low adherence.

Patient Navigation

Three RCTs and a nonrandomized trial compared patient navigation with other interventions or usual care to improve cervical cancer screening^{83,38,98} or diagnostic followup of screening abnormalities.¹⁴⁰

A fair quality RCT of 1,413 low-income racial and ethnic minority women at 11 federally qualified community and migrant health centers in New York City compared telephone-based patient navigation for breast, cervical, and colorectal cancer screening with a single call from study staff.⁸³ Based on medical record review at 18 months followup, cervical cancer screening rates increased by 7 percent for the navigation group, but not for the single call group (between group differences were not reported).

A fair quality RCT of 705 Korean women compared bilingual education sessions about cervical cancer and navigation with educational sessions about general health and cancer.³⁸ The cervical cancer specific session addressed cultural norms, risk factors, screening guidelines and procedures, beliefs, expectancies, and barriers to screening. Women in the intervention group were also offered navigation services, and were mailed a screening reminder 6 months after the session. At 12 months followup, screening rates were higher for cervical cancer education and navigation (71.2% vs. 10.1%; OR 25.9, 95% CI 10.1 to 66.1).

A poor quality trial of 260 rural Native Hawaiian and Filipino women on Moloka'i, Hawaii compared a culturally-focused lay patient navigation intervention with usual care.⁹⁸ At 24 months followup, self-reported screening rates were higher with navigation (57% vs. 36.4%, $p=0.001$).

A fair quality nonrandomized trial in FQHCs in Boston compared patient navigation with usual care in 1,763 low-income, racial and ethnic minority women with cervical cancer screening abnormalities.¹⁴⁰ The majority of women were African American or Hispanic (32% and 31%, respectively) and had low-grade cervical abnormalities (93%). The intervention included phone, mail, and in person contact and navigation services with assessment of barriers to timely followup of a diagnostic evaluation. Diagnostic resolution was determined by medical review of final diagnostic testing or evaluation. The rate of diagnostic resolution of cervical abnormalities was higher with navigation (87.9% vs. 78.6%; adjusted hazard ratio 1.46, 95% CI 1.14 to 1.88).

Telephone Calls, Prompts, and Other Outreach

A poor quality RCT¹⁴³ of 210 low-income African-American/Black and Hispanic women at a university-affiliated clinic in Philadelphia, Pennsylvania compared two interventions to improve adherence to followup after cervical cancer screening abnormalities (colposcopy after screening and 6 and 12-month medical appointments) with standard care. Standard care included mail and telephone reminders and barrier assessment, while the interventions included either 1) mailings with culturally sensitive brochures targeting the two highest rated barriers from participants' initial assessments; or 2) culturally appropriate telephone counseling targeting the two highest rated barriers from participants' initial assessments. Based on medical record data and self-report, there were no differences between groups in adherence to initial colposcopy or followup appointments at 6 and 12 months when comparing all three groups individually. However, adherence was higher for all outcomes for the telephone intervention group compared with the standard care and mail intervention groups combined ($p=0.0475$).

A three-arm fair quality RCT of 1,574 low-income women compared screening rates after reminder letters (personalized form letters or tailored letters) with no letters.¹²⁶ Similar to findings reported in this study for breast cancer screening, the cervical cancer screening rate was higher with personalized form letters (43.9%), compared to personalized tailored letters (23.7%) or no letters (39.9%).

Lay Health Workers

A RCT demonstrated increased cervical cancer screening rates among women with interventions involving lay health workers,^{98,141} while four trials did not.^{41,127,142,144}

A poor quality RCT of 613 Hispanic women in El Paso and Houston, Texas, and Yakima Valley, Washington compared three group bilingual *promotora* led interventions with usual care.¹⁴¹ Interventions included: 1) an education session with a video about cervical cancer screening and culturally significant barriers followed by a flip chart and games addressing themes in the video; 2) video only; or 3) flip chart and games only. At 6 months followup, self-reported screening rates were higher with the video with flip chart and games (52.3%), video only (41.3%), and flip chart and games only (45.5%) compared with usual care (24.8%, $p<0.001$).

A fair quality cluster randomized trial of 1,333 Hispanic women from community-based settings in Arkansas, Buffalo, and New York City compared an intervention including faith-based, peer-led breast and cervical cancer education sessions, plus navigation at 2 months for those not yet screened with diabetes education sessions.⁴¹ Screening rates were not different between intervention and control groups (62.7% vs. 64.6%).

A trial of 512 low-income Hispanic women found no differences in cervical cancer screening rates between women randomized to *consejera* led education sessions on breast and cervical

cancer and women randomized to education sessions on community living skills (23.1% vs. 16.2%, $p=0.096$).¹²⁷

A poor quality RCT of 897 low-income rural women at community health centers in North Carolina examined the effect of a lay-health mammography intervention compared with a physician letter and National Cancer Institute (NCI) brochure on adherence to cervical cancer screening at 14-months post-intervention.¹⁴² Results indicated no differences between groups (OR 1.03, 95% CI, 0.80 to 1.32). Similarly, subgroup analyses found no differences between baseline and followup rates by race or ethnicity.

A good quality RCT of 286 women at a community health clinic in rural Appalachian Ohio compared a lay health intervention that included two in-person visits, two telephone calls, and four postcards over a four-month period with a physician letter with an NCI brochure about cervical cancer screening.¹⁴⁴ Although self-reported 12-month screening was higher for the intervention (OR 2.10, 95% CI 1.22 to 3.61), there was no differences between groups based on medical record review (OR 1.44, 95% CI 0.89 to 2.33).

Screening Checklist

A fair quality cluster RCT of 1,196 low-income women at eight county-funded primary care clinics in Hillsborough County, Florida compared an in-clinic self-administered screening checklist and chart stickers with usual care.^{43,95} No differences in cervical cancer screening rates were found at followup (12 months OR 1.57, 95% CI 0.92 to 2.64; 24 months OR 0.88, 95% CI 0.68 to 1.15).

Practice Changes Involving Community Engagement

In a before-after study in four FQHCs, the effects of practice changes and engagement with community resources on cervical cancer screening were evaluated for 97,433 patients.¹¹⁵ The intervention, including self-management goal setting with patients, documentation of screening rates, screening result notifications, evaluation of abnormal results, and inclusion of community resources to support cancer screening, led to higher rates of cervical cancer screening compared with rates prior to the intervention (37.2% vs. 25.2%, $p<0.001$).

Table 14. Studies of effectiveness of health system interventions for cervical cancer screening

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Battaglia et al., 2012 ¹⁴⁰	Underserved	FQHCs in Boston, Massachusetts	Non-randomized trial (1,763)	Patient navigation including assessment of barriers to timely completion of diagnostic evaluation vs. usual care	Rates of diagnostic resolution of cervical abnormalities at 1 year: 87.9% vs. 78.6%; aHR 1.46 (95% CI 1.14 to 1.88)	Fair; fair
Byrd et al., 2013 ¹⁴¹	Hispanic	Community settings in El Paso and Houston, Texas and Yakima Valley, Washington	RCT (613)	Individual delivery of AMIGAS program by <i>promotora</i> , including: 1) screening contract, games and activities, video on barriers and facilitators, and flip chart to review video; 2) all but the video; or 3) all but the flip chart vs. usual care at clinic	Self-report Pap test at 6 months: 52.3% vs. 45.5% vs. 41.3% vs. 24.8% control, $p < 0.001$ between intervention groups and control, no differences between intervention groups; medical record-validated Pap test at 6 months: 17.9% vs. 22.7% vs. 19.4% vs. 7.2% control, $p = 0.008$ between intervention groups and control, no differences between intervention groups	Poor; poor
Fang et al., 2017 ³⁸	Korean-American women	Churches in New Jersey and southeastern Pennsylvania	RCT (705)	Navigation services and bilingual community health educators addressing cervical cancer screening perceptions, beliefs, and expectations vs. control group with bilingual community health educators delivering general health and cancer screening information	Pap test at 12 months: 72.1% intervention vs. 10.1% control; aOR 35.8 (95% CI 11.13 to 114.90); post-hoc analyses to adjust for updated screening guidelines during study period, 65.5% intervention vs. 4.7%, OR 546.0 (95% CI 73.9 to 4,031.5)	Fair; fair
Katz et al., 2007 ¹⁴²	Rural, low-income	Community Health Centers Robeson County, North Carolina	RCT (897)	Lay health advisors provided 3 home visits, educational materials, followup phone calls, mailings vs. physician letter and brochure about Pap exams	Pap screening: OR 1.03, 95% CI, 0.80 to 1.32, $p = 0.81$; rates (intervention, control): African American, 70% vs. 64%; Native American, 64% vs. 62%; White, 67% vs. 65%; high SES, 76% vs. 79%; low SES, 65% vs. 61%	Poor; poor
Miller et al., 2013 ¹⁴³	Low-income, racial and ethnic minority	University-affiliated clinic serving low-income minority women in Philadelphia, Pennsylvania	RCT (211)	1) Telephone reminder and barrier assessment plus tailored telephone counseling to address barriers; or 2) telephone reminder and barrier assessment plus mailed materials to address barriers vs. 3) telephone reminder and barrier assessment only	No differences between groups for post screening colposcopy adherence: 75.4% vs. 61.8% vs. 65.8% control; medical followup at 6 months: 70.0% vs. 50.0% vs. 61.0% control; medical followup at 12 months: 63.0% vs. 58.6% vs. 53.9% control; differences in overall adherence to colposcopy and two followups only when group 1 vs. groups 2 and 3, $p = 0.05$	Poor; fair
Paskett et al., 2011 ¹⁴⁴	Rural	Community health clinic in Appalachia Ohio	RCT (286)	Lay health worker provided 2 in-person visits, 2 telephone calls, and 4 postcards over 10 months vs. physician letter and brochure about Pap test	Medical record 12 month Pap: by medical record, OR 1.44 (95% CI, 0.89 to 2.33); By self report, OR 2.10 (95% CI, 1.22 to 3.61)	Good; fair

Abbreviations: AMIGAS = Ayudando a Las Mujeres con Información, Guía y Amor para su Salud; aOR = adjusted odds ratio; aHR = adjusted hazard ratio; CI = confidence interval; FQHC = federally qualified health centers; OR = odds ratio; Pap = Papanicolaou; RCT, randomized controlled trial; SES = socioeconomic status; vs. = versus

Key Question 5. Health System Interventions for Lung Cancer Screening

One poor quality RCT comparing a patient navigation intervention with usual care in five community health centers reported improved lung cancer screening rates among 1,200 low-income smokers.¹⁴⁵ The majority of the population was female (52.5%) and White (81.4%) with mean age of 62 years. Patient navigation included identifying and overcoming barriers to lung cancer screening, shared decision making, improving patient-provider communication, facilitating reporting of results, and followup. Receipt of screening was assessed by medical record review. Screening was higher with navigation (23.5% vs. 8.6%, $p < 0.001$). This study was limited by lack of reporting on randomization and allocation concealment, unclear masking of assessors or patients, and large loss to followup. Applicability was fair because it was based in a single setting and required specialized expertise and training.

Key Question 5. Health System Interventions for Tobacco Smoking Cessation

Six trials evaluated the effectiveness of interventions by health systems to improve tobacco smoking cessation (Tables 11 and 15). Three trials indicated improved quit rates with interventions,¹⁴⁶⁻¹⁴⁸ while three showed no effect.^{100,149,150}

One RCT met criteria for good quality,¹⁴⁷ one for fair quality,¹⁴⁹ and four for poor.^{100,146,148,150} All studies were conducted in the United States, ranged in size from 352 to 5,065 (median 1,896), and were conducted in primary care, hospital, FQHCs, and community settings with connections to health systems. Participants' reported mean ages ranged from 24 to 50 years (median 38), and the majority were female (median 55%). Populations included low-income and racial and ethnic minority populations. Interventions included patient navigation, nicotine replacement therapy, and education and counseling. Quality was limited by lack of adequate randomization or allocation concealment, differences in groups as baseline, unclear masking of assessors or providers, and post-randomization exclusions. Applicability was generally fair; interventions were conducted in specialized settings such as Planned Parenthood clinics, a department of social services, or federally funded health centers, and required ancillary providers to connect with underserved or vulnerable populations.

Patient Navigation

A good quality RCT of 352 adults with low socioeconomic status at a safety net hospital compared patient navigation and financial incentives with enhanced usual care.¹⁴⁷ The population included Black (56%), White (22%), and Hispanic (11%) participants (mean age 50 years, 54% female). The intervention group received patient navigation, including assessment of barriers to cessation; connection to a quit line, support group, and a physician for prescription aids; and financial incentives for biochemical confirmation of cessation at 6 and 12 months. Enhanced usual care included a low-literacy cessation brochure and a list of local cessation resources. Cessation rates were higher in the intervention group at 6 months (9.6% vs. 0.6%, $p < 0.001$) and 12 months (11.9% vs. 2.3%; aOR 4.89, 95% CI 1.59 to 15.03).

In a poor quality RCT, effects of patient navigation versus minimal intervention were evaluated in 608 Medicaid recipients in a county department of social services.¹⁵⁰ The population was primarily female (72.8%), mean age 36 years, and included White (42.9%), Black (42.4%), and Hispanics (7.6%). The intervention groups received either 1) patient navigation, including

information on Medicaid's pharmacotherapy benefit, self-help materials, appointment scheduling and assistance, and vouchers for childcare or transportation; 2) information on Medicaid's pharmacotherapy benefit and self-help materials; or 3) information on the pharmacotherapy benefit only as a control group. Rates of biochemically confirmed cessation at 3 months were similar for all three groups (2.4% vs. 2.0% vs. 1.0%, $p>0.05$).

Nicotine Replacement

Two poor quality RCTs reported improved cessation rates with interventions incorporating nicotine replacement therapy (NRT). One trial of 3,068 smokers from Lung Health Study centers compared yearly validated quit rates after a 12-week group program, NRT, and quit messages focused on pulmonary function with usual care.¹⁴⁸ Participants were White (93.5%) or Black (6.5%), mean age 49 years, and predominantly male (46% female in the intervention group, 37% control). Quit rates were higher with the intervention after 1 year for White (aOR 5.99, 95% CI 4.65 to 7.71) and Black participants (aOR 1.18, 95% CI 0.66 to 3.32); Whites versus Blacks, $p=0.002$. Validated quit rates continued to be higher with the intervention during the 5 year study for both Whites (aOR 3.34, 95% CI 2.82 to 3.95) and Blacks (aOR 1.87 95% CI, 1.02 to 3.43); Whites versus Blacks, $p=0.06$.

In another trial, effects of office-based counseling and NRT were compared with usual care in 2,637 low-income adults at 14 community health center dental clinics (mean age 40.5 years, 57% female).¹⁴⁶ The trial enrolled Blacks (45.8%), Whites (32.2%), and Hispanics (15.8%). The intervention included counseling based on the '5 As' model, tailored print materials, a local quit line number, and NRT. After 6 months, cessation rates were higher in the intervention versus control group overall (5.3% vs. 1.9%, $p<0.001$), in Blacks (6.5% vs. 2.0%, $p<0.001$), and Whites (4.6% vs. 2.3%, $p<0.05$), but not Hispanics (3.2% vs. 1.1%, $p>0.05$).

Education and Counseling

In a fair quality RCT, effects of behavioral counseling were compared with enhanced usual care in 1,154 low socioeconomic status women attending four Planned Parenthood clinics (mean age 24 years).¹⁴⁹ The intervention included a 9-minute video, 12 to 15-minute behavioral counseling, a 20-second quit message from a physician, and telephone support for one month. The control group received a cessation brochure and 20-second quit message from a physician. After 6 weeks, 7-day abstinence rates were higher in the intervention group (10.2% vs. 6.9%; OR 1.52, 95% CI 1.01 to 2.32). However, 7-day abstinence rates were similar between groups at 6 months (18.3% vs. 14.9%, $p>0.05$) and for 30-day abstinence (10.2% vs. 7.8%, $p=0.15$).

Another poor quality RCT evaluated culturally tailored health messages and a calendar for smoking cessation and breast and colorectal cancer screening in 5,065 American Indian and Alaska Natives.¹⁰⁰ Cessation rates after 15 months were similar compared with controls for participants receiving a nicotine patch (0.6% vs. 0.8%, $p=0.48$), cessation counseling (4.5% vs. 4.5%, $p=0.99$), or cessation counseling referrals (0% vs. 0.9%, $p=0.51$).

Table 15. Studies of effectiveness of health system interventions for tobacco smoking cessation

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Glasgow et al., 2000 ¹⁴⁹	Low socio-economic status	Four Planned Parenthood clinics, Portland, Oregon	RCT (1,154)	Nine-minute video, 12-15 minute behavioral counseling with staff, 20-second quit message from physician, supportive phone calls in following month, vs. smoking brochure and 20-second quit message from physician	7-day abstinence, 6 weeks: 10.2% vs. 6.9%; OR 1.52 (95% CI 1.01 to 2.32); 7-day abstinence, 6 months: 18.3% vs. 14.9%, $p>0.05$; 30-day abstinence, 6 months: 10.2% vs. 7.8%, $p=0.15$	Fair; fair
Gordon et al., 2010 ¹⁴⁶	Low-income, racial and ethnic minority	14 federally funded community health center dental clinics, United States	RCT (2,637)	Brief office-based counseling using 5 As model, NRT, tailored print materials, local tobacco quit line number vs. usual care	No tobacco use (prolonged abstinence): 5.3% vs. 1.9%, $p<0.01$; African American: 6.5% vs. 2.0%, $p<0.001$; non-Hispanic White: 4.6% vs. 2.3%, $p<0.05$; Hispanic: 3.2% vs. 1.1%, $p=NS$	Poor; fair
Lasser et al., 2017 ¹⁴⁷	Low socio-economic status, racial and ethnic minority	Safety-net hospital, Boston, Massachusetts	RCT (352)	Patient navigation (up to 4 hours over 6 months), connection to resources (quit line, support group), physician for prescriptions, counseling, financial incentives vs. enhanced usual care (brochure, list of cessation resources)	Biochemically confirmed cessation, 6 months: 9.6% vs. 0.6%, $p<0.001$; 12 months: 11.9% vs. 2.3%, $p<0.001$, aOR 4.89 (95% CI 1.59 to 15.03); 12 months, non-White: 15% vs. 3%, $p<0.001$	Good; fair
Murphy et al., 2005 ¹⁵⁰	Low-income (Medicaid)	Department of Social Services, Erie County, New York	RCT (608)	1) Case management (information on Medicaid pharmacotherapy benefit, self-help materials, patient navigation); 2) Self-help (information on Medicaid pharmacotherapy benefit, self-help materials); vs. 3) minimal intervention (information on Medicaid pharmacotherapy benefit)	Biochemically confirmed cessation at 3 months (minimal intervention reference group): case management, 2.4%, OR 2.43 (95% CI 0.47 to 12.65); self-help, 2.0%, OR 1.94 (95% CI 0.35 to 10.71)	Poor; fair
Murray et al., 2001 ¹⁴⁸	African American	6 participating Lung Health Study centers, United States	RCT (3,068)	Group program, including physician quit message focused on pulmonary function, 12 week group program, NRT vs. usual care	Quit at 1 year: Black, aOR 1.18 (95% CI 0.66 to 3.32); White, aOR 5.99 (95% CI 4.65 to 7.71); Black vs. White, $p=0.002$; Quit by 5 years: Black, aOR 1.87 (95% CI 1.02 to 3.43); White, aOR 3.34 (95% CI 2.82 to 3.95); Black vs. White, $p=0.06$	Poor; fair

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; OR = odds ratio; NRT = nicotine replacement therapy; NS = not significant; RCT = randomized controlled trial

Key Question 5. Health System Interventions for High Blood Pressure Screening

One poor quality RCT compared the effectiveness of an enhanced intervention to reduce high blood pressure in 1,443 underserved women attending Massachusetts Breast and Cervical Cancer Initiative clinics as part of the Well-Integrated Screening and Evaluation for WOMen Across the Nation (WISEWOMAN) program.¹⁵¹ The enhanced intervention included lifestyle assessment and counseling on nutrition and physical activity to reduce risk of cardiovascular disease (CVD), individual and group education, and activities held in the community, in addition to the minimal intervention. Minimal intervention included standard screening for breast and cervical cancer and CVD risk factors, counseling and education, referrals, and followup as part of standard care, and low-literacy fact sheets on preventive services. Among women not on blood pressure medication at baseline, there was no difference in the proportion of participants with high blood pressure at 12 months in the enhanced versus minimal care groups (–6.8% vs. –8.6%, adjusted $p=0.51$). However, fewer women had high blood pressure at 12 months in both the enhanced (33.8% to 27.0%, adjusted $p=0.02$) and minimal groups (31.5% vs. 22.9%, adjusted $p=0.009$). This study was limited by lack of intent-to-treat analysis; unclear maintenance of comparable groups; unclear randomization procedures; and limited information on whether one site was excluded post-randomization. Study applicability was poor because of the setting, time, and effort to implement the intervention.

Key Question 5. Health System Interventions for Obesity Screening and Management

Seven studies evaluated the effectiveness of interventions by health systems to improve obesity screening and management (Tables 11 and 16). One RCT met criteria for good quality,¹⁵² two for fair quality,^{153,154} and two for poor.^{155,156} The remaining two studies were a prospective cohort¹⁵⁷ and before-after study.¹⁵⁸ All studies were conducted in the United States, ranged in size from 59 to 585 (median 217), and were conducted in primary care, hospital, and community settings with connections to health systems. Reported mean ages ranged from 32 to 66 years (median 47), and the majority of participants were female (median 86%). Participants were African American, Hispanic, low-income, or underserved. Interventions included education and counseling and case management and outreach. Quality was limited by unclear or inadequate randomization and allocation concealment, high loss to followup, lack of intention-to-treat analysis, and unclear masking of assessors. Applicability was generally poor, as the interventions required significant time and resources, including specialized ancillary providers, for specific populations in unique settings.

Education and Counseling

Six studies compared education and counseling weight loss interventions with other interventions or usual care. Results indicated lower BMI in three studies,^{153,155,157} but no differences in three others.^{154,156,158}

A fair quality RCT based in four academic medical centers compared group and individual counseling with usual care for 585 participants (mean age 65.5 years; 72% White; 28% Black, 52% female).¹⁵³ Counseling groups focused on either 1) weight loss; 2) dietary sodium reduction; or 3) weight loss and sodium reduction. Usual care included a quarterly group education session on general health. After 1 to 3 years of followup, mean weight change was higher in weight loss intervention groups versus sodium reduction only or control groups for

White (-4.2 kg vs. -0.9 kg, $p<0.001$) and Black (-3.3 kg vs. -1.4 kg, $p<0.01$) participants. Weight loss was similar at the end of the study between White and Black patients ($p=0.12$), but Whites had higher net weight loss than Blacks across the study period (-3.9 kg vs. -2.3 kg, $p=0.03$).

A fair quality RCT in a university-affiliated family practice compared a culturally adapted lifestyle program with usual care in 237 African Americans with obesity (mean age 44 years, 90% female).¹⁵⁴ Intervention participants attended 10 weekly weight loss classes, followed by 1) an in-person group or 2) individual telephone counseling on healthy diet and exercise. Rates of mean weight loss after 18 months were similar for group counseling (-0.8 kg), individual telephone counseling (-1.3 kg), and control groups (-1.4 kg, $p=0.90$).

A poor quality RCT of 217 underserved Hispanic women compared counseling and education with or without community health worker outreach with usual care in two Breast and Cervical Cancer Early Detection Program clinics in Arizona.¹⁵⁶ The interventions, developed as part of the WISEWOMAN program, included either 1) community health worker outreach, including lifestyle advice and invitations to group walks in the community; two health education classes; monthly study newsletters; provider counseling; and a behavior change prescription tailored to the individual; 2) health education, provider counseling, and behavior change prescription only; or 3) provider counseling and behavior change prescription (active control). Change in BMI from baseline at 12 months was highest for the active control group (-0.1 BMI units, 95% CI -0.6 to 0.5) compared with the community health worker outreach (0.1, 95% CI -0.3 to 0.6) or health education group (0.7, 95% CI -0.1 to 1.4). While the reduction in percentage of participants with BMI ≥ 25 kg/m² was highest in the community health worker outreach group (-4.6%, compared with 4.2% and 0% in the health education and active control groups, respectively), the adjusted intervention effect was not statistically significant for any comparison.

A poor quality RCT of 254 Latino immigrant farmworkers at a work-sponsored clinic on farms in California evaluated an intervention consisting of a series of educational sessions on physical activity, healthy weight, healthy diet, and lifestyle compared with no intervention.¹⁵⁵ Mean BMI after the last session was lowest for the high attendance group (8 to 10 sessions) compared with low attendance (3 to 7 sessions) and control groups (27.9 kg/m², 95% CI 27.1 to 28.1 vs. 28.3 kg/m², 95% CI 27.9 to 28.8 vs. 28.6 kg/m², 95% CI 28.3 to 28.9, respectively). The high attendance group also reported more servings of fruits and vegetables per day and more non-work physical activity than the other groups.

A poor quality cohort study at a university medical center evaluated a lifestyle modification intervention in 69 Black participants with obesity (mean age 47 years, 86% female).¹⁵⁷ Participants received personalized and group counseling and education, one-week meal replacement, prescriptions for exercise, and access to a hospital exercise facility. Mean change in weight was higher after 12 months versus baseline (-4.6 kg, $p<0.001$), and compared with matched controls (0.3 kg, $p<0.001$).

In a before-after study, clinical and community partners reported outcomes of a 12-week lifestyle intervention in 59 underserved Hispanic adults (mean age 37 years, 92% female).¹⁵⁸ Patients at a FQHC and academic research center received weekly nutritional education and behavioral skills training and access to thrice-weekly exercise classes through a local YMCA and diabetes program. Rates were similar before and after the intervention for both mean weight change (82.1 kg vs. 80.6 kg, $p=0.12$) and BMI (32.1 kg/m² vs. 31.6 kg/m², $p=0.12$); however, weight-specific quality of life measures improved (64.6 vs. 71 out of 100, $p=0.001$).

Case Management and Outreach

A good quality RCT¹⁵² of 207 low-income Hispanic adults at a community health center in California found no differences in BMI with case management with or without community health worker outreach compared with usual care. The interventions included either 1) community health worker outreach (family and environmental support, map neighborhood physical activity resources, track and manage physical activity and food goals) and case management (motivational interviewing, goal-setting, cooking and physical activity demonstrations, identification of community resources, and coordination with primary care); 2) case management only; or 3) usual care. Mean change in BMI did not differ between the three groups or between the two intervention arms at 6 months (−0.8 vs. −0.6 vs. −0.4 kg/m²), 12 months (−0.7 vs. −0.6 vs. −0.3 kg/m²), or 2 years (−0.4 vs. −0.4 vs. −0.2 kg/m²).

Table 16. Studies of effectiveness of health system interventions for obesity management and screening

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Kumanyika et al., 2002 ¹⁵³	African American	4 academic medical centers; United States	RCT (585)	Group (60 minutes) and individual counseling on 1) weight loss, 2) sodium reduction, or 3) weight loss and sodium reduction vs. usual care with quarterly group educational sessions on unrelated health topics	Mean weight change in weight loss group: Black, -3.2 kg (SE 0.7) vs. -1.2 kg (0.9), $p<0.05$; White, -5.2 kg (0.4) vs. -0.3 (0.5), $p<0.001$; Black vs. White, $p=0.007$	Fair; poor
Kumanyika et al., 2005 ¹⁵⁴	African American	Health system-affiliated family practice; Philadelphia, Pennsylvania	RCT (237)	Culturally adapted Healthy Eating and Lifestyle Program with 10 weekly weight loss classes, followed by randomization to 1) group counseling with 1-hour classes and individualized help or 2) staff-facilitated self-help with monthly calls, local resources on diet and exercise, pedometer, telephone support vs. usual care	Mean weight change from baseline: group counseling, -0.8 kg (95% CI -2.5 to 0.9); self-help, -1.3 kg (95% CI -3.4 to 0.9); usual care, -1.4 kg (95% CI, -3.5 to 0.7; $p=0.90$	Fair; poor
Mitchell et al., 2015 ¹⁵⁵	Latino, low-income, immigrant	Worksite-sponsored clinic on berry farms in California	RCT (254)	Ten 90-minute educational sessions on physical activity, healthy weight, healthy diet, and lifestyle vs. usual care	BMI at 12-14 weeks: high attendance, 27.9 kg/m ² ; low attendance, 28.3 kg/m ² ; control, 28.6 kg/m ² , $p<0.001$	Poor; poor
Racette et al., 2001 ¹⁵⁷	African American	University medical center; St. Louis, Missouri	Prospective cohort (69)	Energy restricted diet for 1 week, lifestyle modification program to reduce fat intake (educational materials, utensils, personalized guidance, monthly telephone calls, newsletters, optional bimonthly group meetings and individual meetings, food diaries), and recommendation to increase physical activity (handouts, access to cardio equipment at hospital, exercise prescriptions, individual exercise orientation sessions, logbooks) vs. matched control	Mean weight change in kg (SD), 4 months: -4.8 (0.7) vs. -0.8 (0.6), $p<0.001$; 12 months: -4.6 (1.0) vs. 0.3 (0.8), $p<0.001$	Poor; poor

Author, Year	Disparity Group	Setting	Study Design (N)	Intervention; Comparison	Results; Intervention vs. Comparison	Quality; Applicability
Rosas et al., 2015 ¹⁵²	Latino, low-income	Health system-affiliated community health center; Fair Oaks, California	RCT (207)	1) Lay health worker outreach with family support, mapping neighborhood resources, tracking and managing goals, and case management with motivational interviewing, cooking and physical activity demonstrations, coordination with primary care, or 2) case management only, vs. usual care	No differences among groups for mean change in BMI at 6 months, in kg/m ² : -0.8 (95% CI -1.1 to -0.5) vs. -0.6 (-1.0 to -0.3) vs. -0.4 (-0.7 to 0), p>0.05 for all comparisons; 12 months: -0.7 (-1.1 to -0.3) vs. -0.6 (-1.0 to -0.1) vs. -0.3 (-0.8 to 0.3), p>0.05 for all comparisons; or 2 years: -0.4 (-0.9 to 0.2) vs. 0.4 (-1.0 to 0.2) vs. -0.2 (-1.1 to 0.7), p>0.05 for all comparisons	Good; poor
Soltero et al., 2019 ¹⁵⁸	Hispanic	Clinical and community settings; Phoenix, Arizona	Before-after (59)	12-week lifestyle intervention including nutritional education and behavioral skills training (60 minutes per week), and physical activity classes (60 minutes, 3 times per week)	Mean weight, kg (SD), baseline to study end: 82.1 (17.8) to 80.6 (17.8), p=0.12; mean BMI, kg/m ² (SD), baseline to study end: 32.1 (5.9) to 31.6 (6.0), p=0.12	NA; poor
Staten et al., 2004 ¹⁵⁶	Hispanic, underserved	2 national Breast and Cervical Cancer Early Detection Program clinics; Tucson, Arizona	RCT (217)	1) Community health worker outreach (advice on healthy diet and exercise, behavior change, and invitations to bimonthly walks in community), health education classes, monthly health newsletters for 12 months, reminder calls at 6 months; provider counseling on a healthy lifestyle, behavior change prescription tailored to individual; or 2) health education classes, newsletters, calls, counseling, and prescription; vs. 3) provider counseling and prescription only (active control)	No differences among groups in change in BMI from baseline to 12 months (95% CI): 0.1 (-0.3 to 0.6) vs. 0.7 (-0.1 to 1.4) vs. -0.1 (-0.6 to 0.5), p=NR; no differences in change in percent of study arm at BMI ≥25 from baseline to 12 months: -4.6% vs. 4.2% vs. 0%	Poor; fair

Abbreviations: BMI = body mass index; CI = confidence interval; NA = not applicable; RCT = randomized controlled trial; SD = standard deviation; SE = standard error

Meta-Analysis of Studies of the Effectiveness of Patient Navigation To Increase Cancer Screening

The meta-analysis included 37 studies of the effectiveness of patient navigation interventions involving clinicians and health systems to increase screening for colorectal,^{31,53,58,62,76-78,80,82-87,90,94,98,101,102,105-107,113,114,117-120} breast,^{51,68,76,83,85,98,132-135,137} and cervical cancer^{38,66,83,98} in populations adversely affected by disparities (Table 17). Three studies met inclusion criteria for KQ3^{58,62,66} and 34 for KQ5.^{31,38,53,78,80,82-87,90,94,98,101,105-107,113,114,117,118,120,132-135,137} Studies included 29 RCTs^{31,38,51,53,58,62,68,76-78,80,82-87,90,94,98,101,102,105-107,132,134,135,137} and 8 observational studies;^{66,113,114,117-120,133} 3 RCTs provided data for more than one type of cancer screening.^{83,85,98}

Table 17. Populations and other abbreviations in forest plots

Category	Abbreviation	Definition
Study populations	AA	African American
	AAM	African-American men
	RAA	Rural African-American
	AALI	African-American low-income
	Chin	Chinese American
	ChinLI	Chinese-American low-income
	Fil	Filipino American
	Haw	Native Hawaiian
	His	Hispanic/Latino
	LIHis	Low-income Hispanic/Latino
	HisW	Hispanic/Latina women
	Kor	Korean American
	LI	Low-income
	LIRE	Low-income racial/ethnic minority
	LIW	Low-income women
	Viet	Vietnamese American
Other abbreviations	Colo	Colonoscopy
	DL	DerSimonian and Laird method
	Endo	Endoscopy (colonoscopy and flexible sigmoidoscopy)
	FIT	Fecal immunohistochemistry test
	FOBT	Fecal occult blood test
	NA	Not applicable
	NR	Not reported
	PL	Profile likelihood
	RCT	Randomized controlled trial

Patient navigation broadly refers to services intended to improve a patient's engagement in their healthcare by providing personal guidance as they move through the healthcare system. Patient navigators may have medical, legal, financial, advocacy, or administrative roles. In studies of patient navigation to improve cancer screening, services often included outreach activities involving letters or calls, educational materials and sessions, assessment and addressing of barriers to screening, language translation, appointment scheduling and reminders, bowel prep assistance, mailed supplies and kits, transportation and appointment attendance as needed, and point-of-care prompts, among others. Components of navigation varied across studies and are summarized in Tables 18, 19, and 20 below. Comparison groups in the studies included patients receiving usual care or alternative services without patient navigation, such as a single mailing or educational encounter.

Table 18. Components of colorectal cancer screening navigation

Author, Year	Population	Description	Training and Qualifications	Ed	Pre	Sch	Tr	Info	Fin	Ph	Ref	Rm
Arnold et al., 2016 ^{a,96}	Underserved	Nurse	Not reported	X		X				X		
Baker et al., 2014 ⁸⁰	Low-income	Screening navigator	Not reported	X	X	X	X	X				
Braun et al., 2015 ^{a,98}	Native Hawaiian and Filipino	Lay navigator	Lay navigators from the community; 48-hour training program; quarterly continuing education sessions	X		X	X		X	X		X
Berkowitz et al., 2015 ^{a,110}	Disadvantaged	Patient navigator	Full-time trilingual (English, Spanish, Portuguese) patient navigator	X	X		X					X
Blumenthal et al., 2010 ⁵³	African American	Health educator	Investigator trained staff	X			X		X	X		
Christie et al., 2008 ⁶²	Hispanic and African American	Patient navigator	Health educator trained in navigation services (professional patient navigator)	X		X	X				X	X
Cole et al., 2017 ³¹	African-American men	Patient navigator	2-day training using standardized materials; additional skill-building sessions, role play, documentation, and 56 hours of community health worker training	X	X							
Coronado et al., 2011 ^{a,81}	Underserved Hispanic	<i>Promotora</i>	Spanish-speaking male health coordinator; training in colorectal cancer, prevention and early detection, documentation	X	X							X
Davis et al., 2013 ¹¹⁷	Underserved	Nurse manager	2-hr in-service on screening; instruction in interviewing techniques, tracking system, and protocol for contacting and assisting patients	X		X				X		
DeGroff et al., 2017 ⁸²	Low-income	Lay navigator	Two bilingual lay navigators with training in outreach and interviewing	X	X	X	X					X
Dietrich et al., 2006 ⁸³	Low-income women	Prevention care manager	7 hours of training on USPSTF guidelines and screening barriers; role playing; ongoing review of logs	X		X	X			X		X
Dietrich et al., 2013 ⁸⁴	Low-income women	Prevention care manager	5 training sessions on guidelines, barriers, protocol, forms, role playing; monthly quality assurance meetings	X		X				X		X
Enard et al., 2015 ¹⁰¹	Low-income Hispanic	Navigator	Bachelor's degree in public health or related field and 2 years' experience; 80 hours of training and 3-day continuing education conference	X		X		X			X	X

Author, Year	Population	Description	Training and Qualifications	Ed	Pre	Sch	Tr	Info	Fin	Ph	Ref	Rm
Fiscella et al., 2011 ⁸⁵	Underserved	Community health worker	Recruited from community; training on intervention, database, how to assist patients; supervised by social worker					X				
Ford et al., 2006 ¹⁰²	African-American men	Case manager	African-American women; trained in scheduling procedures and information from local health and social services organizations	X	X	X	X	X	X		X	
Fortuna et al., 2014 ⁷⁶	Underserved	Outreach worker	Not reported	X	X	X		X			X	
Goldman et al., 2015 ⁸⁶	Underserved	Navigator	Not reported	X	X	X				X		
Guillaume et al., 2017b ⁸⁷	Low socio-economic	Screening navigator	Social workers specifically trained in screening	X								
Honeycutt et al., 2013 ¹¹⁸	Underserved	Patient navigator	Trained professional health navigator	X			X		X			X
Horne et al., 2015 ⁹⁰	African American	Patient navigator	Trained and certified patient navigator	X								
Jandorf et al., 2005 ¹⁰⁵	Underserved	Patient navigator	Research associate with similar cultural background to participants	X	X	X						X
Lasser et al., 2011 ⁵⁸	Low-income, racial or ethnic minority	Patient navigator	College educated and experienced in navigation; 10 hours of training in interviewing techniques	X	X					X	X	
Leone et al., 2013 ¹¹⁹	Low-income	Patient navigator	Medicaid patient outreach coordinator; 2-day training on screening, interviewing, and barriers	X	X	X	X					X
Ma et al., 2009 ¹²⁰	Korean American	Health educator	Not reported	X		X			X	X		X
Myers et al., 2014 ⁹⁴	African American	Navigator	Not reported	X	X							X
Myers et al., 2019 ⁷⁷	Hispanic	Patient navigator	Not reported	X	X	X						X
Nash et al., 2006 ¹¹³	Low-income, racial or ethnic minority	Patient navigator	Not reported	X		X					X	X
Nguyen et al., 2015 ¹⁰⁶	Vietnamese American	Lay health worker	Training on screening, delivering educational presentations, and using reference manuals	X		X		X	X		X	
Percac-Lima et al., 2009 ¹⁰⁷	Low-income	Patient navigator	College-educated outreach workers and interpreters; 6-hour training on navigation and screening	X	X	X	X	X				X

Author, Year	Population	Description	Training and Qualifications	Ed	Pre	Sch	Tr	Info	Fin	Ph	Ref	Rm
Percac-Lima et al., 2014 ¹¹⁴	Latino	Patient navigator	College-educated outreach workers and interpreters; 6-hour training on navigation and screening	X	X	X	X	X				X
Reuland et al., 2017 ⁷⁸	Low-income, racial or ethnic minority	Patient navigator	Clinic employees with previous training; 6-hour training, monthly check-ins	X	X							

Abbreviations: Ed = education, assessment and/or management of barriers; Fin = financial assistance; Info = screening information; Ph = connected patient to physician; Pre = assisted with prep kits or prescriptions; Ref = referrals; Rm = appointment reminders; Sch= appointment scheduling; Tr= assist with transportation; USPSTF = U.S. Preventive Services Task Force

^a Not eligible for meta-analysis

Table 19. Components of breast cancer screening navigation

Author, Year	Population	Description	Training and Qualifications	Ed	Sch	Tr	Info	Fin	Ph	Ref	Rm
Allen and Bazargan-Hejazi, 2005 ^{a,129}	African American and Hispanic	Trained interviewer	Trained on scripted telephone protocols	X	X		X	X			X
Braun et al., 2015 ⁹⁸	Native Hawaiian and Filipino	Lay navigator	From community; 48-hour training program; supervised by health professionals	X	X	X		X	X		X
Coronado et al., 2016 ^{a,130}	Hispanic	<i>Promotora</i>	3-day training on the intervention, screening, tracking and documentation; assessed by coding and scoring recorded sessions	X			X				
Dietrich et al., 2006 ⁸³	Low-income	Prevention care manager	7 hours of training on USPSTF guidelines and screening barriers; role playing; ongoing review of logs	X	X	X			X		X
Fiscella et al., 2011 ⁸⁵	Underserved	Community health worker	From community; training on screening, use of database, methods to assist patients; supervised by social worker				X				
Fortuna et al., 2014 ⁷⁶	Underserved	Outreach worker	Not reported	X	X		X			X	
Marshall et al., 2016 ¹³²	African American	Patient navigator	Classroom sessions, interactive role playing, shadowing of navigators, and instruction in electronic database	X	X				X		
Paskett et al., 2006 ⁵¹	Low-income, racial and ethnic minority	Lay health advisor	Nurse, social worker, and study interviewer; 1 week training with role playing, review of resource manual, handling problems; examination required; supervisor review	X	X						
Percac-Lima et al., 2012 ¹³³	Bosnian immigrants and refugees	Patient navigator	Bilingual college educated; training in breast cancer prevention, treatment, navigation; supervised by professionals	X	X	X		X			X
Phillips et al., 2011 ¹³⁴	Low-income racial and ethnic minorities	Patient navigator	Bilingual experienced navigators; training on barriers and culturally tailored services based on the care management model	X	X	X			X		
Powell et al., 2005 ¹³⁵	Rural African American	Home health educator	16 hours of training on intervention, research protocol, and interviewing skills	X	X	X		X	X	X	X
Russell et al., 2010 ⁶⁸	Low-income, African American	Lay health advisor	Two 8-hr training sessions on messages, barriers, appointments, transportation, referrals; periodic audiotape evaluation	X	X	X	X	X		X	
Weber et al., 1997 ¹³⁷	Medically underserved	Community health educator	Not reported	X	X			X	X		X

Abbreviations: Ed = education, assessment and/or management of barriers; Fin = financial assistance; Info = screening information; Ph = connected patient to physician; Ref = referrals; Rm = appointment reminders; Sch= appointment scheduling; Tr = assist with transportation; USPSTF = U.S. Preventive Services Task Force.

^aNot eligible for meta-analysis

Table 20. Components of cervical cancer screening navigation

Author, Year	Population	Description	Training and Qualifications	Ed	Sch	Tr	Info	Fin	Ph	Ref	Rm
Battaglia et al., 2012 ^{a,140}	Low-income racial and ethnic minority	Patient navigator	Bilingual with some healthcare training; bimonthly local training	X							
Braun et al., 2015 ⁹⁸	Native Hawaiian and Filipino	Lay navigator	From community; 48-hour training program; supervised by health professionals	X	X	X		X	X		X
Dietrich et al., 2006 ⁸³	Low-income	Prevention care manager	7 hours of training on USPSTF guidelines and screening barriers; role playing; ongoing review of logs	X	X	X			X		X
Fang et al., 2017 ³⁸	Korean American	Study navigator	Not reported	X	X	X	X	X			
Jandorf et al., 2014 ^{a,41}	Hispanic	Lay health worker	Training at each site	X	X	X					X
Wang et al., 2010 ⁶⁶	Low-income Chinese American	Community health educator	Trained Chinese community health educators	X	X	X	X	X		X	

Abbreviations: Ed = education, assessment and/or management of barriers; Fin = financial assistance; Info = screening information; Ph = connected patient to physician; Ref = referrals; Rm = appointment reminders; Sch= appointment scheduling; Tr = assist with transportation; USPSTF = U.S. Preventive Services Task Force.

^aNot eligible for meta-analysis

Effects of Patient Navigation on Colorectal Cancer Screening

Results of meta-analyses are summarized in Figures 5 to 10 and Table 21. Twenty-two RCTs^{31,53,58,62,76-78,80,82-87,90,94,98,101,102,105-107} (Table 22) and 6 observational studies^{113,114,117-120} (Table 23) evaluated the effectiveness of patient navigation compared with usual care or other approaches to increase colorectal cancer screening. Although studies varied, results of all but 5 studies^{53,62,87,102,119} indicated higher screening rates with patient navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups.

Combining results of all studies in meta-analysis indicated increased colorectal cancer screening with navigation in both RCTs (RR 1.64; 95% CI 1.42 to 1.92; $I^2 = 93.7\%$; 22 trials) and observational studies (RR 2.63; 95% CI 1.46 to 4.85; $I^2 = 90.9\%$; 6 studies). In RCTs, navigation was associated with increased screening for FOBT/FIT (RR 1.69; 95% CI 1.33 to 2.15; $I^2 = 80.5\%$; 6 trials), colonoscopy/endoscopy (RR 2.08; 95% CI 1.08 to 4.56; $I^2 = 94.6\%$; 6 trials), and trials reporting combined results that included all types of tests (RR 1.72; 95% CI 1.43 to 2.08; $I^2 = 93.9\%$; 14 trials).

Patient navigation was associated with higher colorectal cancer screening for patients not adherent with screening recommendations at baseline (RR 1.74; 95% CI 1.48 to 2.09; $I^2 = 87.4\%$; 17 trials), as well as for mixed populations of adherent and nonadherent patients (RR 1.38; 95% CI 1.01 to 1.89; $I^2 = 93.9\%$; 5 trials). While screening was higher in studies reporting various lengths of followup time (6 months, 1 year, 18 months, 5 years), point estimates were highest in studies with shorter followup times (6 months RR 2.06; 95% CI 1.53 to 2.89; $I^2 = 82.4\%$; 8 trials; 1-year RR 1.72; 95% CI 1.41 to 2.15; $I^2 = 82.7\%$; 8 trials). Patient navigation was associated with higher colorectal cancer screening in studies meeting criteria for good (RR 2.26; 95% CI 1.44 to 3.17; $I^2 = 0.0\%$; 2 trials), fair (RR 1.54; 95% CI 1.29 to 1.86; $I^2 = 95.4\%$; 12 trials), or poor (RR 1.74; 95% CI 1.27 to 2.53; $I^2 = 75.6\%$; 8 trials) quality ratings. The included studies demonstrated small study effects (asymmetric funnel plot, Appendix I, Egger test, $p < 0.001$), which may be attributed to publication bias where small studies with null or negative results were not published. However, screening rates remained higher with patient navigation for colorectal cancer when only large clinical trials were included in the meta-analysis.

Table 21. Results of meta-analyses of colorectal cancer screening studies

Screening	Subgroup	Number of Studies	Risk Ratio (95% CI)	I^2 , p-Value	Annualized Percentage Screened (%) Navigation; Control
Overall	RCTs	22	1.64 (1.42 to 1.92)	93.7%, $p < 0.0001$	37.8; 25.1
	Observational	6	2.63 (1.46 to 4.85)	90.9%, $p < 0.0001$	66.2; 39.4
By screening test	FOBT/FIT RCTs	6	1.69 (1.33 to 2.15)	80.5%, $p < 0.0001$	35.6; 27.7
	FOBT/FIT observational	1	1.60 (1.06 to 2.42)	NA	60.6; 38.5
	Colon/Endo RCTs	6	2.08 (1.08 to 4.56)	94.6%, $p < 0.0001$	42.3; 37.3
	Colon/Endo observational	1	4.44 (2.99 to 6.59)	NA	90.0; 20.3
	Any test RCTs	14	1.72 (1.43 to 2.08)	93.9%, $p < 0.0001$	37.4; 21.3
	Any test observational	4	2.65 (1.20 to 5.85)	91.7%, $p < 0.0001$	61.4; 40.6
By screening adherence at baseline	None	17	1.74 (1.48 to 2.09)	87.4%, $p < 0.0001$	41.8; 26.4
	Some	5	1.38 (1.01 to 1.89)	93.9%, $p < 0.0001$	27.3; 21.3
By followup time	6 months	8	2.06 (1.53 to 2.89)	82.4%, $p < 0.0001$	77.0; 57.9
	1 year	8	1.72 (1.41 to 2.15)	82.7%, $p < 0.0001$	31.4; 20.2

Screening	Subgroup	Number of Studies	Risk Ratio (95% CI)	<i>I</i> ² , p-Value	Annualized Percentage Screened (%) Navigation; Control
	18 months	2	1.28 (1.09 to 1.53)	5.5%, p=0.144	26.6; 20.4
	5 years	4	1.21 (0.96 to 1.58)	82.0%, p<0.0001	12.2; 11.3
By study quality rating	Good	2	2.26 (1.44 to 3.17)	0.0%, p=0.259	57.4; 31.6
	Fair	12	1.54 (1.29 to 1.86)	95.4%, p<0.0001	37.3; 26.8
	Poor	8	1.74 (1.27 to 2.53)	75.6%, p<0.0001	36.1; 15.8

Abbreviations: CI = confidence interval; Colon/Endo = colonoscopy/endoscopy; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; NA = not applicable; RCTs = randomized controlled trials

Table 22. Randomized controlled trials included in meta-analyses of colorectal cancer screening

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Baker et al., 2014 ⁸⁰	Low-income	Automated call and text message, letter from primary care physician, mailed FIT kit, navigation at 3 months for nonresponders	No navigation (computerized reminders, standing orders for FIT, clinician feedback on rates)	FIT at 6 months: 82.2% vs. 37.3%, $p<0.001$
Braun et al., 2015 ⁹⁸	Hawaiian/Filipino	Patient navigation based on <i>Kukui Ahi</i> model involving lay health worker	General health education from another healthcare entity	FOBT at 1 year: 20.7% vs. 12.6%, $p=0.02$; endoscopy at 5 years: 43.0% vs. 27.2%, $p<0.001$
Blumenthal et al., 2010 ⁵³	African American	Transportation, scheduling, and payment assistance including out of pocket expenses	1) One on one education 2) Group education 3) Pamphlet and resources	Any screening at 6 months: 16.7% navigation vs. 17.4% one on one education vs. 22.2% group education vs. 12.5% pamphlet
Christie et al., 2008 ⁶²	Hispanic and African American	Navigator to schedule colonoscopy and discuss risks and benefits	Usual care	Colonoscopy at 6 months: 53.8% vs. 13.0%, $p=0.058$; RR 4.31 (95% CI 0.64 to 28.84)
Cole et al., 2017 ³¹	African-American men	Telephone navigation including assessment and management of barriers with or without motivational interviewing	Motivational interviewing	Any screening at 6 months: navigation vs. interviewing (17.5% vs. 8.4%); aOR 2.28 (95% CI 1.28 to 4.06); navigation plus interviewing vs. interviewing (17.8% vs. 8.4%); aOR 2.44 (95% CI 1.38 to 4.34)
DeGroff et al., 2017 ⁸²	Low-income	Telephone navigation including management of screening barriers	Computerized reminders, standing orders for FIT, clinician feedback on screening rates	Colonoscopy at 6 months: 61.1% vs. 53.2%, $p=0.02$; OR 1.51 (95% CI 1.12 to 2.03)
Dietrich et al., 2006 ⁸³	Low-income women	Telephone calls, motivational support, management of barriers, scheduling, reminders, transportation assistance	Telephone recommendation to receive screening	Any screening at 18 months increase by 0.24 (>60%) vs. control, $p<0.001$
Dietrich et al., 2013 ⁸⁴	Low-income women	Telephone outreach addressing barriers, letter and overdue card, educational materials, reminders and scheduling	Usual care	Any screening at 18 months: 36.7% vs. 30.6%; aOR 1.32 (95% CI 1.08 to 1.62)
Enard et al., 2015 ¹⁰¹	Low-income Hispanic	Telephone calls addressing barriers, screening guidelines and Medicare	Mailed education materials	Any screening at 5 years: 43.7% vs. 32.1%, $p=0.04$; aOR 1.82, $p=0.02$
Fiscella et al., 2011 ⁸⁵	Low-income	Two letters and a phone call, mailed kits, point-of-care prompts	Usual care	Any screening at 1 year: aOR 3.69 (95% CI 1.93 to 7.08)
Ford et al., 2006 ¹⁰²	African American	Case management to reduce barriers, referrals to community services and agencies; at least monthly calls	Usual care	Flexible sigmoidoscopy over 3 years: low income (≤ 1.5 x federal poverty level), 68.9% vs. 51.3%, $p=0.10$; moderate to high income, 53.8% vs. 62.5%, $p=0.22$
Fortuna et al., 2014 ⁷⁶	Low-income, racial and ethnic minority	Personal call from outreach worker with motivational interviewing and navigation	Usual care	Screening rates: personal call, 21.5%; aOR 2.0 (95% CI 1.1 to 3.9); physician prompt, 19.6%; aOR 1.9 (95% CI 1.0 to 3.7); automated call, 15.3%; aOR 1.2 (95% CI 0.6 to 2.4)

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Goldman et al., 2015 ⁸⁶	Low-income	Phone calls and text messages, navigation at 3 months, mailed FIT kits	Usual care	FIT at 6 months: 36.7% vs. 15.2%, $p<0.001$; at 12 months: 40.0% vs. 23.3%, $p<0.001$
Guillame et al., 2017 ⁸⁷ De Mil et al., 2018 ¹²⁴	Low-income	Introductory letter, telephone calls to address barriers, FOBT kit, home visit as needed	Usual care (FOBT kit)	FOBT at 9 months, overall: 24.3% vs. 21.1%, $p=0.003$; OR 1.19 (95% CI 1.10 to 1.29); deprived: 22.8% vs. 20.2%, $p=0.07$; affluent: 26% vs. 21.9%, $p=0.001$
Horne et al., 2015 ⁹⁰	African American	Audit charts, manage reminder systems, coordinate screening, provide education, address barriers	Usual care	Any screening at 5 years: 94% vs. 91%, $p=0.04$; aOR 1.56 (95% CI 1.08 to 2.25); FOBT: aOR 1.09 (95% CI 0.72 to 1.64); colonoscopy/flexible sigmoidoscopy at 5 years: aOR 1.54 (95% CI 1.08 to 2.20)
Jandorf et al., 2005 ¹⁰⁵	Low-income	Telephone calls with patient education, assessment of barriers, followup	Usual care	FOBT at 3 months: 42.1% vs. 25%, $p>0.05$; endoscopy at 6 months: 23.7% vs. 5%, $p=0.02$
Lasser et al., 2011 ⁵⁸	Low-income racial/ethnic minority	Schedule colonoscopy and discuss risks and benefits	Usual care	Any screening at 12 months: 33.6% vs. 20.0%; RR 1.68 (95% CI 1.23 to 2.30)
Myers et al., 2019 ⁷⁷	Hispanic	Telephone calls to identify preferred test, develop plan, schedule prescreen visit for colonoscopy or review kit	Usual care	Screening at 12 months: 77.7% vs. 43.3%; aOR 4.8 (95% CI 3.1 to 7.6); SBT at 12 months: 57.4% vs. 37.4%; aOR 4.2 (95% CI, 2.6 to 6.7); colonoscopy at 12 months: 20.3% vs. 5.9%; aOR 8.79 (95% CI 4.1 to 18.7)
Myers et al., 2014 ⁹⁴	African American	Personalized message about barriers; mailed materials; colonoscopy contact number or FOBT kit	Similar but mailed	Any screening at 6 months: aOR 2.1 (95% CI 1.5 to 2.9); at 12 months: aOR 1.7 (95% CI 1.2 to 2.3)
Nguyen et al., 2015 ¹⁰⁶	Vietnamese	Referrals, scheduling, transportation; lay health worker education session; telephone calls, home visits	Lay health worker education on healthy lifestyle	Any screening at 6 months: 56% vs. 19%, $p<0.001$; aOR 5.45 (95% CI 3.02 to 9.82)
Percac-Lima et al., 2009 ¹⁰⁷	Low-income	Letter, educational materials, addressing barriers, scheduling, bowel prep assistance, transportation	Usual care	Any screening at 9 months: 27.4% vs. 11.9%, $p<0.001$; colonoscopy at 9 months: 20.8% vs. 9.6%, $p<0.001$
Reuland et al., 2017 ⁷⁸	Low-income racial/ethnic minority	Tailored navigation using decision aid videos regarding FOBT/FIT or colonoscopy; FOBT/FIT kits	Food safety videos	Any at 6 months: 68% vs. 27%, $p=NR$; adjusted difference 40% (95% CI 29% to 51%); FOBT/FIT: 54% vs. 21%, $p=NR$; colonoscopy: 14% vs. 6%, $p=NR$

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; NR = not reported; OR = odds ratio; RR = risk ratio; SBT = stool blood test; vs. = versus

Table 23. Observational studies included in meta-analyses of colorectal cancer screening

Author, Year	Design	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Davis et al., 2013 ¹¹⁷	Prospective cohort	Low-income	Nurse-led patient education, FOBT kit, motivational interview, followup calls	1) Staff-led patient education, video, FOBT kit 2) Usual care (FOBT kit)	FOBT at 12 months: navigation vs. usual care, adjusted screening ratio 1.60 (95% CI 1.06 to 2.42); navigation vs. staff education, 1.18 (95% CI 0.97 to 1.42)
Honeycutt et al., 2013 ¹¹⁸	Prospective cohort	Low-income	Letters, automated telephone calls, point-of-care prompts, and mailed FIT/FOBT kit	Usual care	Any screening (colonoscopy at 10 years, flexible sigmoidoscopy at 5 years, FOBT at 1 year): 42.6% vs. 10.8%, p<0.001
Leone et al., 2013 ¹¹⁹	Cluster nonrandomized trial	Medicaid	Telephone call to address barriers, assist with appointment scheduling	Usual care	Screening (colonoscopy, FOBT, sigmoidoscopy) at 6 months: 9.2% vs. 7.5%, aOR 1.44 (95% CI, 0.68 to 3.06); at 12 months: 16.3% vs. 10.3%, unadjusted OR 1.68 (95% CI, 0.80 to 3.56)
Ma et al., 2009 ¹²⁰	Nonrandomized trial	Korean	Patient navigation and group education on screening	Group education on general preventive health	Any screening at 12 months: 77.4% vs. 10.8%; RR 7.14 (95% CI 3.81 to 13.37)
Nash et al., 2006 ¹¹³	Before-after study	Low-income racial/ethnic minorities	Patient navigation; direct endoscopic referral system, clinic enhancements	Pre/post	Colonoscopy at 6 months: 40% vs. 10%, p<0.001; RR 3.0 (95% CI 1.9 to 4.7)
Percac-Lima et al., 2014 ¹¹⁴	Before-after study	Hispanic	Culturally tailored patient navigation with assessment and management of barriers	Pre/post	Any at one year: Latino 73.5% vs. non-Latino 66%, p<0.001

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; OR = odds ratio; RR = risk ratio; vs. = versus

Figure 5. Meta-analysis of randomized controlled trials of the overall effect of patient navigation on colorectal cancer screening rates

Abbreviations: AA = African American; AAM = African-American men; CI = confidence interval; Colon/Endo = colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunochemistry test; Haw/Fil = Native Hawaiian/Filipino; His/AA = Hispanic/African American; His = Hispanic; LI = low-income; LIHis = low-income Hispanic/Latino; LIRE = low-income racial/ethnic minority; LIW = low-income women; mo = month; No. = number; Viet = Vietnamese American; yr = year

* Adjusted estimates used when reported in publications.

Figure 6. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by screening test, where subgroup results include all relevant studies

Abbreviations: AA = African American; AAM = African-American men; CI = confidence interval; Colon/Endo = colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunochemistry test; Haw/Fil = Native Hawaiian/Filipino; His = Hispanic/Latino; His/AA = Hispanic/African American; LI = low-income; LIHis = low-income Hispanic/Latino; LIRE = low-income racial/ethnic minority; LIW = low-income women; mo = month; No. = number; NR = not reported; Viet = Vietnamese American; yr = year

* Adjusted estimates used when reported in publications.

Figure 7. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by screening adherence at baseline

Abbreviations: AA = African American; AAM = African American men; CI = confidence interval; Colon/Endo = colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunohistochemistry test; Haw/Fil = Native Hawaiian/Filipino; His = Hispanic; His/AA = Hispanic/African American; LI = low-income; LIHis = low-income Hispanic/Latino; LIRE = low-income racial/ethnic minority; LIW = low-income women; mo = month; No. = number; NR = not reported; Viet = Vietnamese American; yr = year

* Adjusted estimates used when reported in publications.

Figure 8. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by followup time

Abbreviations: AA = African American; AAM = African-American men; CI = confidence interval; Colon/Endo = colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunohistochemistry test; Haw/Fil = Native Hawaiian/Filipino; His = Hispanic; His/AA = Hispanic/African American; LI = low-income; LIHis = low-income Hispanic/Latino; LIRE = low-income racial/ethnic minority; LIW = low-income women; mo = month; No. = number; NR = not reported; Viet = Vietnamese American; yr = year

* Adjusted estimates used when reported in publications.

Figure 9. Meta-analysis of randomized controlled trials of the effect of patient navigation on colorectal cancer screening rates by study quality

Abbreviations: AA = African American; AAM = African-American men; CI = confidence interval; Colon/Endo= colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunohistochemistry test; Haw/Fil = Native Hawaiian/Filipino; His = Hispanic; His/AA = Hispanic/African American; LI = low-income; LIHis = low-income Hispanic/Latino; LIW = low-income women; LIRE = low-income racial/ethnic minority; No. = number; NR = not reported; mo = month; Viet = Vietnamese American; yr = year

* Adjusted estimates used when reported in publications.

Figure 10. Meta-analysis of observational studies of the effect of patient navigation on colorectal cancer screening rates by screening test

Abbreviations: CI = confidence interval; Colon/Endo = colonoscopy/endoscopy (colonoscopy and flexible sigmoidoscopy); FOBT/FIT = fecal occult blood test/fecal immunohistochemistry test; His = Hispanic; Kor = Korean American; LI = low-income; LIRE = low-income racial/ethnic minority; mo = month; N/A = not applicable; No. = number; NR = not reported; yr = year

* Adjusted estimates used when reported in publications.

Effects of Patient Navigation on Breast Cancer Screening

Results of meta-analyses are summarized in Figures 11, 12, 13 and Table 24. Ten RCTs^{51,68,76,83,85,98,132,134,135,137} (Table 25) and one before-after observational study¹³³ (Table 26) evaluated the effectiveness of patient navigation compared with usual care or other approaches to increase breast cancer screening. All but one study¹³⁵ indicated higher screening rates with patient navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups.

Combining results of all RCTs in meta-analysis indicated increased breast cancer screening with navigation (RR 1.50; 95% CI 1.22 to 1.91; $I^2 = 98.6\%$; 10 trials). The single observational study showed similar results (RR 1.52; 95% CI 1.16 to 2.00).

Patient navigation was associated with increased breast cancer screening for patients not adherent with screening recommendations at baseline (RR 2.30; 95% CI 1.87 to 2.81; $I^2 = 0\%$; 4 trials), as well as for mixed populations of adherent and nonadherent patients (RR 1.20; 95% CI 1.07 to 1.38; $I^2 = 93.3\%$; 6 trials). Screening was increased in studies reporting various lengths of followup time (1 year, 18 months, 2 years, 5 years), with followup at 1 year RR 1.56 (95% CI 1.16 to 2.13; $I^2 = 73.2\%$; 5 trials).

Patient navigation was associated with point estimates indicating increased breast cancer screening in studies meeting criteria for fair (RR 1.51; 95% CI 1.08 to 2.16; $I^2 = 96.9\%$; 6 trials) or poor (RR 1.43; 95% CI 0.94 to 2.37; $I^2 = 89.1\%$; 3 trials) quality ratings, although CIs crossed 1.0 in the latter set of studies.

Table 24. Results of meta-analyses of breast cancer screening studies

Screening	Subgroup	Number of Studies	Risk Ratio (95% CI)	I^2 , p-Value	Annualized Percentage Screened (%) Navigation; Control
Overall	RCTs	10	1.50 (1.22 to 1.91)	98.6%, $p < 0.0001$	33.8; 25.8
	Observational	1	1.52 (1.16 to 2.00)	NA	67.0; 44.0
By screening adherence at baseline	No	4	2.30 (1.87 to 2.81)	0%, $p = 0.531$	42.1; 17.9
	Some	6	1.20 (1.07 to 1.38)	93.3%, $p < 0.0001$	32.7; 26.9
By followup time	6 months	1	2.71 (1.86 to 3.94)	NA	100.0; 35.6
	1 year	5	1.56 (1.16 to 2.13)	73.2%, $p = 0.003$	44.0; 27.9
	18 months	1	1.17 (1.08 to 1.27)	NA	45.3; 38.7
	2 years	1	1.07 (1.05 to 1.10)	NA	46.6; 43.8
	5 years	1	1.16 (1.13 to 1.20)	NA	17.3; 15.3
	Other	1	2.23 (1.48 to 3.34)	NA	25.2; 9.8
By study quality rating	Good	1	1.81 (1.21 to 2.72)	NA	27.5; 17.8
	Fair	6	1.51 (1.08 to 2.16)	96.9%, $p < 0.0001$	31.0; 22.6
	Poor	3	1.43 (0.94 to 2.37)	89.1%, $p < 0.0001$	44.9; 37.8

Abbreviations: CI = confidence interval; NA = not applicable; RCTs = randomized controlled trials

Table 25. Randomized controlled trials included in meta-analyses of breast cancer screening

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Braun et al., 2015 ⁹⁸	Hawaiian/Filipino	Based on <i>Kukui Ahi</i> model with lay health worker	General health education from another healthcare entity	At 1 year: 61.7% vs. 42.4%, p=0.003
Dietrich et al., 2006 ⁸³	Low-income	Telephone calls, support, management of barriers, scheduling, reminders, transportation assistance	Telephone recommendation to receive screening	At 18 months: increase by 0.1 (17%) vs. control, p<0.001
Fiscella et al., 2011 ⁸⁵	Low-income	Two letters and a phone call, point-of-care prompt sheets for patients and clinicians	Usual care	At 1 year: aOR 3.44 (95% CI 1.91 to 6.19)
Fortuna et al., 2014 ⁷⁶	Low-income, racial and ethnic minority	1) Personal call from outreach worker with interviewing and navigation; 2) automated message to call outreach worker, paper prompts for physician during patient's point of care; or 3) automated message to call outreach worker	Usual care (bilingual letter with scheduling information, contact for outreach worker, and information on free screening)	Screening rates: personal call, 27.5%; aOR 2.2 (95% CI 1.2 to 4.0); physician prompt, 28.2%; aOR 2.1 (95% CI 1.1 to 3.7); automated call, 22.8%; aOR 1.3 (95% CI 0.7 to 2.4)
Marshall et al., 2016 ¹³²	African American	Appointment assistance, communication coaching, education materials	Patient education materials	At 2 years: 93.3% vs. 87.5%; aOR 2.26 (95% CI 1.59 to 3.42)
Paskett et al., 2006 ⁵¹	Rural	3 in-person visits, two phone calls, two postcard mailings to educate, manage barriers, schedule	Physician letter and brochure about Pap test	At 1 year: RR 1.56, 95% CI, 1.29 to 1.87, p<0.001
Phillips et al., 2011 ¹³⁴	Low-income racial/ethnic minorities	Part of the primary care team with management of barriers	Usual care	At 9 months: 87% vs. 76%, p<0.001; aOR 2.5 (95% CI 1.9 to 3.2)
Powell et al., 2005 ¹³⁵	Rural African American	Educational session with visit by home health educator with materials, needs and barriers assessment, basic navigation services	1) Educational sessions 2) Usual care	At 3 months: 63% navigation vs. 70% education vs. 61% usual care
Russell et al., 2010 ⁶⁸	Low-income, African American	Interactive computer program providing tailored messages to assess health beliefs, self-efficacy, barriers, stage of readiness for screening; and a lay patient navigator	Pamphlet about screening, lay health advisor recommendation, and mailed postcards about nutrition	At 6 months: 50.6% vs. 17.8%; aOR 4.3 (95% CI 2.1 to 9.0); aRR 2.7 (95% CI 1.8 to 3.7)
Weber and Reilly, 1997 ¹³⁷	Low-income	Personalized letter from primary care physician and community health worker, help with transportation, appointments, finances, and dependent care	Mailed letter and usual care	At 16 weeks: 25% vs. 9.8%; RR 2.57 (95% CI 1.53 to 4.35)

Abbreviations: aOR = adjusted odds ratio; aRR = adjusted risk ratio; CI = confidence interval; Pap = Papanicolaou; RR = risk ratio; vs. = versus

Table 26. Before-after study of breast cancer screening

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Percac-Lima et al., 2012 ¹³³	Low-income racial/ethnic minorities	Education, assistance with transportation, insurance, appointment scheduling	Pre-intervention vs. post-intervention	At 1 year: 67% vs. 44%, p=0.001

Abbreviations: vs. = versus

Figure 11. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by adherence at baseline

Abbreviations: AA = African American; AALI = African-American low-income; CI = confidence interval; Haw/Fil = Native Hawaiian/Filipino; LI = low-income; LIRE = low-income racial/ethnic minority; No. = number; RAA = rural African American

* Adjusted estimates used when reported in publications.

Figure 12. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by followup time

Abbreviations: AA = African American; AALI = African-American low-income; CI = confidence interval; Haw/Fil = Native Hawaiian/Filipino; LI = low-income; LIRE = low-income racial/ethnic minority; mo = month; No. = number; RAA = rural African American; yr = year

* Adjusted estimates used when reported in publications.

Figure 13. Meta-analysis of randomized controlled trials of the effect of patient navigation on breast cancer screening rates by study quality

AA = African American; AALI = African-American low-income; CI = confidence interval; Haw/Fil = Native Hawaiian/Filipino; LI = low-income; LIRE = low-income racial/ethnic minority; No. = number; RAA = rural African American
 * Adjusted estimates used when reported in publications.

Effects of Patient Navigation on Cervical Cancer Screening

Three RCTs^{38,83,98} (Tables 27, 28) and one observational study⁶⁶ (Table 29) evaluated the effectiveness of patient navigation compared with usual care or other approaches to increase cervical cancer screening. All studies indicated statistically significantly higher screening rates with patient navigation regardless of the type of navigation, patient population, study design and quality, and comparison groups. However, these studies demonstrated high statistical heterogeneity, results of included studies varied widely, and the combined estimate did not reflect the results of included studies.

Table 27. Results of cervical cancer screening trials

Author, Year	Screening Adherence	Followup	Quality Rating	Risk Ratio (95% CI)	No. Events, Treatment	No. Events, Control
Braun et al., 2015 ⁹⁸	Some	5 years	Poor	1.57 (1.20 to 2.06)	73/128	48/132
Dietrich et al., 2006 ⁸³	Some	18 months	Fair	1.11 (1.05 to 1.19)	543/696	486/694
Fang et al., 2017 ³⁸	No	1 year	Fair	9.14 (6.79 to 12.30)	209/347	30/358
Wang et al., 2010 ⁶⁶	No	1 year	Poor	6.30 (2.92 to 13.58)	56/80	6/54

Abbreviations: CI = confidence interval; No. = number

Table 28. Randomized controlled trials of cervical cancer screening

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Braun et al., 2015 ⁹⁸	Hawaiian/Filipino	Based on <i>Kukui Ahi</i> model involving lay health worker	General health education from another healthcare entity	At 2 years: 57.0% vs. 36.4%, p=0.001
Dietrich et al., 2006 ⁸³	Low-income	Telephone calls, support, management of barriers, appointment scheduling, reminders, and transportation assistance	Telephone recommendation to receive screening	Increase by 0.07 (10%) vs. control, p<0.001
Fang et al., 2017 ³⁸	Korean	Navigation services and bilingual community health educators addressing cervical cancer screening perceptions, beliefs, and expectations	Bilingual community health educators delivering general health and cancer screening information	At 12 months: 72.1% vs. 10.1%; aOR 35.8 (95% CI 11.13 to 114.90)

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; vs. = versus

Table 29. Prospective cohort study of cervical cancer screening

Author, Year	Disparity Group	Navigation Description	Comparison Groups	Screening Rates Intervention vs. Comparison
Wang et al., 2010 ⁶⁶	Chinese low-income	Cervical cancer education combined with patient navigation	General health and cancer education	At 12 months: 70% (56/80) vs. 11.1% (6/54), p<0.001

Abbreviations: vs. = versus

Discussion

Summary of Findings

Full summary of evidence tables for all Key Questions (KQs) are provided in Appendix J.

No eligible studies evaluated the effect of impediments and barriers on the part of providers to the adoption, promotion, and implementation of preventive services that contribute to disparities (KQ1). Although many studies describing impediments and barriers have been published, they generally do not focus on factors related to providers and frequently report cross-sectional associations between disadvantaged groups and hypothesized barriers without examining the effects of those barriers on preventive service use.

Eighteen studies evaluated the effect of impediments and barriers on the part of populations (KQ2). Studies included racial and ethnic minorities, including African Americans, Hispanics, Korean Americans, and Chinese Americans; and rural and low-income patients. Studies involved screening for colorectal, breast, or cervical cancer, including six studies of screening for multiple types of cancer (e.g., breast and cervical cancer screening), and smoking cessation.

Table 30 provides a summary of evidence for KQ2. The most commonly examined barrier was type of insurance coverage, however, results of studies were mixed, as were results for lack of a regular healthcare provider. Impediments and barriers with effects on the use of preventive services included older age, rural or economically deprived location, and issues related to access. Low income, Spanish or limited-English language, and low health literacy were not barriers.

Table 30. Summary of evidence for Key Question 2: effect of impediments and barriers of populations

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Low income	1 RCT (240)	No effect among safety net clinics	Low; low
	Insurance status and type	2 RCTs (1,436)	Less screening with Medicare compared with county health plans in 1 RCT; no effect in another RCT	Low; low
	Screening attitudes	1 RCT ^a (257)	Higher scores on attitudes scale associated with higher screening rates among African Americans	Insufficient; insufficient
	Language	1 RCT ^b (1,070)	No effect on screening with Spanish compared with English speakers	Low; low
	Health literacy	1 RCT (264)	No effect on screening among disadvantaged	Low; low
Breast cancer screening	Country of origin	1 RCT (1,333); 1 before-after study (437)	More screening among Puerto Rican vs. other non-U.S. born Latinas in 1 RCT, and African-American women born outside the U.S. in a before-after study	Insufficient; insufficient
	Older age at migration	1 RCT (300)	Less screening for older low-income Chinese immigrants	Low; low
	Low income	2 RCTs (491)	No effect in 2 RCTs	Low; low

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Insurance status and type	2 before-after studies (666); 5 RCTs (3,871); 1 retrospective chart review (8,347)	More screening with Medicare compared with no coverage in 1 RCT and with insurance in 2 studies; less with insurance in 1 before-after study; no effect in 3 studies; mixed results in chart review study (lower screening rates for Black, not Hispanic)	Low; low
	Rural access	1 cohort study (166)	Less screening with increasing distance from radiologist office and with living in economically-deprived areas	Low; low
	No provider	1 before-after study (437); 1 RCT (300)	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
	Language	2 RCTs (1,617); 1 before-after study (229)	No effect among low-income Chinese-American immigrants, Spanish speaking or limited-English speaking Hispanic women	Low; low
	Individual access-related barriers	1 RCT (851)	Some barriers decrease screening among rural, low-income women (not knowing where to get a mammogram, cost), while others had no effect (time, insurance status, difficulty getting to the facility)	Low; low
Cervical cancer screening	Country of origin	2 RCTs (1,678)	More screening among Puerto Rican vs. other non U.S.-born Latinas in 1 RCT; no effect in RCT of low-income rural women	Insufficient; insufficient
	Older age	1 RCT (345)	Less screening for older low-income rural women	Low; low
	Low income	1 RCT (345)	No effect among low-income rural women	Low; low
	Insurance status and type	3 RCTs (2,246); 1 before-after study (782)	Less screening with Medicare compared with county health plans in 1 RCT and with any insurance in 2 studies; no effect in 1 RCT	Low; low
	Language	1 RCT ^b (967)	No effect on screening among Spanish speaking women	Low; low
	No provider	1 RCT (705); 1 before-after study (732)	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
Smoking cessation	Attitudes	1 RCT ^c (314)	Motivations for smoking differed between African-American and White smokers, but did not explain lower quit rates for African Americans	Insufficient; insufficient

Preventive Service	Impediments and Barriers	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	No provider	1 before-after study (879)	A regular source of healthcare was associated with planning to quit, ever receiving physician advice to quit, and smoking ≤ 10 cigarettes/day	Low; low
	Language	1 before-after moderation analysis (615)	Latinos preferring Spanish are more likely to quit vs. those preferring English	Insufficient; insufficient

Abbreviations: RCT = randomized controlled trial.

^a Secondary data analysis of participants who did not undergo screening.

^b Secondary analysis of RCT data.

^c Mediation analysis of baseline data.

Twelve studies (in 13 publications) evaluated the effectiveness of approaches and strategies between patients and clinician providers that connect and integrate practices for reducing disparities in preventive services (KQ3). Studies evaluated colorectal, breast, and cervical cancer screening, tobacco smoking cessation, and obesity management and enrolled African-American, Hispanic, Asian, rural, and low-income patients.

Table 31 provides a summary of evidence for KQ3. Two studies of interventions with patient navigators showed improvement in colorectal cancer screening rates, while tailored and personalized risk assessment using printed materials and telephone counseling improved screening for first-degree relatives of patients with colorectal cancer. Educational videos with physician reminders and a screening decision aid also improved colorectal cancer screening rates in specific populations. Mailed or in-person reminders for mammography screening involving lay health workers increased rates in two studies. Cervical cancer screening rates increased for low-income Latina farm workers with outreach and health education, and for low-income Chinese-American women with education and navigation. A tobacco smoking cessation intervention for women smokers attending their child's pediatric visit improved smoking abstinence rates. A weight loss intervention provided by primary care physicians for low-income, overweight and obese African-American women was effective for initial weight loss, but not for sustained weight loss.

Table 31. Summary of evidence for Key Question 3: effectiveness of patient-provider approaches

Preventive service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	2 RCTs (486)	Increased screening rates in 2 RCTs of Hispanic, African-American, and low-income patients	Low; low
	Printed materials and telephone counseling	1 RCT (1,280)	Increased screening rates among first-degree relatives of colorectal cancer cases for Latinos, Asians, and Whites, but not African Americans	Low; low
	Mailed materials	1 RCT (1,430)	Higher screening rates in Whites than African Americans	Insufficient; insufficient
	Educational video and physician reminder	1 RCT (65)	Higher screening rates among Latinos	Insufficient; insufficient

Preventive service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Decision aid with or without personalized risk assessment	1 RCT (825)	Increased screening completion rates with decision aid among low-income patients	Insufficient; insufficient
Breast cancer screening	Reminders with lay health workers	1 RCT ^a (2,357); 1 nonrandomized trial (1,693)	Increased screening rates among low-income women in 2 trials	Moderate; moderate
Cervical cancer screening	Reminders with lay health workers	1 nonrandomized trial (1,693)	Increased screening rates among low-income women	Low; low
	Education video and <i>promotora</i>	1 RCT (443)	Increased screening rates among rural Latinas	Low; low
	Education with navigation	1 cohort (134)	Increased screening rates among low-income Chinese-American women	Insufficient; insufficient
Tobacco smoking cessation	Message from child's clinician, interview, telephone counseling	1 RCT (303)	Higher quit rates at 3 and 12 months among low-income women	Low; low
Obesity management	Tailored weight loss intervention from primary care physicians	1 RCT (137)	Improved weight loss in low-income African-American women at 9 months, but not at 12 or 18 months	Insufficient; insufficient

Abbreviations: RCT = randomized controlled trial

^a Includes reminder letters followed by lay health worker counseling.

Eleven studies evaluated the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation and dissemination of preventive services in settings that serve populations adversely affected by disparities (Table 32). Interventions included methods to increase screening for colorectal, breast, or cervical cancer, smoking cessation, and obesity management. Studies used different technology-based approaches including automated reminders delivered via text message or telephone, web-based self-monitoring, interactive kiosks, telemedicine-based video counseling, and electronic decision aids. Studies enrolled low-income, Alaska Native and American Indian, and Latina patients.

Table 32 provides a summary of evidence for KQ4. Most technology interventions did not increase screening rates or smoking quit rates compared with alternative approaches. Screening rates were higher in a study using an electronic health record (EHR) to identify patients eligible for colorectal cancer screening for mailings and phone calls, and in a randomized controlled trial (RCT) using an electronic decision aid with patient-ordered screening tests. A trial of smoking cessation counseling using telemedicine compared with telephone calls showed an increase in pharmacotherapy use, but no improvement in quit rates. Rates were higher with an intervention combining technological approaches to identifying and recruiting eligible patients for smoking cessation counseling and pharmacotherapy. An intervention for obesity management using a web- or telephone-based self-monitoring component resulted in lower body mass index (BMI).

Table 32. Summary of evidence for Key Question 4: effectiveness of health information technologies

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Electronic decision aid with patient-ordered tests and followup messages	1 RCT (450)	Increased screening rates in low-income patients	Low; low
	Web-based electronic decision aid before healthcare visit	1 RCT (264)	No effect on screening rates in socioeconomically disadvantaged patients; increased patient readiness for screening	Insufficient; insufficient
	EHR-identified mailings and telephone calls	1 RCT (240)	Increased screening rates in low-income patients	Insufficient; insufficient
	Text messages added to usual telephone calls and mailings	1 RCT (808)	No differences among Alaska Native and American Indian patients	Low; low
Breast cancer screening	EHR-identified mailings and telephone calls	1 RCT (191)	No effect among low-income patients	Insufficient; insufficient
	EHR-triggered reminder letters	1 RCT (1,717)	No effect among low-income patients	Insufficient; insufficient
	Interactive computer program and patient navigation	1 RCT (179)	Increased mammography adherence and readiness among low-income African-American women	Insufficient; insufficient
Cervical cancer screening	Electronic education modules	1 RCT (943)	No effect among low-income Latinas	Low; low
Smoking cessation	Counseling by telemedicine	1 RCT (566)	No difference in quit rates among low-income rural patients	Low; low
	EHR-identified smokers followed by counseling and NRT	1 RCT (707)	Increased quit rates among low socioeconomic status patients	Low; low
Obesity Management	Behavioral change counseling with web- or telephone-based patient self-monitoring	1 RCT (365)	Decreased BMI among patients of ethnic and racial minorities	Low; low

Abbreviations: BMI = body mass index; EHR = electronic health record; NRT = nicotine replacement therapy; RCT = randomized controlled trial.

Eighty-eight studies (in 92 publications) evaluated the effectiveness of interventions implemented by healthcare organizations and systems to reduce disparities in use of preventive services (KQ5). These include 50 studies of colorectal cancer screening, 26 of breast cancer screening, 13 of cervical cancer screening, six of smoking cessation, seven of obesity screening and management, and single studies of screening for lung cancer and high blood pressure.

Studies generally compared enhanced interventions with usual care or alternative methods, and measured effectiveness with improved screening rates, smoking quit rates, or changes in BMI or blood pressure. Interventions included those provided within health system settings, such as patient navigators, telephone and mail contacts, checklists, and provider training; and those using community resources through partnerships or outreach, such as patient navigators in the community, lay health workers, telephone or mail contacts, patient education, and engagement

with community resources. Study populations included racial and ethnic minority groups including Hispanic, African-American, and Asian; and rural and low-income patients.

Table 33 provides a summary of evidence for KQ5. Most studies demonstrated improved outcomes with health system interventions, although some reported mixed results. Studies were highly heterogeneous and many interventions included multiple components.

Fifty studies (in 53 publications) evaluated the effectiveness of interventions to improve colorectal cancer screening compared with standard screening procedures, general health education, or usual care. Of 25 studies evaluating patient navigation, screening rates were higher in all but four. Additional studies evaluating the effectiveness of telephone calls, prompts, and other outreach methods; educational videos; screening checklists; provider training; and practice changes involving community engagement also reported higher screening rates. However, results occasionally varied by subgroup and some interventions were evaluated in few studies.

Twenty-six studies (in 27 publications) evaluated the effectiveness of health system interventions for breast cancer screening. Seven studies of patient navigation showed higher breast cancer screening rates compared with standard screening procedures, general health education, or usual care, while one trial indicated no increase. Screening was not higher with telephone calls, prompts, and other outreach methods. Small numbers of additional studies of lay health workers, patient education, screening checklists, and practice changes involving community engagement reported higher breast cancer screening rates with interventions.

Thirteen studies (in 14 publications) evaluated the effectiveness of health system interventions for cervical cancer screening. Four studies of patient navigation showed increased screening and diagnostic resolution compared with general health education or usual care. Screening and colposcopy followup rates also increased with specific types of telephone calls and prompts. Interventions with lay health workers increased screening rates among Hispanic women in one trial, but were not effective in others. While a study of practice changes involving community engagement improved screening rates, a screening checklist that increased screening rates for breast cancer was not effective in increasing rates for cervical cancer.

Lung cancer screening rates were higher with patient navigation in a trial involving five community health centers. Interventions for tobacco smoking cessation were evaluated in six trials, although results were mixed: three trials indicated improved quit rates with patient navigation, counseling, and nicotine replacement therapy, while three showed no effects. Rates of high blood pressure were not reduced with an intervention involving lay health workers, education, community activities, and a behavior change prescription. Obesity education and counseling interventions showed mixed results with lower BMI in three studies and no differences in three. Case management with a lay health worker was also ineffective in a weight reduction trial of low-income Hispanic adults.

Table 33. Summary of evidence for Key Question 5: effectiveness of health system interventions

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	20 RCTs (30,736); 3 nonrandomized trials (1,392); 2 before-after studies (4,882)	Increased screening rates in all but 4 studies	High; high

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Telephone calls, prompts, and other outreach	10 RCTs (61,155); 2 nonrandomized trials (1,080); 2 before-after studies (918,667); 1 post intervention time series (4,423,734)	Increased screening rates for multiple types of outreach among several patient populations; no effect in 2 studies	High; high
	Educational videos	4 RCTs (1,823)	Increased screening for low-income patients in 2 RCTs; no effect in 2 others	Low; low
	Screening checklist	1 RCT (1,196)	Increased screening rates in low-income patients	Low; low
	Provider training	2 before-after studies (4,092)	Increased colonoscopy rates and documentation; no increase in FOBT	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low
Breast cancer screening	Patient navigation	7 RCTs (8,622); 1 before-after study (91); 1 post intervention time series (1,664)	Increased screening rates in all studies except 1 RCT	Moderate; moderate
	Telephone calls, prompts, and other outreach	5 RCTs (2,238)	Increased screening rates in 1 RCT; no increase in others	Low; low
	Patient education	2 RCTs (341)	Increased screening rates in Chinese and Korean-American women	Low; low
	Lay health workers	4 RCTs (2,573)	Increased screening rates in 3 RCTs of Hispanic and African-American women; no increase in another RCT of Hispanic women	Moderate; moderate
	Screening checklist	1 RCT (1,196)	Increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low
Cervical cancer screening	Patient navigation	3 RCTs (2,378); 1 nonrandomized trial (1,763)	Increased screening and diagnostic resolution	Moderate; moderate
	Telephone calls, prompts, and other outreach	2 RCTs (1,784)	Increased screening and colposcopy followup	Low; low
	Lay health workers	5 RCTs (3,641)	Increased screening rates among Hispanic women in 1 RCT; no increases in others	Low; low
	Screening checklist	1 RCT (1,196)	No increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Increased screening rates among underserved patients	Low; low
Lung cancer screening	Patient navigation	1 RCT (1,200)	Increased screening rates among low-income smokers	Insufficient; insufficient
Smoking cessation	Patient navigation	2 RCTs (960)	Higher quit rates in 1 RCT, but not another	Insufficient; insufficient

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Overall Effect	Strength of Evidence; Applicability
	Nicotine replacement	2 RCTs (5,705)	Higher quit rates with counseling and nicotine replacement	Insufficient; insufficient
	Education and counseling	2 RCTs (6,219)	Higher short-term quit rates, but not long-term rates in 1 RCT; no differences in another	Insufficient; insufficient
High blood pressure screening	Education and counseling	1 RCT (1,443)	No difference in rates of high blood pressure among underserved women	Insufficient; insufficient
Obesity screening; management	Education and counseling	4 RCTs (1,293); 1 cohort study (69); 1 before-after study (59)	Lower BMI in 3 studies; no differences in 3 others	Insufficient; insufficient
	Case management and outreach	1 RCT (207)	No differences in BMI among low-income Hispanic adults	Insufficient; insufficient

Abbreviations: BMI = body mass index; FOBT = fecal occult blood test; RCT = randomized controlled trial

Meta-analyses of 36 studies provide summary estimates of the effectiveness of patient navigation in increasing screening rates for colorectal, breast, and cervical cancer screening in primary care settings and healthcare systems. Results are consistent regardless of the type of cancer screening, components of navigation, patient population, study design and quality, and comparison groups. Results for colorectal cancer screening are supported by 28 studies, breast cancer screening by 11 studies, and cervical cancer screening by 4 studies. Although the evidence base includes several small, poor quality studies, results are supported by additional large, well-conducted studies reporting increased screening.

Results were generally similar across studies, although the magnitude of the observed effects varied. Risk ratios were highest for colorectal cancer screening (risk ratio [RR] 1.64; 95% confidence interval [CI] 1.42 to 1.92; $I^2 = 93.7\%$; 22 trials), followed by breast cancer screening (RR 1.50; 95% CI 1.22 to 1.91; $I^2 = 98.6\%$; 10 trials), and cervical cancer screening (RR 1.11; 95% CI 1.05 to 1.19) based on the largest, highest quality RCT.⁸³ However, these differences could be related to the numbers of trials and amount of data contributing to the estimates rather than to differences based on the type of screening. This is particularly true of the cervical cancer screening studies for which a second large RCT reported a much higher RR (9.14; 95% CI 6.79 to 12.30).³⁸

Findings in Relation to What Is Already Known

Findings of this review illustrate an uneven evidence base addressing KQs on the effect of impediments and barriers to preventive services and the effectiveness of interventions to reduce disparities. While no previous reviews have focused on the same questions and 10 preventive services, this uneven evidence base is consistent with other systematic reviews of health disparities in general and for specific health services and populations.¹⁵⁹⁻¹⁷¹

In this review, available published studies were limited to groups characterized by race and ethnicity, low-income, and rural location. While these are major groups to consider when reducing health disparities, other groups have not been well studied, such as sexual and gender minorities, non-English speakers, and specific immigrant populations.

Similar to other reviews, most studies identified in this review included a single disadvantaged population and evaluated the effectiveness of interventions within the population

group, rather than across comparison groups. Interventions evaluated in the studies were either general (i.e., applied without consideration of group specific needs or preferences, such as quality improvement efforts); or tailored (i.e., addressed barriers specific to a disadvantaged group, such as peer lay health workers focused on the unique needs of patients belonging to the group). Although general interventions may reduce disparities by improving outcomes overall, they may also increase disparities if they are ineffective in specific populations. The literature is inconsistent about the effect on disparities of general population interventions that are not specifically tailored to groups experiencing disparities. In addition, studies focused on improving measures of screening, an indirect measure, and none evaluated the effects of interventions on health outcomes, such as cancer mortality.

Although the finding that insurance coverage did not affect screening is inconsistent with other data, insurance coverage may be a less important consideration since the Affordable Care Act (ACA) was implemented. Under the ACA, all of the U.S. Preventive Services Task Force (USPSTF) A and B level recommendations are mandated for coverage with no copay or deductible charges for most private health plans and Medicare, and most state Medicaid programs.¹⁷² This could explain why few recent studies evaluated this factor. Other reports, including the Institute of Medicine's review of racial and ethnic disparities, *Unequal Treatment*,⁵ have also demonstrated that while insurance coverage may facilitate preventive service use, differences in insurance coverage do not explain many observed disparities in healthcare utilization and quality.

Despite the unevenness of evidence in this review, several studies demonstrated the effectiveness of patient navigation services in clinical settings, within healthcare systems, and when using community resources to increase colorectal, breast, and cervical cancer screening. While navigation interventions varied across studies, this heterogeneity reflected tailoring for specific populations with additional services, such as lay health workers, reminder calls, and mailings. Another tailored intervention, reminders for breast cancer screening that included lay health workers, was also effective in increasing screening rates. Other reviews of interventions to reduce health disparities for various types of health services also found that tailored interventions including personnel (e.g., care managers, community health workers) and providing increased connectedness between patients and the healthcare systems were most effective. These interventions included care coordination, care management, community outreach, and culturally tailored education interventions.

Strength of Evidence

The strength of evidence for each KQ is based on overall study limitations (ranked low, medium, or high risk of bias); consistency (consistent, inconsistent, or unknown/not applicable); directness (direct or indirect); precision (precise or imprecise); and reporting bias (suspected or undetected). These ratings are listed in Tables 30 to 33 above and detailed in Appendix J.

For most KQs, the strength of evidence regarding the effect of a barrier (KQ2) or effectiveness of an intervention (KQs 3, 4, 5) is low or insufficient because of the lack of studies or studies met criteria for poor quality, were highly heterogeneous, reported different types of outcomes, or had inconsistent results. A low rating indicates limited confidence that the estimate of effect lies close to the true effect for the outcome because the body of evidence has major or numerous deficiencies, or is limited by having only one or two small studies. For these questions, additional evidence is required before concluding either that the findings are stable or that the estimate of effect is close to the true effect. A grade of insufficient indicates that no evidence is

available, or the body of evidence has unacceptable deficiencies or limitations (e.g., small observational or poor quality studies) precluding reaching a conclusion.

Evidence is strongest for studies of patient navigation services to increase colorectal (high), breast (moderate), and cervical cancer screening (moderate). Although the evidence base includes several small, poor quality studies, results are supported by additional large, well-conducted studies reporting increased screening rates regardless of patient populations and settings. While results consistently indicated positive effects of navigation on screening, the magnitude of the observed effects varied across studies. Some patient navigation interventions included additional services, such as lay health workers, reminder calls and mailings, and motivational interviewing. These services likely enhance the effect of navigation, although additional effects of these services could not be determined from the studies themselves. Evidence is high for the effectiveness of telephone calls and prompts to improve colorectal cancer screening, and moderate for reminders including lay health workers encouraging breast cancer screening.

Applicability

The overall applicability for each KQ is based on the characteristics of the patient populations; sample sizes of the studies; clinical settings where the interventions occurred; and levels of influence that may impact specific populations adversely affected by disparities. These ratings are listed in Tables 30 to 33 above and detailed in Appendix J.

For most KQs, overall applicability regarding the effect of a barrier (KQ2) or effectiveness of a screening intervention (KQs 3, 4, 5) is low or insufficient because the study participants were highly selected and may not represent more general populations; and studies were small in size, usually involved only one or few clinical sites, and evaluated interventions tailored for specific population groups. However, applicability ratings may not be as important in studies of populations adversely affected by disparities as they are in studies of general populations. Different populations have different mediating and contributing factors, and interventions designed to reduce disparities may be targeted to the social, historical, and structural contexts of specific populations. Thus, interventions may be more or less effective across different populations. While variability across studies may limit the ability to apply results to other populations and settings, it also provides opportunities to evaluate unique approaches to reducing disparities in specific populations.

Limitations of the Systematic Review

Limitations of this review include using only English language articles and studies applicable to the United States, although this focus improves its relevance to the Pathways to Prevention Workshop on Achieving Health Equity in Preventive Services. This review is also subject to publication bias in which studies with negative or null findings are not included because they were never published.

This review addressed five KQs that limited its scope to the effects of provider and population barriers to preventive services; and the effectiveness of interventions to reduce disparities at the patient-provider and health system levels including interventions that use health technology. Most studies on health disparities are about treatment, not the 10 preventive services included in this review, and eligibility criteria for studies confined inclusion to specific populations, interventions, comparators, and outcomes. Selection criteria for KQ1 and KQ2 were

focused on studies showing effect rather than association, although this is often an unclear distinction when reviewing studies at the abstract level.

Many additional issues relevant to achieving health equity in preventive services fall outside the scope of this review. Studies based in the community engaging clinician extenders or directly linking community members with specific clinicians were included in this review, while community-based interventions without connections to health systems were excluded. For example, an excluded church-based intervention¹⁷³ delivered by lay health workers provided education and identified local health system resources, but did not assist participants in making and attending appointments. An included church-based intervention¹²⁰ delivered by lay health workers provided education and identified local health system resources and assisted participants with appointment scheduling, language translation, transportation, and appointment paperwork. Additional examples of excluded community-based studies captured by the literature search for this review are described in Appendix H and include studies on colorectal cancer screening,¹⁷⁴⁻¹⁷⁶ smoking cessation,¹⁷⁷⁻¹⁷⁹ and healthy behaviors for cardiovascular disease prevention in adults with cardiovascular risk factors.^{173,180,181}

The number, quality, and applicability of studies evaluated in the evidence review varied widely. Few studies addressed the effects of hypothesized impediments and barriers on preventive care use, including no studies of provider barriers. The limited number of health technology-based studies precludes any conclusions about using them to improve preventive services in disadvantaged populations. In addition, most studies in this review were conducted on highly selected samples of patients, and it is not known how results based on populations from unique settings translate to others. Also, studies based in specific healthcare systems may not be relevant to others, particularly small studies with highly tailored interventions. Healthcare organizations or systems may differ due to geographic location, policies, access to resources, or capacity, and studies may not translate to general primary care or primary care-referable settings. In addition, many studies meeting inclusion criteria incorporated elements of community-based participatory research, which are necessarily unique to the local organization or system context.

Limitations of Current Evidence

Current evidence on achieving health equity in preventive services is limited primarily by the lack of studies for preventive services related to cardiovascular disease and diabetes, specific population groups, and different types of interventions. Although the database search identified an expansive literature on the topic of health disparities, many studies were not relevant to the KQs of this systematic review. This reflects the dominance of first phase studies in the field (i.e., showing that disparities exist), in contrast to fewer second and third phase studies that are relevant to the KQs.²² Most studies involved screening for colorectal, breast, or cervical cancer, and studies were not available for most of the preventive services that are the focus of this review. Studies enrolled participants from multiple groups experiencing disparities in healthcare, however, other groups were not studied. While the effectiveness of the preventive services covered in this review has been previously established and supported by A or B USPSTF recommendations, research evaluating the effectiveness of interventions to reduce disparities in receipt of these services is generally lacking. The lack of studies and methodological deficiencies of existing studies reflect a limited and fragmented evidence base, making it more difficult to identify effects of barriers and to understand effective methods to reduce them.

Although many studies are methodologically limited, some limitations are unavoidable. For example, disadvantaged groups are often difficult to study because they are hard to reach (e.g.,

homeless, low-income), potentially distrust the research enterprise (e.g., racial/ethnic minorities, sexual and gender minority groups), or pose other challenges to recruitment (e.g., low literacy, undocumented) restricting research of groups most likely to experience disparities. Also, comparison studies of some interventions, particularly in RCTs, may raise ethical concerns. In addition, the most informative intervention studies addressing disparities would be designed as difference-in-difference studies that show not only that the intervention improves outcomes, but also that it improves outcomes more in one group compared with another. Most studies are not designed this way and do not address the power/sample size implications of this study design.

Research on achieving health equity in preventive services may have limited applicability to clinical practice. Results of research conducted in one specific population, setting, or intervention may not be applicable to another because it may be unique to the conditions of the initial study. For example, barriers experienced by non-English speaking Chinese immigrant populations requiring colorectal cancer screening are likely different from those experienced by Hispanic farmworkers considering smoking cessation. Even among seemingly similar groups, racial, economic, or other differences may further differentiate them.

Future Research Needs and Opportunities

Future research is needed to address gaps and deficiencies of existing studies and expand on studies with promising results. The lack of studies addressing KQ1 indicates a need to better understand the impact of barriers and impediments related to providers and health systems on disparities in preventive service use. While there are many potential barriers hypothesized to contribute to disparities, and while there is some evidence of their impact on healthcare access and utilization, we found no studies addressing their impact on preventive care use. For instance, it is hypothesized that race bias among healthcare providers may influence decision making in a way that results in fewer services for minority populations. However, this hypothesis has not been directly studied. Similarly, group-level differences in availability of services (e.g., after-hours clinics) may exist, but the degree to which they contribute to disparities in preventive care use has not been directly addressed. Understanding these provider and system-level barriers would help inform targeted interventions to reduce disparities.

Studies indicate that patient navigation and reminders are effective in increasing cancer screening rates across different populations, settings, and services. These interventions provide high-touch services that are designed to troubleshoot multiple types of barriers and respond to the needs of individual patients. These types of interventions are difficult to combine and assess collectively and to apply broadly because of their heterogeneity. Additional research to identify the most effective and efficient methods to implement patient navigation and reminders into different healthcare settings would be a useful next step. These studies could also describe the most common barriers encountered and how they were remedied to inform planning of services.

Additional research on unstudied populations experiencing adverse effects of healthcare disparities would include racial and ethnic populations, socioeconomically disadvantaged populations, underserved rural populations, sexual and gender minority populations, non-English speakers, and others subject to discrimination. In addition to tailored studies, future research should increase the number of individuals from groups experiencing disparities in general intervention studies to provide more robust subgroup analysis. New studies should be consistent with the evolving definition of minority and examine social determinants of health. Currently, most studies do not collect sexual orientation or gender identity data, and future research could include this information as standard demographic data. Characteristics of populations should be

clearly described and, for some groups, standardized definitions should be used to ensure comparability across studies. Studies should expand to include more than one site or geographic region to improve statistical power for subgroup comparisons and improve understanding of similarities and differences across defined groups. Members of the target population should be involved in planning studies to inform the study design, interventions, and outcome measures. Studies evaluating interventions found to be successful in existing studies, such as patient navigators or clinician-linked outreach and education, should be extended to additional populations and settings.

Additional research to inform the effectiveness of interventions to reduce disparities for other preventive services that have not been addressed by existing studies would be useful including services related to cardiovascular disease and diabetes and services that could be bundled. Interventions that address more than one preventive service concurrently could potentially improve efficiency and outcomes. With the increasing use of telemedicine, EHRs, and quality-based care using clinical quality measures, the potential impact of health technology in improving disparities in preventive care is important to understand. Future research evaluating the effectiveness of these technologies in improving preventive care in patient populations could expand services for patients, focus on additional populations, and incorporate the vast array of technology in clinical practice.

Conclusions

This review included 120 studies (in 125 publications) of populations adversely affected by disparities in preventive health services from multiple racial, ethnic, and socioeconomically disadvantaged groups. Studies primarily evaluated barriers and interventions related to screening for colorectal, breast, and cervical cancer, with additional studies on smoking cessation and obesity management, and single studies of screening for lung cancer and high blood pressure. No studies evaluated the effect of impediments and barriers on the part of providers to the adoption, promotion, and implementation of preventive services that contribute to disparities (KQ1).

Eighteen studies evaluated the effect of impediments and barriers on the part of populations (KQ2). Results of studies were mixed for type of insurance coverage and lack of a regular healthcare provider. Impediments and barriers with effects on the use of preventive services included older age, rural or economically deprived location, and issues related to access. Low income, Spanish or limited-English language, and low health literacy were not barriers.

Twelve studies evaluated the effectiveness of approaches and strategies between patients and clinician providers that connect and integrate practices for reducing disparities in preventive services (KQ3). Colorectal cancer screening rates were higher with patient navigation, personalized risk assessment and telephone counseling for first-degree relatives of patients with colorectal cancer, educational videos with physician reminders, and a screening decision aid. Breast cancer screening rates were higher with mailed or in-person reminders involving lay health workers. Cervical cancer screening rates were higher for low-income Latina farm workers with outreach and health education, and for low-income Chinese-American women with education and navigation. A tobacco smoking cessation intervention for women smokers attending their child's pediatric visit improved smoking abstinence rates. A weight loss intervention provided by primary care physicians for low-income, overweight and obese African-American women was effective for initial weight loss, but not for sustained weight loss.

Eleven studies evaluated the effectiveness of health information technologies and digital enterprises to improve the adoption, implementation and dissemination of preventive services in

settings that serve populations adversely affected by disparities (KQ4). Most technology interventions did not increase screening rates or smoking quit rates compared with alternative approaches. Screening rates were higher in a study using an EHR to identify patients eligible for colorectal cancer screening for mailings and phone calls, and in a RCT using an electronic decision aid with patient-ordered screening tests. A trial of smoking cessation counseling using telemedicine compared with telephone calls showed an increase in pharmacotherapy use, but no improvement in quit rates. Quit rates were higher with an intervention combining technological approaches to identifying and recruiting eligible patients for smoking cessation counseling and pharmacotherapy. An intervention for obesity management using a web- or telephone-based self-monitoring component resulted in lower BMI.

Eighty-eight studies evaluated the effectiveness of interventions implemented by healthcare organizations and systems to reduce disparities in use of preventive services (KQ5). These include 50 studies of colorectal cancer screening, 26 of breast cancer screening, 13 of cervical cancer screening, six of smoking cessation, seven of obesity screening and management, and single studies of screening for lung cancer and high blood pressure.

Colorectal cancer screening rates were higher with patient navigation; telephone calls, prompts, and other outreach methods; screening checklists; provider training; and practice changes involving community engagement. Results were mixed for educational videos. Breast cancer screening rates were higher with patient navigation; lay health workers; patient education; screening checklists; and practice changes involving community engagement, but not with telephone calls, prompts, and other outreach methods. Cervical cancer screening and diagnostic resolution rates were higher with patient navigation; telephone calls and prompts; and practice changes involving community engagement. Interventions with lay health workers and a screening checklist were not effective. Lung cancer screening rates were higher with patient navigation in a single trial of low-income smokers at five community health centers. Tobacco smoking quit rates were higher with counseling and nicotine replacement, but mixed with patient navigation and education and counseling. Rates of high blood pressure were not reduced in a single trial involving lay health workers, education, community activities, and a behavior change prescription. Obesity education and counseling interventions had mixed results in lowering BMI, while case management with a lay health worker was ineffective.

Meta-analyses of studies of patient navigation indicated increased screening rates for colorectal, breast, and cervical cancer regardless of the type of navigation, patient population, study design and quality, and comparison groups; and for the type of screening test and followup time for colorectal cancer.

Overall, evidence is strongest for patient navigation services to increase colorectal, breast, and cervical cancer screening, telephone calls and prompts to increase colorectal cancer screening, and for reminders including lay health workers encouraging breast cancer screening. Evidence is low or insufficient for most other interventions and outcomes because of the lack of studies and methodological limitations of existing studies.

References

1. Disparities. HealthyPeople.gov.
<https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities#5>. Accessed May 23, 2019.
2. HD Pulse. National Institute on Minority Health and Health Disparities; 2017.
<https://hdpulse.nimhd.nih.gov/>. Accessed May 23, 2019.
3. Social Determinants of Health. World Health Organization.
https://www.who.int/social_determinants/sdh_definition/en/. Accessed May 23, 2019.
4. Social Determinants of Health. HealthyPeople.gov.
<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>. Accessed May 23, 2019.
5. Smedley B, Stith A, Nelson A, editors. Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. National Academies Press (US). Copyright 2002 by the National Academy of Sciences. All rights reserved. Washington, DC: 2003. PMID: 25032386.
6. HealthCare.gov. Preventive Services.
<https://www.healthcare.gov/glossary/preventive-services/>. Accessed May 23, 2019.
7. Centers for Disease Control and Prevention. Preventive Health Care.
<https://www.cdc.gov/healthcommunication/toolstemplates/entertainmenttips/PreventiveHealth.html>. Accessed May 23, 2019.
8. Hou SI, Sealy DA, Kabiru CW. Closing the disparity gap: cancer screening interventions among Asians--a systematic literature review. Asian Pac J Cancer Prev. 2011;12(11):3133-9. PMID: 22394003.
9. Jones TP, Katapodi MC, Lockhart JS. Factors influencing breast cancer screening and risk assessment among young African American women: An integrative review of the literature. J Am Assoc Nurse Pract. 2015 Sep;27(9):521-9. doi: 10.1002/2327-6924.12223. PMID: 25736320.
10. Black LI, Nugent CN, Vahratian A. Access and Utilization of Selected Preventive Health Services Among Adolescents Aged 10-17. NCHS Data Brief. 2016 May(246):1-8. PMID: 27227570.
11. Aggarwal A, Pandurangi A, Smith W. Disparities in breast and cervical cancer screening in women with mental illness: a systematic literature review. Am J Prev Med. 2013 Apr;44(4):392-8. doi: 10.1016/j.amepre.2012.12.006. PMID: 23498106.
12. Andresen EM, Peterson-Besse JJ, Krahn GL, et al. Pap, mammography, and clinical breast examination screening among women with disabilities: a systematic review. Womens Health Issues. 2013 Jul-Aug;23(4):e205-14. doi: 10.1016/j.whi.2013.04.002. PMID: 23816150.
13. Joseph DA, Redwood D, DeGross A, et al. Use of evidence-based interventions to address disparities in colorectal cancer screening. MMWR Suppl. 2016 Feb 12;65(1):21-8. doi: 10.15585/mmwr.su6501a5. PMID: 26915961.
14. Martinez ME, Ward BW. Health Care Access and Utilization Among Adults Aged 18-64, by Poverty Level: United States, 2013-2015. NCHS Data Brief. 2016 Oct(262):1-8. PMID: 27805549.
15. Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey. U.S. Department of Health and Human Services; 2015.
ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2015/srvydesc.pdf. Accessed May 23, 2019.
16. U.S. Preventive Services Task Force. Reports to Congress.
<https://www.uspreventiveservicestaskforce.org/Page/Name/reports-to-congress>. Accessed May 23, 2019.

17. The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020. Phase I Report: Recommendations for the Framework and Format of Healthy People 2020. Section IV: advisory committee findings and recommendations. Washington, DC: U.S. Department of Health and Human Services; 2008. Available at: http://www.healthypeople.gov/sites/default/files/PhaseI_0.pdf Accessed May 23, 2019.
18. Donabedian A. Aspects of Medical Care Administration: Specifying Requirements for Health Care. Cambridge: Harvard University Press for the Commonwealth Fund; 1973.
19. McLaughlin CG, Wyszewianski L. Access to care: remembering old lessons. *Health Serv Res.* 2002 Dec;37(6):1441-3. PMID: 12546280.
20. HealthCare.gov. Read the Affordable Care Act. <https://www.healthcare.gov/where-can-i-read-the-affordable-care-act/>. Accessed May 23, 2019.
21. Wyatt R, Laderman M, Botwinick L, et al. Achieving Health Equity: A Guide for Health Care Organizations. IHI White Paper. Cambridge, MA: Institute for Healthcare Improvement; 2016.
22. Kilbourne AM, Switzer G, Hyman K, et al. Advancing health disparities research within the health care system: a conceptual framework. *Am J Public Health.* 2006 Dec;96(12):2113-21. doi: 10.2105/AJPH.2005.077628. PMID: 17077411.
23. United Nations Development Programme. Human Development Index and its components. <http://hdr.undp.org/en/composite/HDI>. Accessed May 23, 2019.
24. Methods Guide for Effectiveness and Comparative Effectiveness Reviews. Rockville, MD: Agency for Healthcare Research and Quality. <https://effectivehealthcare.ahrq.gov/topics/ce-r-methods-guide/overview>. Accessed May 23, 2019.
25. McGowan J, Sampson M, Salzwedel DM, et al. PRESS Peer Review of Electronic Search Strategies: 2015 Guideline Statement. *J Clin Epidemiol.* 2016 Jul;75:40-6. doi: 10.1016/j.jclinepi.2016.01.021. PMID: 27005575.
26. U.S. Preventive Services Task Force. U.S. Preventive Services Task Force Procedure Manual. Rockville, MD; 2018. <https://www.uspreventiveservicestaskforce.org/Page/Name/procedure-manual>. Accessed May 23, 2019.
27. Shea BJ, Hamel C, Wells GA, et al. AMSTAR is a reliable and valid measurement tool to assess the methodological quality of systematic reviews. *J Clin Epidemiol.* 2009 Oct;62(10):1013-20. doi: 10.1016/j.jclinepi.2008.10.009. PMID: 19230606.
28. Trikalinos TA, Balion CM. Chapter 9: Options for Summarizing Medical Test Performance in the Absence of a "Gold Standard". *J Gen Intern Med.* 2012;27(1):67-75. doi: 10.1007/s11606-012-2031-7. PMID: 22648677.
29. Egger M, Davey Smith G, Schneider M, et al. Bias in meta-analysis detected by a simple, graphical test. *BMJ.* 1997 Sep 13;315(7109):629-34. doi: 10.1136/bmj.315.7109.629. PMID: 9310563.
30. Zhang J, Yu KF. What's the relative risk? A method of correcting the odds ratio in cohort studies of common outcomes. *JAMA.* 1998 Nov 18;280(19):1690-1. PMID: 9832001.
31. Cole H, Thompson HS, White M, et al. Community-based, preclinical patient navigation for colorectal cancer screening among older black men recruited from barbershops: The MISTER B Trial. *Am J Public Health.* 2017 Sep;107(9):1433-40. doi: 10.2105/AJPH.2017.303885. PMID: 28727540.
32. Higgins JP, Thompson SG. Quantifying heterogeneity in a meta-analysis. *Stat Med.* 2002 Jun 15;21(11):1539-58. doi: 10.1002/sim.1186. PMID: 12111919.

33. Hardy RJ, Thompson SG. A likelihood approach to meta-analysis with random effects. *Stat Med*. 1996 Mar 30;15(6):619-29. doi: 10.1002/(sici)1097-0258(19960330)15:6<619::Aid-sim188>3.0.Co;2-a. PMID: 8731004.
34. Morton SC, Murad MH, O'Connor E, et al. Quantitative Synthesis-An Update. *Methods Guide for Effectiveness and Comparative Effectiveness Reviews*. (Prepared by the Scientific Resource Center under Contract No. 290-2012-0004-C). AHRQ Publication No. 18-EHC007- EF. Rockville, MD: Agency for Healthcare Research and Quality; 2008.
35. Bacio GA, Guzman IY, Shapiro JR, et al. Differences in quit attempts between non-Hispanic Black and White daily smokers: The role of smoking motives. *Addict Behav*. 2014 Dec;39(12):1769-72. doi: 10.1016/j.addbeh.2014.07.001. PMID: 25123344.
36. Clark CR, Baril N, Hall A, et al. Case management intervention in cervical cancer prevention: the Boston REACH coalition women's health demonstration project. *Prog Community Health Partnersh*. 2011;5(3):235-47. doi: 10.1353/cpr.2011.0034. PMID: 22080772.
37. Clark CR, Baril N, Kunicki M, et al. Addressing social determinants of health to improve access to early breast cancer detection: results of the Boston REACH 2010 Breast and Cervical Cancer Coalition Women's Health Demonstration Project. *J Womens Health*. 2009 May;18(5):677-90. doi: 10.1089/jwh.2008.0972. PMID: 19445616.
38. Fang CY, Ma GX, Handorf EA, et al. Addressing multilevel barriers to cervical cancer screening in Korean American women: A randomized trial of a community-based intervention. *Cancer*. 2017 May 15;123(6):1018-26. doi: 10.1002/cncr.30391. PMID: 27869293.
39. Guillaume E, Launay L, Dejardin O, et al. Could mobile mammography reduce social and geographic inequalities in breast cancer screening participation? *Prev Med*. 2017a Jul;100:84-8. doi: 10.1016/j.ypmed.2017.04.006. PMID: 28408217.
40. Hendren S, Winters P, Humiston S, et al. Randomized, controlled trial of a multimodal intervention to improve cancer screening rates in a safety-net primary care practice. *J Gen Intern Med*. 2014 Jan;29(1):41-9. doi: 10.1007/s11606-013-2506-1. PMID: 23818159.
41. Jandorf L, Hecht MF, Winkel G, et al. Increasing cancer screening for Latinas: Examining the impact of health messages and navigation in a cluster-randomized study. *J Racial Ethn Health Disparities*. 2014 Jun;1(2):85-100. doi: 10.1007/s40615-014-0014-6.
42. Lee-Lin F, Nguyen T, Pedhiwala N, et al. A breast health educational program for Chinese-American women: 3- to 12-month postintervention effect. *Am J Health Promot*. 2015 Jan-Feb;29(3):173-81. doi: 10.4278/ajhp.130228-QUAN-91. PMID: 24460003.
43. Roetzheim RG, Christman LK, Jacobsen PB, et al. A randomized controlled trial to increase cancer screening among attendees of community health centers. *Ann Fam Med*. 2004 Jul-Aug;2(4):294-300. PMID: 15335126.
44. Smith SA, Alema-Mensah E, Yoo W, et al. Persons who failed to obtain colorectal cancer screening despite participation in an evidence-based intervention. *J Community Health*. 2017 Feb;42(1):30-4. doi: 10.1007/s10900-016-0221-7. PMID: 27395048.
45. Studts CR, Tarasenko YN, Schoenberg NE, et al. A community-based randomized trial of a faith-placed intervention to reduce cervical cancer burden in Appalachia. *Prev Med*. 2012 Jun;54(6):408-14. doi: 10.1016/j.ypmed.2012.03.019. PMID: 22498022.
46. White K, Garces IC, Bandura L, et al. Design and evaluation of a theory-based, culturally relevant outreach model for breast and cervical cancer screening for Latina immigrants. *Ethn Dis*. 2012;22(3):274-80. PMID: 22870569.

47. Ahluwalia JS, Dang KS, Choi WS, et al. Smoking behaviors and regular source of health care among African Americans. *Prev Med.* 2002 Mar;34(3):393-6. doi: 10.1006/pmed.2001.1004. PMID: 11902858.
48. Bock BC, Niaura RS, Neighbors CJ, et al. Differences between Latino and non-Latino White smokers in cognitive and behavioral characteristics relevant to smoking cessation. *Addict Behav.* 2005 May;30(4):711-24. doi: 10.1016/j.addbeh.2004.08.017. PMID: 15833576.
49. Beach ML, Flood AB, Robinson CM, et al. Can language-concordant prevention care managers improve cancer screening rates? *Cancer Epidemiol Biomarkers Prev.* 2007 Oct;16(10):2058-64. doi: 10.1158/1055-9965.Epi-07-0373. PMID: 17932353.
50. Miller DP, Jr., Spangler JG, Case LD, et al. Effectiveness of a web-based colorectal cancer screening patient decision aid: a randomized controlled trial in a mixed-literacy population. *Am J Prev Med.* 2011 Jun;40(6):608-15. doi: 10.1016/j.amepre.2011.02.019. PMID: 21565651.
51. Paskett E, Tatum C, Rushing J, et al. Randomized trial of an intervention to improve mammography utilization among a triracial rural population of women. *J Natl Cancer Inst.* 2006 Sep 6;98(17):1226-37. doi: 10.1093/jnci/djj333. PMID: 16954475.
52. Wang H, Gregg A, Qiu F, et al. Breast Cancer Screening for Patients of Rural Accountable Care Organization Clinics: A Multi-Level Analysis of Barriers and Facilitators. *J Community Health.* 2018 04;43(2):248-58. doi: <https://dx.doi.org/10.1007/s10900-017-0412-x>. PMID: 28861654.
53. Blumenthal DS, Smith SA, Majett CD, et al. A trial of 3 interventions to promote colorectal cancer screening in African Americans. *Cancer.* 2010 Feb 15;116(4):922-9. doi: 10.1002/cncr.24842. PMID: 20052732.
54. Ahmed NU, Haber G, Semanya KA, et al. Randomized controlled trial of mammography intervention in insured very low-income women. *Cancer Epidemiol Biomarkers Prev.* 2010 Jul;19(7):1790-8. doi: 10.1158/1055-9965.EPI-10-0141. PMID: 20587669.
55. Aragonés A, Schwartz MD, Shah NR, et al. A randomized controlled trial of a multilevel intervention to increase colorectal cancer screening among Latino immigrants in a primary care facility. *J Gen Intern Med.* 2010 Jun;25(6):564-7. doi: 10.1007/s11606-010-1266-4. PMID: 20213208.
56. Bastani R, Glenn BA, Maxwell AE, et al. Randomized trial to increase colorectal cancer screening in an ethnically diverse sample of first-degree relatives. *Cancer.* 2015 Sep;121(17):2951-9. doi: 10.1002/cncr.29403. PMID: 25946376.
57. Curry SJ, Ludman EJ, Graham E, et al. Pediatric-based smoking cessation intervention for low-income women: a randomized trial. *Arch Pediatr Adolesc Med.* 2003 Mar;157(3):295-302. PMID: 12622686.
58. Lasser KE, Murillo J, Lisboa S, et al. Colorectal cancer screening among ethnically diverse, low-income patients: a randomized controlled trial. *Arch Intern Med.* 2011 May 23;171(10):906-12. doi: 10.1001/archinternmed.2011.201. PMID: 21606094.
59. Thompson B, Carosso EA, Jhingan E, et al. Results of a randomized controlled trial to increase cervical cancer screening among rural Latinas. *Cancer.* 2017 Feb 15;123(4):666-74. doi: 10.1002/cncr.30399. PMID: 27787893.
60. Martin DP, Rhode PC, Dutton GR, et al. A primary care weight management intervention for low-income African-American women. *Obesity (Silver Spring).* 2006 Aug;14(8):1412-20. doi: 10.1038/oby.2006.160. PMID: 16988084.
61. Martin PD, Dutton GR, Rhode PC, et al. Weight loss maintenance following a primary care intervention for low-income minority women. *Obesity (Silver Spring).* 2008 Nov;16(11):2462-7. doi: 10.1038/oby.2008.399. PMID: 18787526.

62. Christie J, Itzkowitz S, Lihau-Nkanza I, et al. A randomized controlled trial using patient navigation to increase colonoscopy screening among low-income minorities. *J Natl Med Assoc.* 2008 Mar;100(3):278-84. doi: 10.1016/s0027-9684(15)31240-2. PMID: 18390020.
63. Schroy PC, 3rd, Emmons KM, Peters E, et al. Aid-assisted decision making and colorectal cancer screening: a randomized controlled trial. *Am J Prev Med.* 2012 Dec;43(6):573-83. doi: 10.1016/j.amepre.2012.08.018. PMID: 23159252.
64. Siddiqui AA, Sifri R, Hyslop T, et al. Race and response to colon cancer screening interventions. *Prev Med.* 2011 Mar-Apr;52(3-4):262-4. doi: 10.1016/j.ypmed.2011.01.005. PMID: 21256149.
65. Margolis KL, Lurie N, McGovern PG, et al. Increasing breast and cervical cancer screening in low-income women. *J Gen Intern Med.* 1998 Aug;13(8):515-21. doi: 10.1046/j.1525-1497.1998.00161.x. PMID: 9734787.
66. Wang X, Fang C, Tan Y, et al. Evidence-based intervention to reduce access barriers to cervical cancer screening among underserved Chinese American women. *J Womens Health.* 2010 Mar;19(3):463-9. doi: 10.1089/jwh.2009.1422. PMID: 20156089.
67. Bennett GG, Foley P, Levine E, et al. Behavioral treatment for weight gain prevention among black women in primary care practice: a randomized clinical trial. *JAMA Intern Med.* 2013 Oct 28;173(19):1770-7. doi: 10.1001/jamainternmed.2013.9263. PMID: 23979005.
68. Russell KM, Champion VL, Monahan PO, et al. Randomized trial of a lay health advisor and computer intervention to increase mammography screening in African American women. *Cancer Epidemiol Biomarkers Prev.* 2010 Jan;19(1):201-10. doi: 10.1158/1055-9965.Epi-09-0569. PMID: 20056639.
69. Haas JS, Linder JA, Park ER, et al. Proactive tobacco cessation outreach to smokers of low socioeconomic status: a randomized clinical trial. *JAMA Intern Med.* 2015 Feb;175(2):218-26. doi: 10.1001/jamainternmed.2014.6674. PMID: 25506771.
70. Muller CJ, Robinson RF, Smith JJ, et al. Text message reminders increased colorectal cancer screening in a randomized trial with Alaska Native and American Indian people. *Cancer.* 2017 Apr 15;123(8):1382-9. doi: 10.1002/cncr.30499. PMID: 28001304.
71. Richter KP, Shireman TI, Ellerbeck EF, et al. Comparative and cost effectiveness of telemedicine versus telephone counseling for smoking cessation. *J Med Internet Res.* 2015 May 8;17(5):e113. doi: 10.2196/jmir.3975. PMID: 25956257.
72. Simon MS, Gimotty PA, Moncrease A, et al. The effect of patient reminders on the use of screening mammography in an urban health department primary care setting. *Breast Cancer Res Treat.* 2001 Jan;65(1):63-70. PMID: 11245341.
73. Valdez A, Napoles AM, Stewart SL, et al. A randomized controlled trial of a cervical cancer education intervention for Latinas delivered through interactive, multimedia kiosks. *J Cancer Educ.* 2018 Feb;33(1):222-30. doi: 10.1007/s13187-016-1102-6. PMID: 27573420.
74. Bennett GG, Warner ET, Glasgow RE, et al. Obesity treatment for socioeconomically disadvantaged patients in primary care practice. *Arch Intern Med.* 2012 Apr 9;172(7):565-74. doi: 10.1001/archinternmed.2012.1. PMID: 22412073.
75. Miller DP, Jr., Denizard-Thompson N, Weaver KE, et al. Effect of a digital health intervention on receipt of colorectal cancer screening in vulnerable patients: a randomized controlled trial. *Ann Intern Med.* 2018 Apr 17;168(8):550-7. doi: 10.7326/m17-2315. PMID: 29532054.

76. Fortuna RJ, Idris A, Winters P, et al. Get screened: a randomized trial of the incremental benefits of reminders, recall, and outreach on cancer screening. *J Gen Intern Med*. 2014 Jan;29(1):90-7. doi: 10.1007/s11606-013-2586-y. PMID: 24002626.
77. Myers RE, Stello B, Daskalakis C, et al. Decision support and navigation to increase colorectal cancer screening among Hispanic patients. *Cancer Epidemiol Biomarkers Prev*. 2019 Feb;28(2):384-91. doi: 10.1158/1055-9965.EPI-18-0260. PMID: 30333221.
78. Reuland DS, Brenner AT, Hoffman R, et al. Effect of combined patient decision aid and patient navigation vs usual care for colorectal cancer screening in a vulnerable patient population: a randomized clinical trial. *JAMA Intern Med*. 2017 Jul 1;177(7):967-74. doi: 10.1001/jamainternmed.2017.1294. PMID: 28505217.
79. Singal AG, Gupta S, Tiro JA, et al. Outreach invitations for FIT and colonoscopy improve colorectal cancer screening rates: A randomized controlled trial in a safety-net health system. *Cancer*. 2016 Feb 1;122(3):456-63. doi: 10.1002/cncr.29770. PMID: 26535565.
80. Baker DW, Brown T, Buchanan DR, et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA Intern Med*. 2014 Aug;174(8):1235-41. doi: 10.1001/jamainternmed.2014.2352. PMID: 24934845.
81. Coronado GD, Golovaty I, Longton G, et al. Effectiveness of a clinic-based colorectal cancer screening promotion program for underserved Hispanics. *Cancer*. 2011 Apr 15;117(8):1745-54. doi: 10.1002/cncr.25730. PMID: 21472722.
82. DeGroff A, Schroy PC, 3rd, Morrissey KG, et al. Patient navigation for colonoscopy completion: Results of an RCT. *Am J Prev Med*. 2017 Sep;53(3):363-72. doi: 10.1016/j.amepre.2017.05.010. PMID: 28676254.
83. Dietrich AJ, Tobin JN, Cassells A, et al. Telephone care management to improve cancer screening among low-income women: a randomized, controlled trial. *Ann Intern Med*. 2006 Apr 18;144(8):563-71. doi: 10.7326/0003-4819-144-8-200604180-00006. PMID: 16618953.
84. Dietrich AJ, Tobin JN, Robinson CM, et al. Telephone outreach to increase colon cancer screening in medicaid managed care organizations: a randomized controlled trial. *Ann Fam Med*. 2013 Jul-Aug;11(4):335-43. doi: 10.1370/afm.1469. PMID: 23835819.
85. Fiscella K, Humiston S, Hendren S, et al. A multimodal intervention to promote mammography and colorectal cancer screening in a safety-net practice. *J Natl Med Assoc*. 2011 Aug;103(8):762-8. doi: 10.1016/s0027-9684(15)30417-x. PMID: 22046855.
86. Goldman SN, Liss DT, Brown T, et al. Comparative effectiveness of multifaceted outreach to initiate colorectal cancer screening in community health centers: A randomized controlled trial. *J Gen Intern Med*. 2015 Aug;30(8):1178-84. doi: 10.1007/s11606-015-3234-5. PMID: 25814264.
87. Guillaume E, DeJardin O, Bouvier V, et al. Patient navigation to reduce social inequalities in colorectal cancer screening participation: A cluster randomized controlled trial. *Prev Med*. 2017b Oct;103:76-83. doi: 10.1016/j.ypmed.2017.08.012. PMID: 28823681.
88. Gupta S, Halm EA, Rockey DC, et al. Comparative effectiveness of fecal immunochemical test outreach, colonoscopy outreach, and usual care for boosting colorectal cancer screening among the underserved: a randomized clinical trial. *JAMA Intern Med*. 2013 Oct 14;173(18):1725-32. doi: 10.1001/jamainternmed.2013.9294. PMID: 23921906.
89. Hoffman AS, Lowenstein LM, Kamath GR, et al. An entertainment-education colorectal cancer screening decision aid for African American patients: A randomized controlled trial. *Cancer*. 2017 Apr 15;123(8):1401-8. doi: 10.1002/cncr.30489. PMID: 28001305.

90. Horne HN, Phelan-Emrick DF, Pollack CE, et al. Effect of patient navigation on colorectal cancer screening in a community-based randomized controlled trial of urban African American adults. *Cancer Causes Control*. 2015 Feb;26(2):239-46. doi: 10.1007/s10552-014-0505-0. PMID: 25516073.
91. Jean-Jacques M, Kaleba EO, Gatta JL, et al. Program to improve colorectal cancer screening in a low-income, racially diverse population: a randomized controlled trial. *Ann Fam Med*. 2012 Sep;10(5):412-7. doi: 10.1370/afm.1381. PMID: 22966104.
92. Katz ML, Fisher JL, Fleming K, et al. Patient activation increases colorectal cancer screening rates: a randomized trial among low-income minority patients. *Cancer Epidemiol Biomarkers Prev*. 2012 Jan;21(1):45-52. doi: 10.1158/1055-9965.Epi-11-0815. PMID: 22068288.
93. Levy BT, Xu Y, Daly JM, et al. A randomized controlled trial to improve colon cancer screening in rural family medicine: an Iowa Research Network (IRENE) study. *J Am Board Fam Med*. 2013 Sep-Oct;26(5):486-97. doi: 10.3122/jabfm.2013.05.130041. PMID: 24004700.
94. Myers RE, Sifri R, Daskalakis C, et al. Increasing colon cancer screening in primary care among African Americans. *J Natl Cancer Inst*. 2014 Dec;106(12):doi: 10.1093/jnci/dju344. PMID: 25481829.
95. Roetzheim RG, Christman LK, Jacobsen PB, et al. Long-term results from a randomized controlled trial to increase cancer screening among attendees of community health centers. *Ann Fam Med*. 2005 Mar-Apr;3(2):109-14. doi: 10.1370/afm.240. PMID: 15798035.
96. Arnold CL, Rademaker A, Wolf MS, et al. Third annual fecal occult blood testing in community health clinics. *Am J Health Behav*. 2016 May;40(3):302-9. doi: 10.5993/ajhb.40.3.2. PMID: 27103409.
97. Arnold CL, Rademaker A, Wolf MS, et al. Final results of a 3-year literacy-informed intervention to promote annual fecal occult blood test screening. *J Community Health*. 2016 Aug;41(4):724-31. doi: 10.1007/s10900-015-0146-6. PMID: 26769026.
98. Braun KL, Thomas WL, Jr., Domingo JL, et al. Reducing cancer screening disparities in medicare beneficiaries through cancer patient navigation. *J Am Geriatr Soc*. 2015 Feb;63(2):365-70. doi: 10.1111/jgs.13192. PMID: 25640884.
99. Coronado GD, Petrik AF, Vollmer WM, et al. Effectiveness of a mailed colorectal cancer screening outreach program in community health clinics: the STOP CRC cluster randomized clinical trial. *JAMA Intern Med*. 2018 Sep 1;178(9):1174-81. doi: 10.1001/jamainternmed.2018.3629. PMID: 30083752.
100. Doorenbos AZ, Jacobsen C, Corpuz R, et al. A randomized controlled calendar mail-out to increase cancer screening among urban American Indian and Alaska Native patients. *J Cancer Educ*. 2011 Sep;26(3):549-54. doi: 10.1007/s13187-011-0217-z. PMID: 21472495.
101. Enard K, Nevarez L, Hernandez M, et al. Patient navigation to increase colorectal cancer screening among Latino Medicare enrollees: A randomized controlled trial. *Cancer Causes Control*. 2015 Sep;26(9):1351-9. doi: 10.1007/s10552-015-0620-6. PMID: 26109462.
102. Ford ME, Havstad S, Vernon SW, et al. Enhancing adherence among older African American men enrolled in a longitudinal cancer screening trial. *Gerontologist*. 2006 Aug;46(4):545-50. doi: 10.1093/geront/46.4.545. PMID: 16921009.
103. Friedman LC, Everett TE, Peterson L, et al. Compliance with fecal occult blood test screening among low-income medical outpatients: a randomized controlled trial using a videotaped intervention. *J Cancer Educ*. 2001;16(2):85-8. doi: 10.1080/08858190109528738. PMID: 11440068.

104. Inadomi JM, Vijan S, Janz NK, et al. Adherence to colorectal cancer screening: a randomized clinical trial of competing strategies. *Arch Intern Med.* 2012 Apr 9;172(7):575-82. doi: 10.1001/archinternmed.2012.332. PMID: 22493463.
105. Jandorf L, Gutierrez Y, Lopez J, et al. Use of a patient navigator to increase colorectal cancer screening in an urban neighborhood health clinic. *J Urban Health.* 2005 Jun;82(2):216-24. doi: 10.1093/jurban/jti046. PMID: 15888638.
106. Nguyen BH, Stewart SL, Nguyen TT, et al. Effectiveness of lay health worker outreach in reducing disparities in colorectal cancer screening in Vietnamese Americans. *Am J Public Health.* 2015 Oct;105(10):2083-9. doi: 10.2105/AJPH.2015.302713. PMID: 26270306.
107. Percac-Lima S, Grant RW, Green AR, et al. A culturally tailored navigator program for colorectal cancer screening in a community health center: a randomized, controlled trial. *J Gen Intern Med.* 2009 Feb;24(2):211-7. doi: 10.1007/s11606-008-0864-x. PMID: 19067085.
108. Potter MB, Yu TM, Gildengorin G, et al. Adaptation of the FLU-FOBT Program for a primary care clinic serving a low-income Chinese American community: new evidence of effectiveness. *J Health Care Poor Underserved.* 2011 Feb;22(1):284-95. doi: 10.1353/hpu.2011.0030. PMID: 21317522.
109. Tu SP, Taylor V, Yasui Y, et al. Promoting culturally appropriate colorectal cancer screening through a health educator: a randomized controlled trial. *Cancer.* 2006 Sep 1;107(5):959-66. doi: 10.1002/cncr.22091. PMID: 16865681.
110. Berkowitz SA, Percac-Lima S, Ashburner JM, et al. Building Equity Improvement into Quality Improvement: Reducing Socioeconomic Disparities in Colorectal Cancer Screening as Part of Population Health Management. *J Gen Intern Med.* 2015 Jul;30(7):942-9. doi: 10.1007/s11606-015-3227-4. PMID: 25678378.
111. Friedman M, Borum ML. Colorectal cancer screening of African Americans by internal medicine resident physicians can be improved with focused educational efforts. *J Natl Med Assoc.* 2007 Sep;99(9):1010-2. PMID: 17913110.
112. Mehta SJ, Jensen CD, Quinn VP, et al. Race/ethnicity and adoption of a population health management approach to colorectal cancer screening in a community-based healthcare system. *J Gen Intern Med.* 2016 Nov;31(11):1323-30. doi: 10.1007/s11606-016-3792-1. PMID: 27412426.
113. Nash D, Azeez S, Vlahov D, et al. Evaluation of an intervention to increase screening colonoscopy in an urban public hospital setting.[Erratum appears in *J Urban Health.* 2007 May;84(3):459]. *J Urban Health.* 2006 Mar;83(2):231-43. doi: 10.1007/s11524-006-9029-6. PMID: 16736372.
114. Percac-Lima S, Lopez L, Ashburner JM, et al. The longitudinal impact of patient navigation on equity in colorectal cancer screening in a large primary care network. *Cancer.* 2014 Jul 01;120(13):2025-31. doi: 10.1002/cncr.28682. PMID: 24691564.
115. Taplin SH, Haggstrom D, Jacobs T, et al. Implementing colorectal cancer screening in community health centers: addressing cancer health disparities through a regional cancer collaborative. *Med Care.* 2008 Sep;46(9 Suppl 1):S74-83. doi: 10.1097/MLR.0b013e31817fdf68. PMID: 18725837.
116. Tu SP, Chun A, Yasui Y, et al. Adaptation of an evidence-based intervention to promote colorectal cancer screening: a quasi-experimental study. *Implement Sci.* 2014 Jul 2;9:85. doi: 10.1186/1748-5908-9-85. PMID: 24989083.
117. Davis T, Arnold C, Rademaker A, et al. Improving colon cancer screening in community clinics. *Cancer.* 2013 Nov 1;119(21):3879-86. doi: 10.1002/cncr.28272. PMID: 24037721.
118. Honeycutt S, Green R, Ballard D, et al. Evaluation of a patient navigation program to promote colorectal cancer screening in rural Georgia, USA. *Cancer.* 2013 Aug 15;119(16):3059-66. doi: 10.1002/cncr.28033. PMID: 23719894.

119. Leone LA, Reuland DS, Lewis CL, et al. Reach, usage, and effectiveness of a Medicaid patient navigator intervention to increase colorectal cancer screening, Cape Fear, North Carolina, 2011. *Prev Chronic Dis.* 2013 May 23;10:E82. doi: 10.5888/pcd10.120221. PMID: 23701719.
120. Ma GX, Shive S, Tan Y, et al. Community-based colorectal cancer intervention in underserved Korean Americans. *Cancer Epidemiol.* 2009 Nov;33(5):381-6. doi: 10.1016/j.canep.2009.10.001. PMID: 19914880.
121. Goldberg D, Schiff GD, McNutt R, et al. Mailings timed to patients' appointments: a controlled trial of fecal occult blood test cards. *Am J Prev Med.* 2004 Jun;26(5):431-5. doi: 10.1016/j.amepre.2004.02.009. PMID: 15165660.
122. Hirst Y, Stoffel S, Baio G, et al. Uptake of the English Bowel (Colorectal) Cancer Screening Programme: an update 5 years after the full roll-out. *Eur J Cancer.* 2018 Nov;103:267-73. doi: 10.1016/j.ejca.2018.07.135. PMID: 30196989.
123. Dignan M, Shelton B, Slone SA, et al. Effectiveness of a primary care practice intervention for increasing colorectal cancer screening in Appalachian Kentucky. *Prev Med.* 2014 Jan;58:70-4. doi: 10.1016/j.ypmed.2013.10.018. PMID: 24212061.
124. De Mil R, Guillaume E, Guittet L, et al. Cost-effectiveness analysis of a navigation program for colorectal cancer screening to reduce social health inequalities: A French cluster randomized controlled trial. *Value Health.* 2018 06;21(6):685-91. doi: 10.1016/j.jval.2017.09.020. PMID: 29909873.
125. Singal AG, Gupta S, Skinner CS, et al. Effect of Colonoscopy Outreach vs Fecal Immunochemical Test Outreach on Colorectal Cancer Screening Completion: A Randomized Clinical Trial. *JAMA.* 2017 Sep 5;318(9):806-15. doi: 10.1001/jama.2017.11389. PMID: 28873161.
126. Jibaja-Weiss ML, Volk RJ, Kingery P, et al. Tailored messages for breast and cervical cancer screening of low-income and minority women using medical records data. *Patient Educ Couns.* 2003 Jun;50(2):123-32. PMID: 12781927.
127. Navarro AM, Senn KL, McNicholas LJ, et al. Por La Vida model intervention enhances use of cancer screening tests among Latinas. *Am J Prev Med.* 1998 Jul;15(1):32-41. PMID: 9651636.
128. Abood DA, Black DR, Coster DC. Loss-framed minimal intervention increases mammography use. *Womens Health Issues.* 2005 Nov-Dec;15(6):258-64. doi: 10.1016/j.whi.2005.07.005. PMID: 16325139.
129. Allen B, Jr., Bazargan-Hejazi S. Evaluating a tailored intervention to increase screening mammography in an urban area. *J Natl Med Assoc.* 2005 Oct;97(10):1350-60. PMID: 16353657.
130. Coronado GD, Beresford SA, McLerran D, et al. Multilevel intervention raises Latina participation in mammography screening: Findings from Fortaleza Latina! *Cancer Epidemiol Biomarkers Prev.* 2016 04;25(4):584-92. doi: 10.1158/1055-9965.EPI-15-1246. PMID: 27196092.
131. Kim YH, Sarna L. An intervention to increase mammography use by Korean American women. *Oncol Nurs Forum.* 2004 Jan-Feb;31(1):105-10. doi: 10.1188/04.ONF.105-110. PMID: 14722594.
132. Marshall JK, Mbah OM, Ford JG, et al. Effect of patient navigation on breast cancer screening among African American medicare beneficiaries: a randomized controlled trial. *J Gen Intern Med.* 2016 Jan;31(1):68-76. doi: 10.1007/s11606-015-3484-2. PMID: 26259762.
133. Percac-Lima S, Milosavljevic B, Oo SA, et al. Patient navigation to improve breast cancer screening in Bosnian refugees and immigrants. *J Immigr Minor Health.* 2012 Aug;14(4):727-30. doi: 10.1007/s10903-011-9539-5. PMID: 22009215.

134. Phillips CE, Rothstein JD, Beaver K, et al. Patient navigation to increase mammography screening among inner city women. *J Gen Intern Med*. 2011 Feb;26(2):123-9. doi: 10.1007/s11606-010-1527-2. PMID: 20931294.
135. Powell ME, Carter V, Bonsi E, et al. Increasing mammography screening among African American women in rural areas. *J Health Care Poor Underserved*. 2005 Nov;16(4 Suppl A):11-21. doi: 10.1353/hpu.2005.0129. PMID: 16327093.
136. Rodriguez-Torres SA, McCarthy AM, He W, et al. Long-term impact of a culturally tailored patient navigation program on disparities in breast cancer screening in refugee women after the program's end. *Health Equity*. 2019;3(1):205-10. doi: 10.1089/heap.2018.0104. PMID: 31106287.
137. Weber BE, Reilly BM. Enhancing mammography use in the inner city. A randomized trial of intensive case management. *Arch Intern Med*. 1997 Nov 10;157(20):2345-9. PMID: 9361575.
138. West DS, Greene P, Pulley L, et al. Stepped-care, community clinic interventions to promote mammography use among low-income rural African American women. *Health Educ Behav*. 2004 Aug;31(4 Suppl):29S-44S. doi: 10.1177/1090198104266033. PMID: 15296690.
139. Wu TY, Lin C. Developing and evaluating an individually tailored intervention to increase mammography adherence among Chinese American women. *Cancer Nurs*. 2015 Jan-Feb;38(1):40-9. doi: 10.1097/NCC.0000000000000126. PMID: 24621965.
140. Battaglia TA, Bak SM, Heeren T, et al. Boston Patient Navigation Research Program: the impact of navigation on time to diagnostic resolution after abnormal cancer screening. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1645-54. doi: 10.1158/1055-9965.Epi-12-0532. PMID: 23045539.
141. Byrd TL, Wilson KM, Smith JL, et al. AMIGAS: a multicity, multicomponent cervical cancer prevention trial among Mexican American women. *Cancer*. 2013 Apr 01;119(7):1365-72. doi: 10.1002/cncr.27926. PMID: 23280399.
142. Katz ML, Tatum CM, Degraffinreid CR, et al. Do cervical cancer screening rates increase in association with an intervention designed to increase mammography usage? *J Womens Health (Larchmt)*. 2007 Jan-Feb;16(1):24-35. doi: 10.1089/jwh.2006.0071. PMID: 17324094.
143. Miller SM, Hui S-kA, Wen K-Y, et al. Tailored telephone counseling to improve adherence to follow-up regimens after an abnormal pap smear among minority, underserved women. *Patient Educ Couns*. 2013 Dec;93(3):488-95. doi: 10.1016/j.pec.2013.08.008. PMID: 24007767.
144. Paskett ED, McLaughlin JM, Lehman AM, et al. Evaluating the efficacy of lay health advisors for increasing risk-appropriate Pap test screening: a randomized controlled trial among Ohio Appalachian women. *Cancer Epidemiol Biomarkers Prev*. 2011 May;20(5):835-43. doi: 10.1158/1055-9965.epi-10-0880. PMID: 21430302.
145. Percac-Lima S, Ashburner JM, Rigotti NA, et al. Patient navigation for lung cancer screening among current smokers in community health centers a randomized controlled trial. *Cancer Med*. 2018 Mar;7(3):894-902. doi: 10.1002/cam4.1297. PMID: 29464877.
146. Gordon JS, Andrews JA, Albert DA, et al. Tobacco cessation via public dental clinics: results of a randomized trial. *Am J Public Health*. 2010 Jul;100(7):1307-12. doi: 10.2105/ajph.2009.181214. PMID: 20466951.
147. Lasser KE, Quintiliani LM, Truong V, et al. Effect of patient navigation and financial incentives on smoking cessation among primary care patients at an urban safety-net hospital: a randomized clinical trial. *JAMA Intern Med*. 2017 Dec 1;177(12):1798-807. doi: 10.1001/jamainternmed.2017.4372. PMID: 29084312.

148. Murray RP, Connett JE, Buist AS, et al. Experience of Black participants in the Lung Health Study smoking cessation intervention program. *Nicotine Tob Res.* 2001 Nov;3(4):375-82. doi: 10.1080/14622200110081435. PMID: 11694205.
149. Glasgow RE, Whitlock EP, Eakin EG, et al. A brief smoking cessation intervention for women in low-income planned parenthood clinics. *Am J Public Health.* 2000 May;90(5):786-9. doi: 10.2105/ajph.90.5.786. PMID: 10800431.
150. Murphy JM, Mahoney MC, Cummings KM, et al. A randomized trial to promote pharmacotherapy use and smoking cessation in a Medicaid population (United States). *Cancer Causes Control.* 2005 May;16(4):373-82. doi: 10.1007/s10552-004-6573-9. PMID: 15953979.
151. Stoddard AM, Palombo R, Troped PJ, et al. Cardiovascular disease risk reduction: the Massachusetts WISEWOMAN project. *J Womens Health (Larchmt).* 2004 Jun;13(5):539-46. doi: 10.1089/1540999041281106. PMID: 15257845.
152. Rosas LG, Thiagarajan S, Goldstein BA, et al. The effectiveness of two community-based weight loss strategies among obese, low-income US Latinos. *J Acad Nutr Diet.* 2015 Apr;115(4):537-50.e2. doi: 10.1016/j.jand.2014.10.020. PMID: 25578925.
153. Kumanyika SK, Espeland MA, Bahnson JL, et al. Ethnic comparison of weight loss in the Trial of Nonpharmacologic Interventions in the Elderly. *Obes Res.* 2002 Feb;10(2):96-106. doi: 10.1038/oby.2002.16. PMID: 11836455.
154. Kumanyika SK, Shults J, Fassbender J, et al. Outpatient weight management in African-Americans: the Healthy Eating and Lifestyle Program (HELP) study. *Prev Med.* 2005 Aug;41(2):488-502. doi: 10.1016/j.ypmed.2004.09.049. PMID: 15917045.
155. Mitchell DC, Andrews T, Schenker MB. Pasos Saludables: A pilot randomized intervention study to reduce obesity in an immigrant farmworker population. *J Occup Environ Med.* 2015 Oct;57(10):1039-46. doi: 10.1097/JOM.0000000000000535. PMID: 26461858.
156. Staten LK, Gregory-Mercado KY, Ranger-Moore J, et al. Provider counseling, health education, and community health workers: the Arizona WISEWOMAN project. *J Womens Health (Larchmt).* 2004 Jun;13(5):547-56. doi: 10.1089/1540999041281133. PMID: 15257846.
157. Racette SB, Weiss EP, Obert KA, et al. Modest lifestyle intervention and glucose tolerance in obese African Americans. *Obes Res.* 2001 Jun;9(6):348-55. doi: 10.1038/oby.2001.45. PMID: 11399781.
158. Soltero EG, Ramos C, Williams AN, et al. Viva Maryvale!: a multilevel, multisector model to community-based diabetes prevention. *Am J Prev Med.* 2019 Jan;56(1):58-65. doi: 10.1016/j.amepre.2018.07.034. PMID: 30573148.
159. Quiñones AR, Talavera GA, Castaneda SF, et al. Interventions that reach into communities--promising directions for reducing racial and ethnic disparities in healthcare. *J Racial Ethn Health Disparities.* 2015 Sep;2(3):336-40. doi: 10.1007/s40615-014-0078-3. PMID: 26413456.
160. Quiñones AR, O'Neil M, Saha S, et al. Interventions to Reduce Racial and Ethnic Disparities. VA-ESP Project #05-225; 2011.
161. Kondo K, Low A, Everson T, et al. Prevalence of and Interventions to Reduce Health Disparities in Vulnerable Veteran Populations: A Map of the Evidence. VA ESP Project #05-225; 2017.
162. Corcoran J, Dattalo P, Crowley M. Interventions to increase mammography rates among U.S. Latinas: a systematic review. *J Womens Health.* 2010 Jul;19(7):1281-8. doi: 10.1089/jwh.2009.1621. PMID: 20575619.

163. Martinez-Donate AP. Using lay health advisors to promote breast and cervical cancer screening among Latinas: a review. *WMJ*. 2009 Aug;108(5):259-62. PMID: 19743759.
164. Han HR, Kim J, Lee JE, et al. Interventions that increase use of Pap tests among ethnic minority women: a meta-analysis. *Psychooncology*. 2011 Apr;20(4):341-51. doi: 10.1002/pon.1754. PMID: 20878847.
165. Powe BD, Faulkenberry R, Harmond L. A review of intervention studies that seek to increase colorectal cancer screening among African-Americans. *Am J Health Promot*. 2010 Nov-Dec;25(2):92-9. doi: 10.4278/ajhp.080826-LIT-162. PMID: 21039289.
166. Morrow JB, Dallo FJ, Julka M. Community-based colorectal cancer screening trials with multi-ethnic groups: a systematic review. *J Community Health*. 2010 Dec;35(6):592-601. doi: 10.1007/s10900-010-9247-4. PMID: 20224864.
167. Webb MS. Treating tobacco dependence among African Americans: a meta-analytic review. *Health Psychol*. 2008 May;27(3s):S271-82. PMID: 18979980.
168. Webb MS, Rodriguez-Esquivel D, Baker EA. Smoking cessation interventions among Hispanics in the United States: A systematic review and mini meta-analysis. *Am J Health Promot*. 2010 Nov-Dec;25(2):109-18. doi: 10.4278/ajhp.090123-LIT-25. PMID: 21039291.
169. Whitt-Glover MC, Kumanyika SK. Systematic review of interventions to increase physical activity and physical fitness in African-Americans. *Am J Health Promot*. 2009 Jul-Aug;23(6):S33-56. doi: 10.4278/ajhp.070924101. PMID: 19601486.
170. Osei-Assibey G, Kyrou I, Adi Y, et al. Dietary and lifestyle interventions for weight management in adults from minority ethnic/non-White groups: a systematic review. *Obes Rev*. 2010 Nov;11(11):769-76. doi: 10.1111/j.1467-789X.2009.00695.x. PMID: 20059708.
171. Eyles HC, Mhurchu CN. Does tailoring make a difference? A systematic review of the long-term effectiveness of tailored nutrition education for adults. *Nutr Rev*. 2009 Aug;67(8):464-80. doi: 10.1111/j.1753-4887.2009.00219.x. PMID: 19674343.
172. Fox JB, Shaw FE. Clinical preventive services coverage and the Affordable Care Act. *Am J Public Health*. 2015 Jan;105(1):e7-e10. doi: 10.2105/ajph.2014.302289. PMID: 25393173.
173. Williams LB, Franklin B, Evans MB, et al. Turn the beat around: A stroke prevention program for African-American churches. *Public Health Nurs*. 2016 Jan-Feb;33(1):11-20. doi: 10.1111/phn.12234. PMID: 26404001.
174. Marino M, Bailey SR, Gold R, et al. Receipt of preventive services after Oregon's randomized Medicaid experiment. *Am J Prev Med*. 2016 Feb;50(2):161-70. doi: 10.1016/j.amepre.2015.07.032. PMID: 26497264.
175. Richards CA, Kerker BD, Thorpe L, et al. Increased screening colonoscopy rates and reduced racial disparities in the New York Citywide campaign: an urban model. *Am J Gastroenterol*. 2011 Nov;106(11):1880-6. doi: 10.1038/ajg.2011.191. PMID: 22056567.
176. Van Der Wees PJ, Zaslavsky AM, Ayanian JZ. Improvements in health status after Massachusetts health care reform. *Milbank Q*. 2013 Dec;91(4):663-89. doi: 10.1111/1468-0009.12029. PMID: 24320165.
177. Miller CL, Sedivy V. Using a quitline plus low-cost nicotine replacement therapy to help disadvantaged smokers to quit. *Tob Control*. 2009 Apr;18(2):144-9. doi: 10.1136/tc.2008.026492. PMID: 19131454.
178. Zhou H, Tsoh JY, Grigg-Saito D, et al. Decreased smoking disparities among Vietnamese and Cambodian communities - Racial and Ethnic Approaches to Community Health (REACH) project, 2002-2006. *MMWR: Morbidity & Mortality Weekly Report - Supplement*. 2014 Apr 18;63(1):37-45. PMID: 24743665.

179. Zhu SH, Cummins SE, Wong S, et al. The effects of a multilingual telephone quitline for Asian smokers: a randomized controlled trial. *J Natl Cancer Inst.* 2012 Feb 22;104(4):299-310. doi: 10.1093/jnci/djr530. PMID: 22282542.
180. Kandula NR, Dave S, De Chavez PJ, et al. Translating a heart disease lifestyle intervention into the community: the South Asian Heart Lifestyle Intervention (SAHELI) study; a randomized control trial. *BMC Public Health.* 2015 Oct 16;15:1064. doi: 10.1186/s12889-015-2401-2. PMID: 26475629.
181. Plescia M, Herrick H, Chavis L. Improving health behaviors in an African American community: the Charlotte racial and ethnic approaches to community health project. *Am J Public Health.* 2008 Sep;98(9):1678-84. doi: 10.2105/AJPH.2007.125062. PMID: 18633087.

Abbreviations and Acronyms

AA	African American
AALI	African American low-income
AAM	African American men
ACA	Affordable Care Act
AHRQ	Agency for Healthcare Research & Quality
AMIGAS	Ayudando a las Mujeres con Información, Guía y Amor para su Salud
AMSTAR	A MeaSurement Tool to Assess systematic Reviews
aHR	adjusted hazard ratio
aOR	adjusted odds ratio
aPR	adjusted prevalence ratio
aRR	adjusted risk ratio
BMI	body mass index
CVD	cardiovascular disease
CHD	coronary heart disease
Chin	Chinese American
ChinLI	Chinese American low-income
CHOICE	Communicating Health Options through Interactive Computer Education
CI	confidence interval
CMS	Centers for Medicare and Medicaid Services
COL/FS	colonoscopy or flexible sigmoidoscopy
Colo	colonoscopy
CRC	colorectal cancer
CT	computed tomography
DALY	Disability Adjusted Life Years
DL	DerSimonian and Laird method
DVD	digital versatile disk
EHR	electronic health record
EMR	electronic medical record
Endo	endoscopy
Fil	Filipino American
FIT	fecal immunohistochemistry test
FOBT	fecal occult blood test
FQHC	Federally Qualified Health Center
GED	General Equivalency Diploma
GI	gastrointestinal
Haw	Native Hawaiian
His	Hispanic/Latino
HisW	Hispanic/Latino women
HIT	health information technology
HR	hazard ratio
Kor	Korean American
KQ	Key Question
LI	low-income
LIHis	low-income Hispanic/Latino

LIRE	low-income racial/ethnic minorities
LIW	low-income women
MD	mean difference
MI	myocardial infarction
mPATH-CRC	Mobile Patient Technology for Health-CRC
NA	not applicable
NCI	National Cancer Institute
NHLBI	National Heart, Lung, and Blood Institute
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIH	National Institutes of Health
NIMHD	National Institute on Minority Health and Health Disparities
NNS	number needed to screen
NR	not reported
NRT	nicotine replacement therapy
OR	odds ratio
PA	Physician's Assistant
Pap	Papanicolaou
PCP	primary care provider
PICOTS	populations, interventions, comparators, outcomes, timing, and setting
PL	profile likelihood
PRESS	Peer Review of Electronic Search Strategies
RAA	rural African American
RCT	randomized controlled trial
RR	risk ratio
SASE	self-addressed stamped envelope
SBT	stool blood test
SE	standard error
SES	socioeconomic status
U.S.	United States
USPSTF	U.S. Preventive Services Task Force
VA HSR&D	Veterans Affairs Health Services Research and Development Service
Viet	Vietnamese American
WISDM	Wisconsin Index of Smoking Dependence Motive
YMCA	Young Men's Christian Association

Appendix A. Literature Search Strategies

Database: Ovid MEDLINE® 1946 to July Week 1 2019

Broad search:

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 or/16-19
- 21 exp diabetes mellitus, type 2/ or prediabetic state/
- 22 exp Cardiovascular Diseases/
- 23 Aspirin/
- 24 exp breast neoplasms/ or exp colorectal neoplasms/ or exp lung neoplasms/ or uterine cervical neoplasms/
- 25 exp Obesity/
- 26 Smoking/
- 27 exp "Tobacco Use Cessation"/
- 28 21 or (22 and 23) or 24 or 25 or 26
- 29 27 or 28
- 30 29 and pc.fs.
- 31 20 or 30
- 32 15 and 31
- 33 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new york city/ or san francisco/
- 34 ("united states" or "u.s." or alabama or alaska or arizona or arkansas or california or colorado or connecticut or delaware or florida or georgia or hawaii or idaho or illinois or indiana or iowa or kansas or kentucky or louisiana or maine or maryland or massachusetts or michigan or minnesota or mississippi or missouri or montana or nebraska or nevada or "new hampshire" or "new jersey" or "new mexico" or "new york" or "north carolina" or "north dakota" or ohio or

oklahoma or oregon or pennsylvania or "rhode island" or "south carolina" or "south dakota" or tennessee or texas or utah or vermont or virginia or washington or "west virginia" or wisconsin or wyoming).ti,ab,kw.

35 32 and (33 or 34)

36 africa/ or caribbean region/ or central america/ or canada/ or greenland/ or mexico/ or south america/ or exp asia/ or exp europe/

37 35 not 36

38 limit 37 to (meta analysis or systematic reviews)

39 (medline or systematic or metaanalysis or "meta analysis").ti,ab.

40 37 and 39

41 38 or 40

42 limit 41 to english language

43 37 not 42

Focused search: evidence gaps

1. Healthcare Disparities/

2. "Health Services Needs and Demand"/

3. exp Health Services Accessibility/

4. exp Socioeconomic Factors/

5. Minority Groups/

6. exp Population Groups/

7. vulnerable populations/ or working poor/

8. exp Disabled Persons/

9. exp Sexual Minorities/

10. Minority Health/

11. cultural competency/ or cultural diversity/

12. 1 or 2 or 3

13. or/4-11

14. 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.

15. 12 or 14

16. exp Preventive Health Services/

17. exp Mass Screening/

18. exp Health Promotion/

19. ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.

20. or/16-19

21. exp diabetes mellitus, type 2/ or prediabetic state/

22. exp Cardiovascular Diseases/

23. Aspirin/

24. exp breast neoplasms/ or exp colorectal neoplasms/ or exp lung neoplasms/ or uterine cervical neoplasms/

25. exp Obesity/

26. Smoking/

27. exp "Tobacco Use Cessation"/

28. 21 or (22 and 23) or 24 or 25 or 26

29. 27 or 28
30. 29 and pc.fs.
31. 20 or 30
32. 15 and 31
33. exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new york city/ or san francisco/
34. ("united states" or "u.s." or alabama or alaska or arizona or arkansas or california or colorado or connecticut or delaware or florida or georgia or hawaii or idaho or illinois or indiana or iowa or kansas or kentucky or louisiana or maine or maryland or massachusetts or michigan or minnesota or mississippi or missouri or montana or nebraska or nevada or "new hampshire" or "new jersey" or "new mexico" or "new york" or "north carolina" or "north dakota" or ohio or oklahoma or oregon or pennsylvania or "rhode island" or "south carolina" or "south dakota" or tennessee or texas or utah or vermont or virginia or washington or "west virginia" or wisconsin or wyoming).ti,ab,kw.
35. 32 and (33 or 34)
36. "Social Determinants of Health"/
37. 35 or 36
38. 37 and (gap* or limit* or lack* or barrier*).ti,ab.

Focused search: aspirin for colorectal cancer prevention

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21

23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los
 angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or
 greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp
 asia/ or exp europe/ or exp islands/ or exp oceania/
 25 22 and 23
 26 22 not 24
 27 25 or 26
 28 Aspirin/
 29 (aspirin or "acetylsalicylic acid").ti,ab,kw.
 30 exp Colorectal Neoplasms/pc [Prevention & Control]
 31 ((colon or colorectal) adj3 cancer).ti,ab,kw.
 32 31 and pc.fs.
 33 28 or 29 or 30 or 32
 34 27 and 33

Focused search: aspirin for cardiovascular disease prevention

1 Healthcare Disparities/
 2 "Health Services Needs and Demand"/
 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of
 health"/
 4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or
 undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force"
 or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 prevent*.ti,ab.
 21 or/16-20
 22 15 and 21
 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los
 angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/

24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or
 greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp
 asia/ or exp europe/ or exp islands/ or exp oceania/
 25 22 and 23
 26 22 not 24
 27 25 or 26
 28 Aspirin/
 29 (aspirin or "acetylsalicylic acid").ti,ab,kw.
 30 exp Cardiovascular Diseases/pc [Prevention & Control]
 31 ("cardiovascular disease*" or CVD or (coronary adj3 disease) or (heart adj3 disease) or
 (microvascular adj3 disease) or CHD or "myocardial infarction" or stroke).ti,ab,kw.
 32 31 and pc.fs.
 33 28 or 29 or 30 or 32
 34 27 and 33

Focused search: breast cancer screening

1 Healthcare Disparities/
 2 "Health Services Needs and Demand"/
 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of
 health"/
 4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or
 undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force"
 or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 prevent*.ti,ab.
 21 or/16-20
 22 15 and 21
 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los
 angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/ (1250310)
 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or
 greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp
 asia/ or exp europe/ or exp islands/ or exp oceania/

25 exp Breast Neoplasms/pc [Prevention & Control]
 26 ((breast adj3 cancer) or mammogram or mammography or "clinical breast exam" or (breast
 adj3 self)).ti,ab,kw.
 27 exp Mass Screening/
 28 screen*.ti,ab,kw.
 29 (25 or 26) and (27 or 28)
 30 12 and 21 and 29
 31 14 and 21 and 29
 32 30 or 31
 33 23 and 32
 34 32 not 24
 35 33 or 34

Focused search: cervical cancer screening

1 Healthcare Disparities/
 2 "Health Services Needs and Demand"/
 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of
 health"/
 4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or
 undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force"
 or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 prevent*.ti,ab.
 21 or/16-20
 22 15 and 21
 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los
 angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or
 greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp
 asia/ or exp europe/ or exp islands/ or exp oceania/
 25 Uterine Cervical Neoplasms/
 26 ((cervical or cervix) adj3 cancer).ti,ab,kw.

27 exp Mass Screening/ or exp early diagnosis/
 28 screen*.ti,ab,kw.
 29 (25 or 26) and (27 or 28)
 30 12 and 21 and 29
 31 14 and 21 and 29
 32 30 or 31
 33 23 and 32
 34 32 not 24
 35 33 or 34

Focused search: colon cancer screening

1 Healthcare Disparities/
 2 "Health Services Needs and Demand"/
 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
 4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 prevent*.ti,ab.
 21 or/16-20
 22 15 and 21
 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
 25 exp Colorectal Neoplasms/pc [Prevention & Control]
 26 (((colon or colorectal) adj3 cancer) or colonoscopy).ti,ab,kw.
 27 exp Mass Screening/
 28 screen*.ti,ab,kw.
 29 (25 or 26) and (27 or 28)

- 30 12 and 21 and 29
- 31 14 and 21 and 29
- 32 30 or 31
- 33 23 and 32
- 34 32 not 24
- 35 33 or 34

Focused search: diabetes

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21
- 23 diabetes mellitus, type 2/ or prediabetic state/
- 24 ("type 2 diabetes" or "diabetes mellitus" or prediabet* or (glucose adj3 test*) or A1c).ti,ab,kw.
- 25 23 or 24
- 26 12 and 21 and 25
- 27 15 and 21 and 24
- 28 26 or 27
- 29 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
- 30 28 and 29
- 31 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/

32 28 not 31
33 30 or 32

Focused search: healthy diet

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21
- 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
- 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
- 25 exp Diet/
- 26 exp Diet Therapy/
- 27 exp Exercise/
- 28 exp Exercise Therapy/
- 29 exp Physical Fitness/
- 30 exp Life Style/
- 31 (diet or exercise or "physical activity" or lifestyle or "life style").ti,ab,kw.
- 32 or/25-31
- 33 counseling/ or directive counseling/ or distance counseling/
- 34 exp health promotion/ or patient education as topic/
- 35 Health Education/
- 36 risk reduction behavior/

37 (counsel* or advice or advise or recommend*).ti,ab,kw.
 38 or/33-37
 39 22 and 32 and 38
 40 39 and 23
 41 39 not 24
 42 40 or 41

Focused search: high blood pressure screening

1 Healthcare Disparities/
 2 "Health Services Needs and Demand"/
 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
 4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 prevent*.ti,ab.
 21 or/16-20
 22 15 and 21
 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
 25 exp Hypertension/pc [Prevention & Control]
 26 (hypertension or "high blood pressure" or systolic or diastolic).ti,ab,kw.
 27 Mass Screening/
 28 early diagnosis/
 29 (screen* or test* or diagnosis).ti,ab,kw.
 30 25 or 2
 31 or/27-30
 32 22 and 30 and 31

- 33 32 and 23
- 34 32 not 24
- 35 33 or 34

Focused search: lung cancer

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21
- 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
- 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
- 25 exp Lung Neoplasms/
- 26 (lung adj2 cancer).ti,ab,kw.
- 27 (((("small cell" or "non small cell") adj3 lung) and cancer*).ti,ab,kw.
- 28 or/25-27
- 29 mass screening/ or mass chest x-ray/
- 30 exp early diagnosis/
- 31 (screen* or test* or diagnosis).ti,ab,kw.
- 32 or/29-31
- 33 28 and 32
- 34 33 and 22
- 35 34 and 23

36 34 not 24
37 35 or 36

Focused search: obesity

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21
- 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
- 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
- 25 exp Obesity/
- 26 Overweight/
- 27 exp "Body Weights and Measures"/
- 28 (obese or obesity or overweight or "body mass" or bmi or weight).ti,ab,kw.
- 29 or/25-28
- 30 22 and 29
- 31 30 and 23
- 32 30 not 24
- 33 31 or 32

Focused search: smoking cessation

- 1 Healthcare Disparities/

- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/ or health status disparities/ or "social determinants of health"/
- 4 exp Socioeconomic Factors/
- 5 Minority Groups/
- 6 exp Population Groups/
- 7 vulnerable populations/ or working poor/
- 8 exp Disabled Persons/
- 9 exp Sexual Minorities/
- 10 Minority Health/
- 11 cultural competency/ or cultural diversity/
- 12 1 or 2 or 3
- 13 or/4-11
- 14 13 and (equity or equitable or equal* or fair or parity or unequal* or inequal* or inequit* or undertreat* or under-treat* or access* or disparit* or discriminat*).ti,ab,kw.
- 15 12 or 14
- 16 exp Preventive Health Services/
- 17 exp Mass Screening/
- 18 exp Health Promotion/
- 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 20 prevent*.ti,ab.
- 21 or/16-20
- 22 15 and 21
- 23 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los angeles/ or new orleans/ or new york city/ or philadelphia/ or san francisco/
- 24 exp africa/ or caribbean region/ or central america/ or latin america/ or canada/ or greenland/ or mexico/ or south america/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp europe/ or exp islands/ or exp oceania/
- 25 smoking cessation/ or smoking reduction/ or "tobacco use cessation"/
- 26 Smokers/
- 27 exp Smoking/
- 28 Tobacco/
- 29 (smoker* or smoking or cigarette\$ or tobacco or nicotine).ti,ab,kw.
- 30 or/26-29
- 31 30 and (cessation or stop* or cease* or reduction).ti,ab,kw.
- 32 25 or 30
- 33 22 and 32
- 34 33 and 23
- 35 33 not 24
- 36 34 or 35

Systematic reviews:

- 1 Healthcare Disparities/
- 2 "Health Services Needs and Demand"/
- 3 exp Health Services Accessibility/

4 exp Socioeconomic Factors/
 5 Minority Groups/
 6 exp Population Groups/
 7 vulnerable populations/ or working poor/
 8 exp Disabled Persons/
 9 exp Sexual Minorities/
 10 Minority Health/
 11 cultural competency/ or cultural diversity/
 12 1 or 2 or 3
 13 or/4-11
 14 13 and (equity or equitable or equal* or fair or disparit*).ti,ab,kw.
 15 12 or 14
 16 exp Preventive Health Services/
 17 exp Mass Screening/
 18 exp Health Promotion/
 19 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force"
 or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
 20 or/16-19
 21 exp diabetes mellitus, type 2/ or prediabetic state/
 22 exp Cardiovascular Diseases/
 23 Aspirin/
 24 exp breast neoplasms/ or exp colorectal neoplasms/ or exp lung neoplasms/ or uterine
 cervical neoplasms/
 25 exp Obesity/
 26 Smoking/
 27 exp "Tobacco Use Cessation"/
 28 21 or (22 and 23) or 24 or 25 or 26
 29 27 or 28
 30 29 and pc.fs.
 31 20 or 30
 32 15 and 31
 33 exp united states/ or baltimore/ or boston/ or chicago/ or "district of columbia"/ or los
 angeles/ or new york city/ or san francisco/
 34 ("united states" or "u.s." or alabama or alaska or arizona or arkansas or california or
 colorado or connecticut or delaware or florida or georgia or hawaii or idaho or illinois or indiana
 or iowa or kansas or kentucky or louisiana or maine or maryland or massachusetts or michigan or
 minnesota or mississippi or missouri or montana or nebraska or nevada or "new hampshire" or
 "new jersey" or "new mexico" or "new york" or "north carolina" or "north dakota" or ohio or
 oklahoma or oregon or pennsylvania or "rhode island" or "south carolina" or "south dakota" or
 tennessee or texas or utah or vermont or virginia or washington or "west virginia" or wisconsin or
 wyoming).ti,ab,kw.
 35 32 and (33 or 34)
 36 africa/ or caribbean region/ or central america/ or canada/ or greenland/ or mexico/ or south
 america/ or exp asia/ or exp europe/
 37 35 not 36
 38 limit 37 to (meta analysis or systematic reviews)

- 39 (medline or systematic or metaanalysis or "meta analysis").ti,ab.
- 40 37 and 39
- 41 38 or 40
- 42 limit 41 to english language

Database: Ovid MEDLINE® Epub Ahead of Print , In-Process & Other Non-Indexed Citations to July 5, 2019

- 1 ((health or healthcare or "health care" or care) and (equit* or disparit* or inequal* or accessibilit*)).ti,ab,kw.
- 2 (socioeconomic or economic or poor or vulnerable or disenfranchis* or (social adj3 class)).ti,ab,kw.
- 3 (divers* or minorit* or ethnicit* or race or racial or black* or "african american*" or asian* or "native american*" or indian or hispanic or latin*).ti,ab,kw.
- 4 (disabled or challenged or handicapped).ti,ab,kw.
- 5 ("sexual adj3 minorit*" or homosexual* or bisexual* or gay* or lesbian* or transgender* or queer or lbg*).ti,ab,kw.
- 6 ("cultural competency" or "cultural diversity").ti,ab,kw.
- 7 (preventive or prevention or prevent).ti,ab,kw.
- 8 screen*.ti,ab,kw.
- 9 ("United States Preventive Services Task Force" or "U.S. Preventive Services Task Force" or "U.S.P.S.T.F." or "USPSTF").ti,ab,kw,au.
- 10 or/2-6
- 11 10 and (equit* or disparit* or inequal* or accessibilit*).ti,ab,kw.
- 12 1 or 11
- 13 12 and (7 or 8 or 9)
- 14 (diabetes or glucose or aspirin or cardiovascular or heart or coronary or "myocardial infarction" or stroke or colorectal or colon or breast or cervical or human papillomavirus or HPV or diet or exercise or "physical activity" or overweight or obese or obesity or metabolic or hypertension or "blood pressure" or lung or tobacco or smoke* or smoking).ti,ab,kw.
- 15 13 and 14
- 16 ("united states" or "u.s." or alabama or AL or alaska or AK or arizona or AZ or arkansas or AR or california or CA or Colorado or CO or Connecticut or CT or delaware or DE or florida or FL or georgia or GA or hawaii or HI or Idaho or ID or Illinois or IL or indiana or iowa or IA or Kansas or KS or kentucky or KY or Louisiana or LA).ti,ab,kw,in.
- 17 (maine or ME or maryland or MD or Massachusetts or MA or michigan or MI or Minnesota or MN or mississippi or MS or missouri or MO or montana or MT or nebraska or NE or Nevada or NV or "new hampshire" or NH or "new jersey" or NJ or "new mexico" or NM or "new york" or NY or "north carolina" or NC or "north dakota" or ND).ti,ab,kw,in.
- 18 (ohio or OH or oklahoma or OK or oregon or pennsylvania or PA or "rhode island" or RI or "south carolina" or SC or "south dakota" or SD or tennessee or TN or texas or TX or Utah or UT or vermont or VT or Virginia or VA or Washington or WA or "west virginia" or WV or wisconsin or WI or Wyoming or WY).ti,ab,kw,in.
- 19 15 and (16 or 17 or 18)
- 20 limit 19 to english language

Database: PsycINFO 1806 to July Week 1 2019

- 1 health disparities/ or treatment barriers/
- 2 (equit* or disparit* or inequal* or accessibilit*).ti,ab.
- 3 exp sociocultural factors/
- 4 exp group differences/
- 5 minority groups/ or alaska natives/ or american indians/ or asians/ or blacks/ or cultural sensitivity/ or hawaii natives/ or indigenous populations/ or "latinos/latinas"/ or pacific islanders/ or "race and ethnic discrimination"/ or "racial and ethnic groups"/
- 6 exp disabilities/
- 7 exp gender identity/
- 8 exp sexual orientation/
- 9 (divers* or minorit* or ethnicit* or race or racial or black* or "african american*" or asian* or "native american*" or indian or hispanic or latin*).ti,ab.
- 10 ("sexual adj3 minorit*" or homosexual* or bisexual* or gay* or lesbian* or transgender* or queer or lbg*).ti,ab.
- 11 (disabled or challenged or handicapped).ti,ab.
- 12 (1 or 2) and (or/3-11)
- 13 exp health promotion/
- 14 exp DIABETES/
- 15 exp cardiovascular disorders/
- 16 exp ASPIRIN/
- 17 exp breast neoplasms/
- 18 cancer screening/
- 19 exp overweight/
- 20 tobacco smoking/ or smoking cessation/
- 21 (diabetes or glucose or aspirin or cardiovascular or heart or coronary or "myocardial infarction" or stroke or colorectal or colon or breast or cervical or human papillomavirus or HPV or diet or exercise or "physical activity" or overweight or obese or obesity or metabolic or hypertension or "blood pressure" or lung or tobacco or smoke* or smoking).ti,ab.
- 22 or/13-21
- 23 12 and 22
- 24 ("united states" or "u.s." or alabama or AL or alaska or AK or arizona or AZ or arkansas or AR or california or CA or Colorado or CO or Connecticut or CT or delaware or DE or florida or FL or georgia or GA or hawaii or HI or Idaho or ID or Illinois or IL or indiana or iowa or IA or Kansas or KS or kentucky or KY or Louisiana or LA).ti,ab,in.
- 25 (maine or ME or maryland or MD or Massachusetts or MA or michigan or MI or Minnesota or MN or mississippi or MS or missouri or MO or montana or MT or nebraska or NE or Nevada or NV or "new hampshire" or NH or "new jersey" or NJ or "new mexico" or NM or "new york" or NY or "north carolina" or NC or "north dakota" or ND).ti,ab,in.
- 26 (ohio or OH or oklahoma or OK or oregon or pennsylvania or PA or "rhode island" or RI or "south carolina" or SC or "south dakota" or SD or tennessee or TN or texas or TX or Utah or UT or vermont or VT or Virginia or VA or Washington or WA or "west virginia" or WV or wisconsin or WI or Wyoming or WY).ti,ab,in.
- 27 23 and (24 or 25 or 26)
- 28 limit 27 to english language
- 29 limit 28 to yr="1996 -Current"

Database: EBSCO SocINDEX to July 5, 2019

- 1 SU health disparities
- 2 SU socioeconomic factors
- 3 DE "RACE" OR DE "BLACK race" OR DE "CRIME & race" OR DE "DANCE & race" OR DE "ETHNOCENTRISM" OR DE "HEALTH & race" OR DE "MORTALITY & race" OR DE "MUSIC & race" OR DE "OCCUPATIONS & race" OR DE "PERSONAL beauty & race" OR DE "RACE & social status" OR DE "RACIAL classification" OR DE "RACIAL minorities" OR DE "RACIALIZATION"
- 4 DE "ETHNICITY" OR DE "CHEROKEE (North American people) -- Ethnic identity" OR OR DE "ETHNIC identity of African American women" OR DE "ETHNIC identity of Africans" OR DE "ETHNIC identity of Amerasians" OR DE "ETHNIC identity of Arab Americans" OR DE "ETHNIC identity of Arabs" OR DE "ETHNIC identity of Armenian Americans" OR DE "ETHNIC identity of Asian Americans" OR DE "ETHNIC identity of Creoles" OR DE "ETHNIC identity of Cuban Americans" OR DE "ETHNIC identity of Dominican Americans" OR DE "ETHNIC identity of East Indian Americans" OR DE "ETHNICITY in children" OR DE "ETHNICITY in women" OR DE "HAWAIIANS -- Ethnic identity" OR DE "HISPANIC Americans -- Ethnic identity" OR DE "INDIGENOUS peoples -- Ethnic identity" OR DE "INDIGENOUS peoples of the Americas -- Ethnic identity" OR DE "LATIN Americans -- Ethnic identity" OR DE "MAORI (New Zealand people) -- Ethnic identity" OR DE "MAYAS -- Ethnic identity" OR DE "MEXICANS -- Ethnic identity" OR DE "MULTIGROUP Ethnic Identity Measure" OR DE "NATIVE Americans -- Ethnic identity" OR DE "NAVAJO (North American people) -- Ethnic identity" OR DE "PACIFIC Islanders -- Ethnic identity" OR DE "POLISH Americans -- Ethnic identity" OR DE "PUERTO Ricans -- Ethnic identity" OR DE "RACIAL identity of blacks" OR DE "RACIAL identity of racially mixed people"
- 5 DE "SEXUAL orientation" OR DE "ASEXUALITY (Human sexuality)" OR DE "BISEXUALITY" OR DE "GYNEPHILIA" OR DE "HETEROSEXUALITY" OR DE "HOMOSEXUALITY" OR DE "LESBIANISM" OR DE "PANSEXUALITY (Sexual orientation)"
- 6 DE "GENDER identity" OR DE "ANDROGYNOUS identity" OR DE "FEMININE identity" OR DE "GENDER identity & clothing" OR DE "GENDER identity in education" OR DE "GENDER identity in mass media" OR DE "INTERSEXUAL identity" OR DE "MASCULINE identity" OR DE "SEXUAL diversity" OR DE "TRANSGENDER identity" OR DE "TRANSGENDERISM" OR DE "TRANSSEXUALISM"
- 7 DE "LGBT people" OR DE "BEARS (Gay culture)" OR DE "CLOSETED LGBT people" OR DE "GAY people" OR DE "LESBIANS" OR DE "LGBT counselors" OR DE "LGBT fathers" OR DE "LGBT immigrants" OR DE "LGBT mothers" OR DE "LGBT people in the military" OR DE "LGBT people on television" OR DE "LGBT students" OR DE "LGBT teachers" OR DE "LGBT youth" OR DE "MASS media & LGBT people" OR DE "MINORITY LGBT people" OR DE "MUSLIM LGBT people" OR DE "RURAL LGBT people" OR DE "TRANSGENDER people" OR DE "WORKING class LGBT people"
- 8 AB prevent OR AB prevention OR AB preventive
- 9 S1 AND S8
- 10 S2 OR S3 OR S4 OR S5 OR S6 OR S7
- 11 S1 AND S10

- 12 S9 OR S11
- 13 S12 limiters - Date of Publication: 19960101-20181231

Appendix B. Included Studies List

1. Abood DA, Black DR, Coster DC. Loss-framed minimal intervention increases mammography use. *Womens Health Issues*. 2005 Nov-Dec;15(6):258-64. doi: 10.1016/j.whi.2005.07.005. PMID: 16325139.
2. Ahluwalia JS, Dang KS, Choi WS, et al. Smoking behaviors and regular source of health care among African Americans. *Prev Med*. 2002 Mar;34(3):393-6. doi: 10.1006/pmed.2001.1004. PMID: 11902858.
3. Ahmed NU, Haber G, Semanya KA, et al. Randomized controlled trial of mammography intervention in insured very low-income women. *Cancer Epidemiol Biomarkers Prev*. 2010 Jul;19(7):1790-8. doi: 10.1158/1055-9965.EPI-10-0141. PMID: 20587669.
4. Allen B, Jr., Bazargan-Hejazi S. Evaluating a tailored intervention to increase screening mammography in an urban area. *J Natl Med Assoc*. 2005 Oct;97(10):1350-60. PMID: 16353657.
5. Aragonés A, Schwartz MD, Shah NR, et al. A randomized controlled trial of a multilevel intervention to increase colorectal cancer screening among Latino immigrants in a primary care facility. *J Gen Intern Med*. 2010 Jun;25(6):564-7. doi: 10.1007/s11606-010-1266-4. PMID: 20213208.
6. Arnold CL, Rademaker A, Wolf MS, et al. Third annual fecal occult blood testing in community health clinics. *Am J Health Behav*. 2016 May;40(3):302-9. doi: 10.5993/ajhb.40.3.2. PMID: 27103409.
7. Arnold CL, Rademaker A, Wolf MS, et al. Final results of a 3-year literacy-informed intervention to promote annual fecal occult blood test screening. *J Community Health*. 2016 Aug;41(4):724-31. doi: 10.1007/s10900-015-0146-6. PMID: 26769026.
8. Bacio GA, Guzman IY, Shapiro JR, et al. Differences in quit attempts between non-Hispanic Black and White daily smokers: The role of smoking motives. *Addict Behav*. 2014 Dec;39(12):1769-72. doi: 10.1016/j.addbeh.2014.07.001. PMID: 25123344.
9. Baker DW, Brown T, Buchanan DR, et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA Intern Med*. 2014 Aug;174(8):1235-41. doi: 10.1001/jamainternmed.2014.2352. PMID: 24934845.
10. Bastani R, Glenn BA, Maxwell AE, et al. Randomized trial to increase colorectal cancer screening in an ethnically diverse sample of first-degree relatives. *Cancer*. 2015 Sep;121(17):2951-9. doi: 10.1002/cncr.29403. PMID: 25946376.
11. Battaglia TA, Bak SM, Heeren T, et al. Boston Patient Navigation Research Program: the impact of navigation on time to diagnostic resolution after abnormal cancer screening. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1645-54. doi: 10.1158/1055-9965.Epi-12-0532. PMID: 23045539.
12. Beach ML, Flood AB, Robinson CM, et al. Can language-concordant prevention care managers improve cancer screening rates? *Cancer Epidemiol Biomarkers Prev*. 2007 Oct;16(10):2058-64. doi: 10.1158/1055-9965.Epi-07-0373. PMID: 17932353.
13. Bennett GG, Foley P, Levine E, et al. Behavioral treatment for weight gain prevention among black women in primary care practice: a randomized clinical trial. *JAMA Intern Med*. 2013 Oct 28;173(19):1770-7. doi: 10.1001/jamainternmed.2013.9263. PMID: 23979005.

14. Bennett GG, Warner ET, Glasgow RE, et al. Obesity treatment for socioeconomically disadvantaged patients in primary care practice. *Arch Intern Med.* 2012 Apr 9;172(7):565-74. doi: 10.1001/archinternmed.2012.1. PMID: 22412073.
15. Berkowitz SA, Percac-Lima S, Ashburner JM, et al. Building Equity Improvement into Quality Improvement: Reducing Socioeconomic Disparities in Colorectal Cancer Screening as Part of Population Health Management. *J Gen Intern Med.* 2015 Jul;30(7):942-9. doi: 10.1007/s11606-015-3227-4. PMID: 25678378.
16. Blumenthal DS, Smith SA, Majett CD, et al. A trial of 3 interventions to promote colorectal cancer screening in African Americans. *Cancer.* 2010 Feb 15;116(4):922-9. doi: 10.1002/cncr.24842. PMID: 20052732.
17. Bock BC, Niaura RS, Neighbors CJ, et al. Differences between Latino and non-Latino White smokers in cognitive and behavioral characteristics relevant to smoking cessation. *Addict Behav.* 2005 May;30(4):711-24. doi: 10.1016/j.addbeh.2004.08.017. PMID: 15833576.
18. Braun KL, Thomas WL, Jr., Domingo JL, et al. Reducing cancer screening disparities in medicare beneficiaries through cancer patient navigation. *J Am Geriatr Soc.* 2015 Feb;63(2):365-70. doi: 10.1111/jgs.13192. PMID: 25640884.
19. Byrd TL, Wilson KM, Smith JL, et al. AMIGAS: a multicity, multicomponent cervical cancer prevention trial among Mexican American women. *Cancer.* 2013 Apr 01;119(7):1365-72. doi: 10.1002/cncr.27926. PMID: 23280399.
20. Christie J, Itzkowitz S, Lihau-Nkanza I, et al. A randomized controlled trial using patient navigation to increase colonoscopy screening among low-income minorities. *J Natl Med Assoc.* 2008 Mar;100(3):278-84. doi: 10.1016/s0027-9684(15)31240-2. PMID: 18390020.
21. Clark CR, Baril N, Hall A, et al. Case management intervention in cervical cancer prevention: the Boston REACH coalition women's health demonstration project. *Prog Community Health Partnersh.* 2011;5(3):235-47. doi: 10.1353/cpr.2011.0034. PMID: 22080772.
22. Clark CR, Baril N, Kunicki M, et al. Addressing social determinants of health to improve access to early breast cancer detection: results of the Boston REACH 2010 Breast and Cervical Cancer Coalition Women's Health Demonstration Project. *J Womens Health.* 2009 May;18(5):677-90. doi: 10.1089/jwh.2008.0972. PMID: 19445616.
23. Cole H, Thompson HS, White M, et al. Community-based, preclinical patient navigation for colorectal cancer screening among older black men recruited from barbershops: The MISTER B Trial. *Am J Public Health.* 2017 Sep;107(9):1433-40. doi: 10.2105/AJPH.2017.303885. PMID: 28727540.
24. Coronado GD, Beresford SA, McLerran D, et al. Multilevel intervention raises Latina participation in mammography screening: Findings from Fortaleza Latina! *Cancer Epidemiol Biomarkers Prev.* 2016 04;25(4):584-92. doi: 10.1158/1055-9965.EPI-15-1246. PMID: 27196092.
25. Coronado GD, Golovaty I, Longton G, et al. Effectiveness of a clinic-based colorectal cancer screening promotion program for underserved Hispanics. *Cancer.* 2011 Apr 15;117(8):1745-54. doi: 10.1002/cncr.25730. PMID: 21472722.
26. Coronado GD, Petrik AF, Vollmer WM, et al. Effectiveness of a mailed colorectal cancer screening outreach program in community health clinics: the STOP CRC cluster randomized clinical trial. *JAMA Intern Med.* 2018 Sep 1;178(9):1174-81. doi: 10.1001/jamainternmed.2018.3629. PMID: 30083752.
27. Curry SJ, Ludman EJ, Graham E, et al. Pediatric-based smoking cessation intervention for low-income women: a randomized trial. *Arch Pediatr Adolesc Med.* 2003 Mar;157(3):295-302. PMID: 12622686.

28. Davis T, Arnold C, Rademaker A, et al. Improving colon cancer screening in community clinics. *Cancer*. 2013 Nov 1;119(21):3879-86. doi: 10.1002/cncr.28272. PMID: 24037721.
29. De Mil R, Guillaume E, Guittet L, et al. Cost-effectiveness analysis of a navigation program for colorectal cancer screening to reduce social health inequalities: A French cluster randomized controlled trial. *Value Health*. 2018 06;21(6):685-91. doi: 10.1016/j.jval.2017.09.020. PMID: 29909873.
30. DeGroff A, Schroy PC, 3rd, Morrissey KG, et al. Patient navigation for colonoscopy completion: Results of an RCT. *Am J Prev Med*. 2017 Sep;53(3):363-72. doi: 10.1016/j.amepre.2017.05.010. PMID: 28676254.
31. Dietrich AJ, Tobin JN, Cassells A, et al. Telephone care management to improve cancer screening among low-income women: a randomized, controlled trial. *Ann Intern Med*. 2006 Apr 18;144(8):563-71. doi: 10.7326/0003-4819-144-8-200604180-00006. PMID: 16618953.
32. Dietrich AJ, Tobin JN, Robinson CM, et al. Telephone outreach to increase colon cancer screening in medicaid managed care organizations: a randomized controlled trial. *Ann Fam Med*. 2013 Jul-Aug;11(4):335-43. doi: 10.1370/afm.1469. PMID: 23835819.
33. Dignan M, Shelton B, Slone SA, et al. Effectiveness of a primary care practice intervention for increasing colorectal cancer screening in Appalachian Kentucky. *Prev Med*. 2014 Jan;58:70-4. doi: 10.1016/j.ypmed.2013.10.018. PMID: 24212061.
34. Doorenbos AZ, Jacobsen C, Corpuz R, et al. A randomized controlled calendar mail-out to increase cancer screening among urban American Indian and Alaska Native patients. *J Cancer Educ*. 2011 Sep;26(3):549-54. doi: 10.1007/s13187-011-0217-z. PMID: 21472495.
35. Enard K, Nevarez L, Hernandez M, et al. Patient navigation to increase colorectal cancer screening among Latino Medicare enrollees: A randomized controlled trial. *Cancer Causes Control*. 2015 Sep;26(9):1351-9. doi: 10.1007/s10552-015-0620-6. PMID: 26109462.
36. Fang CY, Ma GX, Handorf EA, et al. Addressing multilevel barriers to cervical cancer screening in Korean American women: A randomized trial of a community-based intervention. *Cancer*. 2017 May 15;123(6):1018-26. doi: 10.1002/cncr.30391. PMID: 27869293.
37. Fiscella K, Humiston S, Hendren S, et al. A multimodal intervention to promote mammography and colorectal cancer screening in a safety-net practice. *J Natl Med Assoc*. 2011 Aug;103(8):762-8. doi: 10.1016/s0027-9684(15)30417-x. PMID: 22046855.
38. Ford ME, Havstad S, Vernon SW, et al. Enhancing adherence among older African American men enrolled in a longitudinal cancer screening trial. *Gerontologist*. 2006 Aug;46(4):545-50. doi: 10.1093/geront/46.4.545. PMID: 16921009.
39. Fortuna RJ, Idris A, Winters P, et al. Get screened: a randomized trial of the incremental benefits of reminders, recall, and outreach on cancer screening. *J Gen Intern Med*. 2014 Jan;29(1):90-7. doi: 10.1007/s11606-013-2586-y. PMID: 24002626.
40. Friedman LC, Everett TE, Peterson L, et al. Compliance with fecal occult blood test screening among low-income medical outpatients: a randomized controlled trial using a videotaped intervention. *J Cancer Educ*. 2001;16(2):85-8. doi: 10.1080/08858190109528738. PMID: 11440068.
41. Friedman M, Borum ML. Colorectal cancer screening of African Americans by internal medicine resident physicians can be improved with focused educational efforts. *J Natl Med Assoc*. 2007 Sep;99(9):1010-2. PMID: 17913110.

42. Glasgow RE, Whitlock EP, Eakin EG, et al. A brief smoking cessation intervention for women in low-income planned parenthood clinics. *Am J Public Health*. 2000 May;90(5):786-9. doi: 10.2105/ajph.90.5.786. PMID: 10800431.
43. Goldberg D, Schiff GD, McNutt R, et al. Mailings timed to patients' appointments: a controlled trial of fecal occult blood test cards. *Am J Prev Med*. 2004 Jun;26(5):431-5. doi: 10.1016/j.amepre.2004.02.009. PMID: 15165660.
44. Goldman SN, Liss DT, Brown T, et al. Comparative effectiveness of multifaceted outreach to initiate colorectal cancer screening in community health centers: A randomized controlled trial. *J Gen Intern Med*. 2015 Aug;30(8):1178-84. doi: 10.1007/s11606-015-3234-5. PMID: 25814264.
45. Gordon JS, Andrews JA, Albert DA, et al. Tobacco cessation via public dental clinics: results of a randomized trial. *Am J Public Health*. 2010 Jul;100(7):1307-12. doi: 10.2105/ajph.2009.181214. PMID: 20466951.
46. Guillaume E, Dejardin O, Bouvier V, et al. Patient navigation to reduce social inequalities in colorectal cancer screening participation: A cluster randomized controlled trial. *Prev Med*. 2017b Oct;103:76-83. doi: 10.1016/j.ypmed.2017.08.012. PMID: 28823681.
47. Guillaume E, Launay L, Dejardin O, et al. Could mobile mammography reduce social and geographic inequalities in breast cancer screening participation? *Prev Med*. 2017a Jul;100:84-8. doi: 10.1016/j.ypmed.2017.04.006. PMID: 28408217.
48. Gupta S, Halm EA, Rockey DC, et al. Comparative effectiveness of fecal immunochemical test outreach, colonoscopy outreach, and usual care for boosting colorectal cancer screening among the underserved: a randomized clinical trial. *JAMA Intern Med*. 2013 Oct 14;173(18):1725-32. doi: 10.1001/jamainternmed.2013.9294. PMID: 23921906.
49. Haas JS, Linder JA, Park ER, et al. Proactive tobacco cessation outreach to smokers of low socioeconomic status: a randomized clinical trial. *JAMA Intern Med*. 2015 Feb;175(2):218-26. doi: 10.1001/jamainternmed.2014.6674. PMID: 25506771.
50. Hendren S, Winters P, Humiston S, et al. Randomized, controlled trial of a multimodal intervention to improve cancer screening rates in a safety-net primary care practice. *J Gen Intern Med*. 2014 Jan;29(1):41-9. doi: 10.1007/s11606-013-2506-1. PMID: 23818159.
51. Hirst Y, Stoffel S, Baio G, et al. Uptake of the English Bowel (Colorectal) Cancer Screening Programme: an update 5 years after the full roll-out. *Eur J Cancer*. 2018 Nov;103:267-73. doi: 10.1016/j.ejca.2018.07.135. PMID: 30196989.
52. Hoffman AS, Lowenstein LM, Kamath GR, et al. An entertainment-education colorectal cancer screening decision aid for African American patients: A randomized controlled trial. *Cancer*. 2017 Apr 15;123(8):1401-8. doi: 10.1002/cncr.30489. PMID: 28001305.
53. Honeycutt S, Green R, Ballard D, et al. Evaluation of a patient navigation program to promote colorectal cancer screening in rural Georgia, USA. *Cancer*. 2013 Aug 15;119(16):3059-66. doi: 10.1002/cncr.28033. PMID: 23719894.
54. Horne HN, Phelan-Emrick DF, Pollack CE, et al. Effect of patient navigation on colorectal cancer screening in a community-based randomized controlled trial of urban African American adults. *Cancer Causes Control*. 2015 Feb;26(2):239-46. doi: 10.1007/s10552-014-0505-0. PMID: 25516073.
55. Inadomi JM, Vijan S, Janz NK, et al. Adherence to colorectal cancer screening: a randomized clinical trial of competing strategies. *Arch Intern Med*. 2012 Apr 9;172(7):575-82. doi: 10.1001/archinternmed.2012.332. PMID: 22493463.

56. Jandorf L, Gutierrez Y, Lopez J, et al. Use of a patient navigator to increase colorectal cancer screening in an urban neighborhood health clinic. *J Urban Health*. 2005 Jun;82(2):216-24. doi: 10.1093/jurban/jti046. PMID: 15888638.
57. Jandorf L, Hecht MF, Winkel G, et al. Increasing cancer screening for Latinas: Examining the impact of health messages and navigation in a cluster-randomized study. *J Racial Ethn Health Disparities*. 2014 Jun;1(2):85-100. doi: 10.1007/s40615-014-0014-6.
58. Jean-Jacques M, Kaleba EO, Gatta JL, et al. Program to improve colorectal cancer screening in a low-income, racially diverse population: a randomized controlled trial. *Ann Fam Med*. 2012 Sep;10(5):412-7. doi: 10.1370/afm.1381. PMID: 22966104.
59. Jibaja-Weiss ML, Volk RJ, Kingery P, et al. Tailored messages for breast and cervical cancer screening of low-income and minority women using medical records data. *Patient Educ Couns*. 2003 Jun;50(2):123-32. PMID: 12781927.
60. Katz ML, Fisher JL, Fleming K, et al. Patient activation increases colorectal cancer screening rates: a randomized trial among low-income minority patients. *Cancer Epidemiol Biomarkers Prev*. 2012 Jan;21(1):45-52. doi: 10.1158/1055-9965.Epi-11-0815. PMID: 22068288.
61. Katz ML, Tatum CM, Degraffinreid CR, et al. Do cervical cancer screening rates increase in association with an intervention designed to increase mammography usage? *J Womens Health (Larchmt)*. 2007 Jan-Feb;16(1):24-35. doi: 10.1089/jwh.2006.0071. PMID: 17324094.
62. Kim YH, Sarna L. An intervention to increase mammography use by Korean American women. *Oncol Nurs Forum*. 2004 Jan-Feb;31(1):105-10. doi: 10.1188/04.ONF.105-110. PMID: 14722594.
63. Kumanyika SK, Espeland MA, Bahnson JL, et al. Ethnic comparison of weight loss in the Trial of Nonpharmacologic Interventions in the Elderly. *Obes Res*. 2002 Feb;10(2):96-106. doi: 10.1038/oby.2002.16. PMID: 11836455.
64. Kumanyika SK, Shults J, Fassbender J, et al. Outpatient weight management in African-Americans: the Healthy Eating and Lifestyle Program (HELP) study. *Prev Med*. 2005 Aug;41(2):488-502. doi: 10.1016/j.ypmed.2004.09.049. PMID: 15917045.
65. Lasser KE, Murillo J, Lisboa S, et al. Colorectal cancer screening among ethnically diverse, low-income patients: a randomized controlled trial. *Arch Intern Med*. 2011 May 23;171(10):906-12. doi: 10.1001/archinternmed.2011.201. PMID: 21606094.
66. Lasser KE, Quintiliani LM, Truong V, et al. Effect of patient navigation and financial incentives on smoking cessation among primary care patients at an urban safety-net hospital: a randomized clinical trial. *JAMA Intern Med*. 2017 Dec 1;177(12):1798-807. doi: 10.1001/jamainternmed.2017.4372. PMID: 29084312.
67. Lee-Lin F, Nguyen T, Pedhiwala N, et al. A breast health educational program for Chinese-American women: 3- to 12-month postintervention effect. *Am J Health Promot*. 2015 Jan-Feb;29(3):173-81. doi: 10.4278/ajhp.130228-QUAN-91. PMID: 24460003.
68. Leone LA, Reuland DS, Lewis CL, et al. Reach, usage, and effectiveness of a Medicaid patient navigator intervention to increase colorectal cancer screening, Cape Fear, North Carolina, 2011. *Prev Chronic Dis*. 2013 May 23;10:E82. doi: 10.5888/pcd10.120221. PMID: 23701719.
69. Levy BT, Xu Y, Daly JM, et al. A randomized controlled trial to improve colon cancer screening in rural family medicine: an Iowa Research Network (IRENE) study. *J Am Board Fam Med*. 2013 Sep-Oct;26(5):486-97. doi: 10.3122/jabfm.2013.05.130041. PMID: 24004700.
70. Ma GX, Shive S, Tan Y, et al. Community-based colorectal cancer intervention in underserved Korean Americans. *Cancer Epidemiol*. 2009 Nov;33(5):381-6. doi: 10.1016/j.canep.2009.10.001. PMID: 19914880.

71. Margolis KL, Lurie N, McGovern PG, et al. Increasing breast and cervical cancer screening in low-income women. *J Gen Intern Med*. 1998 Aug;13(8):515-21. doi: 10.1046/j.1525-1497.1998.00161.x. PMID: 9734787.
72. Marshall JK, Mbah OM, Ford JG, et al. Effect of patient navigation on breast cancer screening among African American medicare beneficiaries: a randomized controlled trial. *J Gen Intern Med*. 2016 Jan;31(1):68-76. doi: 10.1007/s11606-015-3484-2. PMID: 26259762.
73. Martin DP, Rhode PC, Dutton GR, et al. A primary care weight management intervention for low-income African-American women. *Obesity (Silver Spring)*. 2006 Aug;14(8):1412-20. doi: 10.1038/oby.2006.160. PMID: 16988084.
74. Martin PD, Dutton GR, Rhode PC, et al. Weight loss maintenance following a primary care intervention for low-income minority women. *Obesity (Silver Spring)*. 2008 Nov;16(11):2462-7. doi: 10.1038/oby.2008.399. PMID: 18787526.
75. Mehta SJ, Jensen CD, Quinn VP, et al. Race/ethnicity and adoption of a population health management approach to colorectal cancer screening in a community-based healthcare system. *J Gen Intern Med*. 2016 Nov;31(11):1323-30. doi: 10.1007/s11606-016-3792-1. PMID: 27412426.
76. Miller DP, Jr., Denizard-Thompson N, Weaver KE, et al. Effect of a digital health intervention on receipt of colorectal cancer screening in vulnerable patients: a randomized controlled trial. *Ann Intern Med*. 2018 Apr 17;168(8):550-7. doi: 10.7326/m17-2315. PMID: 29532054.
77. Miller DP, Jr., Spangler JG, Case LD, et al. Effectiveness of a web-based colorectal cancer screening patient decision aid: a randomized controlled trial in a mixed-literacy population. *Am J Prev Med*. 2011 Jun;40(6):608-15. doi: 10.1016/j.amepre.2011.02.019. PMID: 21565651.
78. Miller SM, Hui S-kA, Wen K-Y, et al. Tailored telephone counseling to improve adherence to follow-up regimens after an abnormal pap smear among minority, underserved women. *Patient Educ Couns*. 2013 Dec;93(3):488-95. doi: 10.1016/j.pec.2013.08.008. PMID: 24007767.
79. Mitchell DC, Andrews T, Schenker MB. Pasos Saludables: A pilot randomized intervention study to reduce obesity in an immigrant farmworker population. *J Occup Environ Med*. 2015 Oct;57(10):1039-46. doi: 10.1097/JOM.0000000000000535. PMID: 26461858.
80. Muller CJ, Robinson RF, Smith JJ, et al. Text message reminders increased colorectal cancer screening in a randomized trial with Alaska Native and American Indian people. *Cancer*. 2017 Apr 15;123(8):1382-9. doi: 10.1002/cncr.30499. PMID: 28001304.
81. Murphy JM, Mahoney MC, Cummings KM, et al. A randomized trial to promote pharmacotherapy use and smoking cessation in a Medicaid population (United States). *Cancer Causes Control*. 2005 May;16(4):373-82. doi: 10.1007/s10552-004-6573-9. PMID: 15953979.
82. Murray RP, Connett JE, Buist AS, et al. Experience of Black participants in the Lung Health Study smoking cessation intervention program. *Nicotine Tob Res*. 2001 Nov;3(4):375-82. doi: 10.1080/14622200110081435. PMID: 11694205.
83. Myers RE, Sifri R, Daskalakis C, et al. Increasing colon cancer screening in primary care among African Americans. *J Natl Cancer Inst*. 2014 Dec;106(12):doi: 10.1093/jnci/dju344. PMID: 25481829.
84. Myers RE, Stello B, Daskalakis C, et al. Decision support and navigation to increase colorectal cancer screening among Hispanic patients. *Cancer Epidemiol Biomarkers Prev*. 2019 Feb;28(2):384-91. doi: 10.1158/1055-9965.EPI-18-0260. PMID: 30333221.

85. Nash D, Azeez S, Vlahov D, et al. Evaluation of an intervention to increase screening colonoscopy in an urban public hospital setting.[Erratum appears in J Urban Health. 2007 May;84(3):459]. J Urban Health. 2006 Mar;83(2):231-43. doi: 10.1007/s11524-006-9029-6. PMID: 16736372.
86. Navarro AM, Senn KL, McNicholas LJ, et al. Por La Vida model intervention enhances use of cancer screening tests among Latinas. Am J Prev Med. 1998 Jul;15(1):32-41. PMID: 9651636.
87. Nguyen BH, Stewart SL, Nguyen TT, et al. Effectiveness of lay health worker outreach in reducing disparities in colorectal cancer screening in Vietnamese Americans. Am J Public Health. 2015 Oct;105(10):2083-9. doi: 10.2105/AJPH.2015.302713. PMID: 26270306.
88. Paskett E, Tatum C, Rushing J, et al. Randomized trial of an intervention to improve mammography utilization among a triracial rural population of women. J Natl Cancer Inst. 2006 Sep 6;98(17):1226-37. doi: 10.1093/jnci/djj333. PMID: 16954475.
89. Paskett ED, McLaughlin JM, Lehman AM, et al. Evaluating the efficacy of lay health advisors for increasing risk-appropriate Pap test screening: a randomized controlled trial among Ohio Appalachian women. Cancer Epidemiol Biomarkers Prev. 2011 May;20(5):835-43. doi: 10.1158/1055-9965.epi-10-0880. PMID: 21430302.
90. Percac-Lima S, Ashburner JM, Rigotti NA, et al. Patient navigation for lung cancer screening among current smokers in community health centers a randomized controlled trial. Cancer Med. 2018 Mar;7(3):894-902. doi: 10.1002/cam4.1297. PMID: 29464877.
91. Percac-Lima S, Grant RW, Green AR, et al. A culturally tailored navigator program for colorectal cancer screening in a community health center: a randomized, controlled trial. J Gen Intern Med. 2009 Feb;24(2):211-7. doi: 10.1007/s11606-008-0864-x. PMID: 19067085.
92. Percac-Lima S, Lopez L, Ashburner JM, et al. The longitudinal impact of patient navigation on equity in colorectal cancer screening in a large primary care network. Cancer. 2014 Jul 01;120(13):2025-31. doi: 10.1002/cncr.28682. PMID: 24691564.
93. Percac-Lima S, Milosavljevic B, Oo SA, et al. Patient navigation to improve breast cancer screening in Bosnian refugees and immigrants. J Immigr Minor Health. 2012 Aug;14(4):727-30. doi: 10.1007/s10903-011-9539-5. PMID: 22009215.
94. Phillips CE, Rothstein JD, Beaver K, et al. Patient navigation to increase mammography screening among inner city women. J Gen Intern Med. 2011 Feb;26(2):123-9. doi: 10.1007/s11606-010-1527-2. PMID: 20931294.
95. Potter MB, Yu TM, Gildengorin G, et al. Adaptation of the FLU-FOBT Program for a primary care clinic serving a low-income Chinese American community: new evidence of effectiveness. J Health Care Poor Underserved. 2011 Feb;22(1):284-95. doi: 10.1353/hpu.2011.0030. PMID: 21317522.
96. Powell ME, Carter V, Bonsi E, et al. Increasing mammography screening among African American women in rural areas. J Health Care Poor Underserved. 2005 Nov;16(4 Suppl A):11-21. doi: 10.1353/hpu.2005.0129. PMID: 16327093.
97. Racette SB, Weiss EP, Obert KA, et al. Modest lifestyle intervention and glucose tolerance in obese African Americans. Obes Res. 2001 Jun;9(6):348-55. doi: 10.1038/oby.2001.45. PMID: 11399781.
98. Reuland DS, Brenner AT, Hoffman R, et al. Effect of combined patient decision aid and patient navigation vs usual care for colorectal cancer screening in a vulnerable patient population: a randomized clinical trial. JAMA Intern Med. 2017 Jul 1;177(7):967-74. doi: 10.1001/jamainternmed.2017.1294. PMID: 28505217.
99. Richter KP, Shireman TI, Ellerbeck EF, et al. Comparative and cost effectiveness of telemedicine versus telephone counseling for smoking cessation. J Med Internet Res. 2015 May 8;17(5):e113. doi: 10.2196/jmir.3975. PMID: 25956257.

100. Rodriguez-Torres SA, McCarthy AM, He W, et al. Long-term impact of a culturally tailored patient navigation program on disparities in breast cancer screening in refugee women after the program's end. *Health Equity*. 2019;3(1):205-10. doi: 10.1089/heap.2018.0104. PMID: 31106287.
101. Roetzheim RG, Christman LK, Jacobsen PB, et al. A randomized controlled trial to increase cancer screening among attendees of community health centers. *Ann Fam Med*. 2004 Jul-Aug;2(4):294-300. PMID: 15335126.
102. Roetzheim RG, Christman LK, Jacobsen PB, et al. Long-term results from a randomized controlled trial to increase cancer screening among attendees of community health centers. *Ann Fam Med*. 2005 Mar-Apr;3(2):109-14. doi: 10.1370/afm.240. PMID: 15798035.
103. Rosas LG, Thiagarajan S, Goldstein BA, et al. The effectiveness of two community-based weight loss strategies among obese, low-income US Latinos. *J Acad Nutr Diet*. 2015 Apr;115(4):537-50.e2. doi: 10.1016/j.jand.2014.10.020. PMID: 25578925.
104. Russell KM, Champion VL, Monahan PO, et al. Randomized trial of a lay health advisor and computer intervention to increase mammography screening in African American women. *Cancer Epidemiol Biomarkers Prev*. 2010 Jan;19(1):201-10. doi: 10.1158/1055-9965.Epi-09-0569. PMID: 20056639.
105. Schroy PC, 3rd, Emmons KM, Peters E, et al. Aid-assisted decision making and colorectal cancer screening: a randomized controlled trial. *Am J Prev Med*. 2012 Dec;43(6):573-83. doi: 10.1016/j.amepre.2012.08.018. PMID: 23159252.
106. Siddiqui AA, Sifri R, Hyslop T, et al. Race and response to colon cancer screening interventions. *Prev Med*. 2011 Mar-Apr;52(3-4):262-4. doi: 10.1016/j.ypmed.2011.01.005. PMID: 21256149.
107. Simon MS, Gimotty PA, Moncrease A, et al. The effect of patient reminders on the use of screening mammography in an urban health department primary care setting. *Breast Cancer Res Treat*. 2001 Jan;65(1):63-70. PMID: 11245341.
108. Singal AG, Gupta S, Skinner CS, et al. Effect of Colonoscopy Outreach vs Fecal Immunochemical Test Outreach on Colorectal Cancer Screening Completion: A Randomized Clinical Trial. *JAMA*. 2017 Sep 5;318(9):806-15. doi: 10.1001/jama.2017.11389. PMID: 28873161.
109. Singal AG, Gupta S, Tiro JA, et al. Outreach invitations for FIT and colonoscopy improve colorectal cancer screening rates: A randomized controlled trial in a safety-net health system. *Cancer*. 2016 Feb 1;122(3):456-63. doi: 10.1002/cncr.29770. PMID: 26535565.
110. Smith SA, Alema-Mensah E, Yoo W, et al. Persons who failed to obtain colorectal cancer screening despite participation in an evidence-based intervention. *J Community Health*. 2017 Feb;42(1):30-4. doi: 10.1007/s10900-016-0221-7. PMID: 27395048.
111. Soltero EG, Ramos C, Williams AN, et al. Viva Maryvale!: a multilevel, multisector model to community-based diabetes prevention. *Am J Prev Med*. 2019 Jan;56(1):58-65. doi: 10.1016/j.amepre.2018.07.034. PMID: 30573148.
112. Staten LK, Gregory-Mercado KY, Ranger-Moore J, et al. Provider counseling, health education, and community health workers: the Arizona WISEWOMAN project. *J Womens Health (Larchmt)*. 2004 Jun;13(5):547-56. doi: 10.1089/1540999041281133. PMID: 15257846.
113. Stoddard AM, Palombo R, Troped PJ, et al. Cardiovascular disease risk reduction: the Massachusetts WISEWOMAN project. *J Womens Health (Larchmt)*. 2004 Jun;13(5):539-46. doi: 10.1089/1540999041281106. PMID: 15257845.

114. Studts CR, Tarasenko YN, Schoenberg NE, et al. A community-based randomized trial of a faith-placed intervention to reduce cervical cancer burden in Appalachia. *Prev Med*. 2012 Jun;54(6):408-14. doi: 10.1016/j.ypmed.2012.03.019. PMID: 22498022.
115. Taplin SH, Haggstrom D, Jacobs T, et al. Implementing colorectal cancer screening in community health centers: addressing cancer health disparities through a regional cancer collaborative. *Med Care*. 2008 Sep;46(9 Suppl 1):S74-83. doi: 10.1097/MLR.0b013e31817fdf68. PMID: 18725837.
116. Thompson B, Carosso EA, Jhingan E, et al. Results of a randomized controlled trial to increase cervical cancer screening among rural Latinas. *Cancer*. 2017 Feb 15;123(4):666-74. doi: 10.1002/cncr.30399. PMID: 27787893.
117. Tu SP, Chun A, Yasui Y, et al. Adaptation of an evidence-based intervention to promote colorectal cancer screening: a quasi-experimental study. *Implement Sci*. 2014 Jul 2;9:85. doi: 10.1186/1748-5908-9-85. PMID: 24989083.
118. Tu SP, Taylor V, Yasui Y, et al. Promoting culturally appropriate colorectal cancer screening through a health educator: a randomized controlled trial. *Cancer*. 2006 Sep 1;107(5):959-66. doi: 10.1002/cncr.22091. PMID: 16865681.
119. Valdez A, Napoles AM, Stewart SL, et al. A randomized controlled trial of a cervical cancer education intervention for Latinas delivered through interactive, multimedia kiosks. *J Cancer Educ*. 2018 Feb;33(1):222-30. doi: 10.1007/s13187-016-1102-6. PMID: 27573420.
120. Wang H, Gregg A, Qiu F, et al. Breast Cancer Screening for Patients of Rural Accountable Care Organization Clinics: A Multi-Level Analysis of Barriers and Facilitators. *J Community Health*. 2018 04;43(2):248-58. doi: <https://dx.doi.org/10.1007/s10900-017-0412-x>. PMID: 28861654.
121. Wang X, Fang C, Tan Y, et al. Evidence-based intervention to reduce access barriers to cervical cancer screening among underserved Chinese American women. *J Womens Health*. 2010 Mar;19(3):463-9. doi: 10.1089/jwh.2009.1422. PMID: 20156089.
122. Weber BE, Reilly BM. Enhancing mammography use in the inner city. A randomized trial of intensive case management. *Arch Intern Med*. 1997 Nov 10;157(20):2345-9. PMID: 9361575.
123. West DS, Greene P, Pulley L, et al. Stepped-care, community clinic interventions to promote mammography use among low-income rural African American women. *Health Educ Behav*. 2004 Aug;31(4 Suppl):29S-44S. doi: 10.1177/1090198104266033. PMID: 15296690.
124. White K, Garces IC, Bandura L, et al. Design and evaluation of a theory-based, culturally relevant outreach model for breast and cervical cancer screening for Latina immigrants. *Ethn Dis*. 2012;22(3):274-80. PMID: 22870569.
125. Wu TY, Lin C. Developing and evaluating an individually tailored intervention to increase mammography adherence among Chinese American women. *Cancer Nurs*. 2015 Jan-Feb;38(1):40-9. doi: 10.1097/NCC.0000000000000126. PMID: 24621965.

Appendix C. Excluded Studies List

1. Updated recommendations for client- and provider-oriented interventions to increase breast, cervical, and colorectal cancer screening. *Am J Prev Med.* 2012 Jul;43(1):92-6. doi: 10.1016/j.amepre.2012.04.008. PMID: 22704753. **Exclusion reason:** Systematic review used to identify primary studies
2. 2017 National Healthcare Quality and Disparities Report. Rockville, MD: Agency for Healthcare Research and Quality; 2018. <http://www.ahrq.gov/research/findings/nhqdr/nhqdr17/index.html>. Accessed April 9 2019. **Exclusion reason:** Background information only
3. Aadahl M, von Huth Smith L, Toft U, et al. Does a population-based multifactorial lifestyle intervention increase social inequality in physical activity? The Inter99 study. *Br J Sports Med.* 2011 Mar;45(3):209-15. doi: 10.1136/bjsm.2009.064840. PMID: 19850570. **Exclusion reason:** Ineligible outcome
4. Aakhus L. Lifeline education program helps patients see the value of access care. *Nephrol News Issues.* 2009 Aug;23(9):24-6. PMID: 19753930. **Exclusion reason:** Ineligible publication type
5. Abbott LS. Evaluation of nursing interventions designed to impact knowledge, behaviors, and health outcomes for rural African-Americans: An integrative review. *Public Health Nurs.* 2015 Sep-Oct;32(5):408-20. doi: 10.1111/phn.12174. PMID: 25475990. **Exclusion reason:** Systematic review used to identify primary studies
6. Abbott LS. The effect of a culturally relevant cardiovascular health promotion program on rural African Americans. Dissertation abstracts international. 2017;78(1-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible study design
7. Abdou CM, Fingerhut AW, Jackson JS, et al. Healthcare stereotype threat in older adults in the Health and Retirement Study. *Am J Prev Med.* 2016 Feb;50(2):191-8. doi: 10.1016/j.amepre.2015.07.034. PMID: 26497263. **Exclusion reason:** Ineligible comparison
8. Abdus S, Mistry KB, Selden TM. Racial and ethnic disparities in services and the Patient Protection and Affordable Care Act. *Am J Public Health.* 2015 Nov;105 Suppl 5:S668-75. doi: 10.2105/AJPH.2015.302892. PMID: 26447920. **Exclusion reason:** Ineligible study design
9. Abidoye O, Ferguson MK, Salgia R. Lung carcinoma in African Americans. *Nature Clinical Practice Oncology.* 2007 Feb;4(2):118-29. PMID: 17259932. **Exclusion reason:** Ineligible publication type
10. Abraido-Lanza AF, Chao MT, Gammon MD. Breast and cervical cancer screening among Latinas and non-Latina whites. *Am J Public Health.* 2004 Aug;94(8):1393-8. PMID: 15284049. **Exclusion reason:** Ineligible study design
11. Abraido-Lanza AF, Martins MC, Shelton RC, et al. Breast cancer screening among Dominican Latinas: A closer look at fatalism and other social and cultural factors. *Health Educ Behav.* 2015 Oct;42(5):633-41. doi: 10.1177/1090198115580975. PMID: 25869406. **Exclusion reason:** Ineligible study design
12. Abrams SE. The most effective prevention program. *Public Health Nurs.* 2005 May-Jun;22(3):187-8. PMID: 15982191. **Exclusion reason:** Ineligible publication type
13. Ackerson K, Gretebeck K. Factors influencing cancer screening practices of underserved women. *J Am Acad Nurse Pract.* 2007 Nov;19(11):591-601. PMID: 17970859. **Exclusion reason:** Systematic review used to identify primary studies

14. Ackerson K, Pohl J, Low LK. Personal influencing factors associated with pap smear testing and cervical cancer. *Policy, Politics, & Nursing Practice*. 2008 Feb;9(1):50-60. doi: 10.1177/1527154408318097. PMID: 18492942. **Exclusion reason:** Sample size <20
15. Ackerson LK, Viswanath K. Communication inequalities, social determinants, and intermittent smoking in the 2003 Health Information National Trends Survey. *Prev Chronic Dis*. 2009 Apr;6(2):A40. PMID: 19288983. **Exclusion reason:** Ineligible study design
16. Acton GJ, Carter PA. Health promotion research: addressing the needs of older adults and their caregivers. *J Gerontol Nurs*. 2006 Feb;32(2):5. PMID: 16502755. **Exclusion reason:** Ineligible publication type
17. Adams AK, Scott JR, Prince R, et al. Using community advisory boards to reduce environmental barriers to health in American Indian communities, Wisconsin, 2007-2012. *Prev Chronic Dis*. 2014 Sep 18;11:E160. doi: 10.5888/pcd11.140014. PMID: 25232747. **Exclusion reason:** Ineligible comparison
18. Adams CE, Chen M, Guo L, et al. Mindfulness predicts lower affective volatility among African Americans during smoking cessation. *Psychol Addict Behav*. 2014 Jun;28(2):580-5. doi: 10.1037/a0036512. PMID: 24955676. **Exclusion reason:** Ineligible outcome
19. Adams EK, Breen N, Joski PJ. Impact of the National Breast and Cervical Cancer Early Detection Program on mammography and Pap test utilization among white, Hispanic, and African American women: 1996-2000. *Cancer*. 2007 Jan 15;109(2 Suppl):348-58. PMID: 17136766. **Exclusion reason:** Ineligible study design
20. Adams EK, Chien L-N. Racial disparities in breast and cervical cancer: Can legislative action work? [References]. *Cancer disparities: Causes and evidence-based solutions*. New York, NY ; Atlanta, GA: Springer Publishing Co; American Cancer Society; US; US; 2012:253-74. **Exclusion reason:** Ineligible publication type
21. Adams EK, Kenney GM, Galactionova K. Preventive and reproductive health services for women: the role of California's family planning waiver. *Am J Health Promot*. 2013 Jan-Feb;27(3 Suppl):eS1-eS10. doi: 10.4278/ajhp.120113-QUAN-28. PMID: 23286651. **Exclusion reason:** Ineligible study design
22. Adams J, Mytton O, White M, et al. Why are some population interventions for diet and obesity more equitable and effective than others? The role of individual agency.[Erratum appears in *PLoS Med*. 2016 May;13(5):e1002045; PMID: 27218824]. *PLoS Medicine / Public Library of Science*. 2016 Apr;13(4):e1001990. doi: 10.1371/journal.pmed.1001990. PMID: 27046234. **Exclusion reason:** Ineligible publication type
23. Adams J, White M. Smoking cessation services may not reduce inequalities. *J Epidemiol Community Health*. 2004 Feb;58(2):158; author reply -9. PMID: 14729903. **Exclusion reason:** Ineligible publication type
24. Adams LB, Richmond J, Corbie-Smith G, et al. Medical mistrust and colorectal cancer screening among African Americans. *J Community Health*. 2017 Oct;42(5):1044-61. doi: 10.1007/s10900-017-0339-2. PMID: 28439739. **Exclusion reason:** Systematic review used to identify primary studies
25. Adams ML. The African American breast cancer outreach project: partnering with communities. *Fam Community Health*. 2007 Jan-Mar;30(1 Suppl):S85-94. PMID: 17159636. **Exclusion reason:** Ineligible outcome
26. Adams SA, Choi SK, Eberth JM, et al. Is availability of mammography services at Federally Qualified Health Centers associated with breast cancer mortality-to-incidence ratios? An ecological analysis. *J Womens Health*. 2015 Nov;24(11):916-23. doi: 10.1089/jwh.2014.5114. PMID: 26208105. **Exclusion reason:** Ineligible study design

27. Adams SA, Choi SK, Khang L, et al. Decreased cancer mortality-to-incidence ratios with increased accessibility of Federally Qualified Health Centers. *J Community Health*. 2015 Aug;40(4):633-41. doi: 10.1007/s10900-014-9978-8. PMID: 25634545. **Exclusion reason:** Ineligible study design
28. Adams SA, Hebert JR, Bolick-Aldrich S, et al. Breast cancer disparities in South Carolina: early detection, special programs, and descriptive epidemiology. *J S C Med Assoc*. 2006 Aug;102(7):231-9. PMID: 17319236. **Exclusion reason:** Ineligible publication type
29. Adams SA, Heiney SP, Brandt HM, et al. A comparison of a centralized versus decentralized recruitment schema in two community-based participatory research studies for cancer prevention. *J Community Health*. 2015 Apr;40(2):251-9. doi: 10.1007/s10900-014-9924-9. PMID: 25086566. **Exclusion reason:** Ineligible intervention
30. Adams SA, Smith ER, Hardin J, et al. Racial differences in follow-up of abnormal mammography findings among economically disadvantaged women. *Cancer*. 2009 Dec;115(24):5788-97. doi: 10.1002/cncr.24633. PMID: 19859902. **Exclusion reason:** Ineligible population
31. Adams-Campbell LL, Makambi K, Mouton CP, et al. Colonoscopy utilization in the Black Women's Health Study. *J Natl Med Assoc*. 2010 Mar;102(3):237-42. doi: 10.1016/S0027-9684%2815%2930530-7. PMID: 20355353. **Exclusion reason:** Ineligible study design
32. Addison CC, Campbell Jenkins BW, Odom D, et al. Building collaborative health promotion partnerships: The Jackson Heart Study. *Int J Environ Res Public Health*. 2015 Dec 22;13(1):ijerph13010025. doi: 10.3390/ijerph13010025. PMID: 26703681. **Exclusion reason:** Ineligible publication type
33. Adebayo OW, Gonzalez-Guarda RM. Factors associated with HIV testing in youth in the United States: An integrative review. *J Assoc Nurses AIDS Care*. 2017 May - Jun;28(3):342-62. doi: 10.1016/j.jana.2016.11.006. PMID: 27993497. **Exclusion reason:** Ineligible outcome
34. Adedoyin ACA. A systematic review of evidence-based cancer education media interventions to improve cancer screening behaviors among African Americans in the United States. Dissertation abstracts international. 2014;75(6-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible study design
35. Adepoju OE, Preston MA, Gonzales G. Health care disparities in the post-Affordable Care Act era. *Am J Public Health*. 2015 Nov;105 Suppl 5:S665-7. doi: 2015.302611. PMID: 25879149. **Exclusion reason:** Ineligible publication type
36. Adimora AA, Auerbach JD. Structural interventions for HIV prevention in the United States. *J Acquir Immune Defic Syndr*. 2010 Dec;55 Suppl 2:S132-5. doi: 10.1097/QAI.0b013e3181fbc38. PMID: 21406983. **Exclusion reason:** Ineligible outcome
37. Aggarwal A. Socioeconomic disparities in obesity prevalence: Role of diet quality and diet cost. Dissertation abstracts international. 2012;72(10-B):5889. **Exclusion reason:** Ineligible publication type
38. Aggarwal A, Pandurangi A, Smith W. Disparities in breast and cervical cancer screening in women with mental illness: a systematic literature review. *Am J Prev Med*. 2013 Apr;44(4):392-8. doi: 10.1016/j.amepre.2012.12.006. PMID: 23498106. **Exclusion reason:** Ineligible population
39. Ahluwalia J, Richter K, Mayo M, et al. Quit for Life: A randomized trial of culturally sensitive materials for smoking cessation in African Americans. *J Gen Intern Med*. 1999;14(6). **Exclusion reason:** Ineligible publication type

40. Ahluwalia JS, Gibson CA, Kenney RE, et al. Smoking status as a vital sign. *J Gen Intern Med*. 1999 Jul;14(7):402-8. PMID: 10417597. **Exclusion reason:** Ineligible outcome
41. Ahluwalia JS, Harris KJ, Catley D, et al. Sustained-release bupropion for smoking cessation in African Americans: a randomized controlled trial. *JAMA*. 2002 Jul 24-31;288(4):468-74. PMID: 12132977. **Exclusion reason:** Ineligible setting
42. Ahluwalia JS, McNaghy SE, Clark WS. Smoking cessation among inner-city African Americans using the nicotine transdermal patch. *J Gen Intern Med*. 1998 Jan;13(1):1-8. PMID: 9462488. **Exclusion reason:** Ineligible setting
43. Ahluwalia JS, Okuyemi K, Nollen N, et al. The effects of nicotine gum and counseling among African American light smokers: a 2 x 2 factorial design. *Addiction*. 2006 Jun;101(6):883-91. doi: 10.1111/j.1360-0443.2006.01461.x. PMID: 16696632. **Exclusion reason:** Ineligible setting
44. Ahmad F, Stewart DE, Cameron JI, et al. Rural physicians' perspectives on cervical and breast cancer screening: a gender-based analysis. *J Womens Health Gend Based Med*. 2001 Mar;10(2):201-8. PMID: 11268303. **Exclusion reason:** Ineligible study design
45. Ahmed NU, Fort JG, Elzey JD, et al. Empowering factors for regular mammography screening in under-served populations: pilot survey results in Tennessee. *Ethn Dis*. 2005;15(3):387-94. PMID: 16108297. **Exclusion reason:** Ineligible study design
46. Ahmed NU, Fort JG, Micah TH, et al. How the health care system can improve mammography-screening rates for underserved women: a closer look at the health care delivery system. *J Ambul Care Manage*. 2001 Jul;24(3):17-26. PMID: 11433552. **Exclusion reason:** Ineligible comparison
47. Ahmed NU, Pelletier V, Winter K, et al. Factors explaining racial/ethnic disparities in rates of physician recommendation for colorectal cancer screening. *Am J Public Health*. 2013 Jul;103(7):e91-e9. doi: 10.2105/AJPH.2012.301034. PMID: 23678899. **Exclusion reason:** Ineligible outcome
48. Ahmed SM, Size T, Crouse B, et al. Strong Rural Communities Initiative (SRCI) program: challenges in promoting healthier lifestyles. *WMJ*. 2011 Jun;110(3):119-26. PMID: 21748996. **Exclusion reason:** Ineligible intervention
49. Aitaoto N, Braun KL, Estrella J, et al. Design and results of a culturally tailored cancer outreach project by and for Micronesian women. *Prev Chronic Dis*. 2012;9:E82. PMID: 22480611. **Exclusion reason:** Ineligible comparison
50. Akers AY, Newmann SJ, Smith JS. Factors underlying disparities in cervical cancer incidence, screening, and treatment in the United States. *Curr Probl Cancer*. 2007 May-Jun;31(3):157-81. PMID: 17543946. **Exclusion reason:** Ineligible publication type
51. Akindana A, Ogunedo C. Managing type 2 diabetes in Black patients. *Nurse Pract*. 2015 Sep 13;40(9):20-7; quiz 7-8. doi: 10.1097/01.NPR.0000470354.00838.eb. PMID: 26259037. **Exclusion reason:** Ineligible population
52. Akinlotan M, Bolin JN, Helduser J, et al. Cervical cancer screening barriers and risk factor knowledge among uninsured women. *J Community Health*. 2017 Aug;42(4):770-8. doi: 10.1007/s10900-017-0316-9. PMID: 28155005. **Exclusion reason:** Background information only
53. Akinyemiju T, Wiener H, Pisu M. Cancer-related risk factors and incidence of major cancers by race, gender and region; analysis of the NIH-AARP diet and health study. *BMC Cancer*. 2017 Aug 30;17(1):597. doi: 10.1186/s12885-017-3557-1. PMID: 28854891. **Exclusion reason:** Ineligible outcome

54. Alatrash MH. Behaviors and views of three Arab American women subgroups regarding breast cancer screening: A comparative study. Dissertation abstracts international. 2016;77(3-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible study design
55. Alberg AJ, Horner MJ, Daguise VG, et al. Lung and bronchus cancer disparities in South Carolina: epidemiology and strategies for prevention. J S C Med Assoc. 2006 Aug;102(7):183-91. PMID: 17319229. **Exclusion reason:** Ineligible publication type
56. Alberg AJ, Stashefsky Margalit R, Burke A, et al. The influence of offering free transdermal nicotine patches on quit rates in a local health department's smoking cessation program. Addict Behav. 2004 Dec;29(9):1763-78. PMID: 15530720. **Exclusion reason:** Ineligible population
57. Albrecht SS, Gordon-Larsen P. Ethnic differences in body mass index trajectories from adolescence to adulthood: a focus on Hispanic and Asian subgroups in the United States. PLoS ONE [Electronic Resource]. 2013;8(9):e72983. doi: 10.1371/journal.pone.0072983. PMID: 24039835. **Exclusion reason:** Ineligible outcome
58. Albright K, Krantz MJ, Backlund Jarquin P, et al. Health promotion text messaging preferences and acceptability among the medically underserved. Health Promotion Practice. 2015 Jul;16(4):523-32. doi: 10.1177/1524839914566850. PMID: 25586133. **Exclusion reason:** Ineligible outcome
59. Albright K, Richardson T, Kempe KL, et al. Toward a trustworthy voice: increasing the effectiveness of automated outreach calls to promote colorectal cancer screening among African Americans. Perm J. 2014 Spring;18(2):33-7. doi: 10.7812/tpp/13-139. PMID: 24867548. **Exclusion reason:** Ineligible outcome
60. Alcala HE, Albert SL, Roby DH, et al. Access to care and cardiovascular disease prevention: A cross-sectional study in 2 Latino communities. Medicine. 2015 Aug;94(34):e1441. doi: 10.1097/MD.0000000000001441. PMID: 26313803. **Exclusion reason:** Ineligible study design
61. Aldridge ML, Daniels JL, Jukic AM. Mammograms and healthcare access among US Hispanic and non-Hispanic women 40 years and older. Fam Community Health. 2006 Apr-Jun;29(2):80-8. PMID: 16552286. **Exclusion reason:** Ineligible study design
62. Alexandraki I, Mooradian AD. Barriers related to mammography use for breast cancer screening among minority women. J Natl Med Assoc. 2010 Mar;102(3):206-18. doi: 10.1016/S0027-9684%2815%2930527-7. PMID: 20355350. **Exclusion reason:** Systematic review used to identify primary studies
63. Allen JD, Perez JE, Tom L, et al. A pilot test of a church-based intervention to promote multiple cancer-screening behaviors among Latinas. J Cancer Educ. 2014 Mar;29(1):136-43. doi: 10.1007/s13187-013-0560-3. PMID: 24132541. **Exclusion reason:** Ineligible outcome
64. Allen JD, Shelton RC, Harden E, et al. Follow-up of abnormal screening mammograms among low-income ethnically diverse women: findings from a qualitative study. Patient Educ Couns. 2008 Aug;72(2):283-92. doi: 10.1016/j.pec.2008.03.024. PMID: 18490127. **Exclusion reason:** Ineligible population
65. Allen SM, Wieland S, Griffin J, et al. Continuity in provider and site of care and preventive services receipt in an adult Medicaid population with physical disabilities. Disabil Health J. 2009 Oct;2(4):180-7. doi: 10.1016/j.dhjo.2009.06.004. PMID: 21122758. **Exclusion reason:** Ineligible population

66. Allgood KL, Hunt B, Kanoon JM, et al. Evaluation of mammogram parties as an effective community navigation method. *J Cancer Educ*. 2018 Oct;33(5):1061-8. doi: 10.1007/s13187-017-1206-7. PMID: 28290092. **Exclusion reason:** Ineligible population
67. Almeida FA, Smith-Ray RL, Dzewaltowski DA, et al. An interactive computer session to initiate physical activity in sedentary cardiac patients: Randomized controlled trial. *J Med Internet Res*. 2015;17(8):No Pagination Specified. doi: 10.2196/jmir.3759. PMID: 26303347. **Exclusion reason:** Ineligible population
68. Almendarez IS, Boysun M, Clark K. Thunder and Lightning and Rain: a Latino/Hispanic diabetes media awareness campaign. *Fam Community Health*. 2004 Apr-Jun;27(2):114-22. PMID: 15596978. **Exclusion reason:** Ineligible outcome
69. Almufleh A, Gabriel T, Tokayer L, et al. Role of community health outreach program "living for health" in improving access to federally qualified health centers in Miami-dade county, Florida: a cross-sectional study. *BMC Health Serv Res*. 2015 Apr 28;15:181. doi: 10.1186/s12913-015-0826-z. PMID: 25928016. **Exclusion reason:** Ineligible study design
70. Aloma A. Exploring proximal and distal psychosocial stressors influencing the health outcomes of urban American Indians in the Midwest. Dissertation abstracts international. 2017;77(12-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
71. Alpert AB, CichoskiKelly EM, Fox AD. What lesbian, gay, bisexual, transgender, queer, and intersex patients say doctors should know and do: A qualitative study. *J Homosex*. 2017;64(10):1368-89. doi: 10.1080/00918369.2017.1321376. PMID: 28481724. **Exclusion reason:** Ineligible study design
72. Alspach G. Reading and bleeding: an insidious link. *Crit Care Nurse*. 1996 Aug;16(4):12-4. PMID: 8852242. **Exclusion reason:** Ineligible publication type
73. Altman R, Nunez de Ybarra J, Villablanca AC. Community-based cardiovascular disease prevention to reduce cardiometabolic risk in Latina women: a pilot program. *J Womens Health*. 2014 Apr;23(4):350-7. doi: 10.1089/jwh.2013.4570. PMID: 24552357. **Exclusion reason:** Ineligible comparison
74. Altpeter M, Mitchell J, Pennell J. Advancing social workers' responsiveness to health disparities: the case of breast cancer screening. *Health Soc Work*. 2005 Aug;30(3):221-32. PMID: 16190298. **Exclusion reason:** Ineligible study design
75. Alverson EM, Kessler TA. Concerns expressed by underserved individuals regarding family and community healthcare needs. *Holist Nurs Pract*. 2005 Jul-Aug;19(4):181-6. PMID: 16006833. **Exclusion reason:** Ineligible study design
76. Alvy LM, McKirnan D, Du Bois SN, et al. Health care disparities and behavioral health among men who have sex with men. *J Gay Lesbian Soc Serv*. 2011 Oct;23(4):507-22. doi: 10.1080/10538720.2011.611114. **Exclusion reason:** Ineligible study design
77. Ambriz EH, Woodard LD, Kressin NR, et al. Use of smoking cessation interventions and aspirin for secondary prevention: are there racial disparities? *Am J Med Qual*. 2004 Jul-Aug;19(4):166-71. PMID: 15368781. **Exclusion reason:** Ineligible population
78. American Public Health Association. Effective interventions for reducing racial and ethnic disparities in health. *Am J Public Health*. 2001 Mar;91(3):485-6. PMID: 11236428. **Exclusion reason:** Ineligible publication type
79. Amirehsani KA. Mexican Americans with type 2 diabetes in an emerging Latino community: Evaluation of health disparity factors and interventions. *Home Health Care Manag Pract*. 2010 Dec;22(7):470-8. doi: 10.1177/1084822310368658. **Exclusion reason:** Ineligible study design
80. Amonkar MM, Madhavan S. Compliance rates and predictors of cancer screening recommendations among Appalachian women. *J Health Care Poor Underserved*. 2002 Nov;13(4):443-60. PMID: 12407962. **Exclusion reason:** Ineligible study design

81. Amonkar MM, Madhavan S, Rosenbluth SA, et al. Barriers and facilitators to providing common preventive screening services in managed care settings. *J Community Health*. 1999 Jun;24(3):229-47. PMID: 10399654. **Exclusion reason:** Ineligible publication type
82. Amrock SM, Duell PB, Knickelbine T, et al. Health disparities among adult patients with a phenotypic diagnosis of familial hypercholesterolemia in the CASCADE-FHTM patient registry. *Atherosclerosis*. 2017 Dec;267:19-26. doi: 10.1016/j.atherosclerosis.2017.10.006. PMID: 29080546. **Exclusion reason:** Ineligible intervention
83. Amy NK, Aalborg A, Lyons P, et al. Barriers to routine gynecological cancer screening for White and African-American obese women. *Int J Obes*. 2006 Jan;30(1):147-55. PMID: 16231037. **Exclusion reason:** Ineligible population
84. Ananthakrishnan AN, Schellhase KG, Sparapani RA, et al. Disparities in colon cancer screening in the Medicare population. *Arch Intern Med*. 2007 Feb 12;167(3):258-64. PMID: 17296881. **Exclusion reason:** Ineligible outcome
85. Ancheta IB, Carlson JM, Battie CA, et al. One size does not fit all: cardiovascular health disparities as a function of ethnicity in Asian-American women. *Appl Nurs Res*. 2015 May;28(2):99-105. doi: 10.1016/j.apnr.2014.06.001. PMID: 25069635. **Exclusion reason:** Ineligible study design
86. Anderko L, Bartz C, Lundeen S. Practice-based research networks: nursing centers and communities working collaboratively to reduce health disparities. *Nurs Clin North Am*. 2005 Dec;40(4):747-58, xi-xii. PMID: 16324948. **Exclusion reason:** Ineligible publication type
87. Andersen SR, Belcourt GM, Langwell KM. Building healthy tribal nations in Montana and Wyoming through collaborative research and development. *Am J Public Health*. 2005 May;95(5):784-9. PMID: 15855453. **Exclusion reason:** Ineligible publication type
88. Anderson AE, Henry KA, Samadder NJ, et al. Rural vs urban residence affects risk-appropriate colorectal cancer screening. *Clin Gastroenterol Hepatol*. 2013 May;11(5):526-33. doi: 10.1016/j.cgh.2012.11.025. PMID: 23220166. **Exclusion reason:** Ineligible study design
89. Anderson EE, Hoskins K. Individual breast cancer risk assessment in underserved populations: integrating empirical bioethics and health disparities research. *J Health Care Poor Underserved*. 2012 Nov;23(4 Suppl):34-46. doi: 10.1353/hpu.2012.0178. PMID: 23124498. **Exclusion reason:** Ineligible publication type
90. Anderson EE, Tejeda S, Childers K, et al. Breast cancer risk assessment among low-income women of color in primary care: A pilot study. *J Oncol Pract*. 2015 Jul;11(4):e460-7. doi: 10.1200/JOP.2014.003558. PMID: 26036266. **Exclusion reason:** Ineligible intervention
91. Anderson J, Godwin KM, Petersen NJ, et al. A pilot test of videoconferencing to improve access to a stroke risk-reduction programme for Veterans. *J Telemed Telecare*. 2013 Apr;19(3):153-9. PMID: 23625913. **Exclusion reason:** Ineligible population
92. Anderson JB. Unraveling health disparities: Examining the dimensions of hypertension and diabetes through community engagement. *J Health Care Poor Underserved*. 2005 Nov;16(4,SupplA):91-117. doi: 10.1353/hpu.2005.0121. PMID: 16327099. **Exclusion reason:** Ineligible study design
93. Anderson KM, Siems LV, Holloway SC, et al. Group counselling improves quality for patients with limited health literacy. *Qual Prim Care*. 2012;20(1):5-13. PMID: 22584363. **Exclusion reason:** Ineligible comparison
94. Anderson LM, Adeney KL, Shinn C, et al. Community coalition-driven interventions to reduce health disparities among racial and ethnic minority populations. *Cochrane Database Syst Rev*. 2015 Jun 15(6):Cd009905. doi: 10.1002/14651858.CD009905.pub2. PMID: 26075988. **Exclusion reason:** Systematic review used to identify primary studies

95. Anderson NL, Calvillo ER, Fongwa MN. Community-based approaches to strengthen cultural competency in nursing education and practice. *J Transcult Nurs*. 2007 Jan;18(1 Suppl):49S-59S; discussion 60S-7S. PMID: 17204814. **Exclusion reason:** Ineligible publication type
96. Anderson R. The role of community-based programs in addressing health disparities as it relates to breast and cervical cancer in african american women: A systematic review of studies. *Dissertation abstracts international*. 2009;69(12-A):4646. **Exclusion reason:** Ineligible study design
97. Andoh J, Verhulst S, Ganesh M, et al. Sex- and race-related differences among smokers using a national helpline are not explained by socioeconomic status. *J Natl Med Assoc*. 2008 Feb;100(2):200-7. PMID: 18300537. **Exclusion reason:** Ineligible study design
98. Andrade Lopez GG. Integrating technology to improve health and well-being in the Latino population. *Dissertation abstracts international*. 2018;79(4-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible study design
99. Andrasik MP, Rose R, Pereira D, et al. Barriers to cervical cancer screening among low-income HIV-positive African American women. *J Health Care Poor Underserved*. 2008 Aug;19(3):912-25. doi: 10.1353/hpu.0.0037. PMID: 18677078. **Exclusion reason:** Ineligible comparison
100. Andrews J, Felton G, Wewers M, et al. Sister to sister: a pilot study to assist African American women in subsidized housing to quit smoking. *South Online J Nurs Res*. 2005;6(5):2. **Exclusion reason:** Ineligible setting
101. Andrews JO, Bentley G, Crawford S, et al. Using community-based participatory research to develop a culturally sensitive smoking cessation intervention with public housing neighborhoods. *Ethn Dis*. 2007 Spring;17(2):331-7. PMID: 17682367. **Exclusion reason:** Ineligible publication type
102. Andrews JO, Felton G, Ellen Wewers M, et al. The effect of a multi-component smoking cessation intervention in African American women residing in public housing. *Res Nurs Health*. 2007 Feb;30(1):45-60. doi: 10.1002/nur.20174. PMID: 17243107. **Exclusion reason:** Ineligible setting
103. Andrews JO, Mueller M, Dooley M, et al. Effect of a smoking cessation intervention for women in subsidized neighborhoods: A randomized controlled trial. *Prev Med*. 2016 Sep;90:170-6. doi: 10.1016/j.ypmed.2016.07.008. PMID: 27423320. **Exclusion reason:** Ineligible setting
104. Andrews JO, Tingen MS, Jarriel SC, et al. Application of a CBPR framework to inform a multi-level tobacco cessation intervention in public housing neighborhoods. *Am J Community Psychol*. 2012 Sep;50(1-2):129-40. doi: 10.1007/s10464-011-9482-6. PMID: 22124619. **Exclusion reason:** Ineligible publication type
105. Anhang Price R, Zapka J, Edwards H, et al. Organizational factors and the cancer screening process. *J Natl Cancer Inst Monogr*. 2010;2010(40):38-57. doi: 10.1093/jncimonographs/lgq008. PMID: 20386053. **Exclusion reason:** Ineligible outcome
106. Anonymous. More attention to preventive health services needed for older persons in the United States of America. 2003. *Rev Panam Salud Publica*. 2003 Jun;13(6):419-20. PMID: 12880527. **Exclusion reason:** Ineligible publication type
107. Anonymous. HealthPartners battles excess pounds on a population basis. *Dis Manag Advis*. 2003 Mar;9(3):45-7, 33. PMID: 12701451. **Exclusion reason:** Ineligible publication type
108. Anonymous. New national report card shows quality of care has room for improvement in all communities across the country. *Qual Lett Healthc Lead*. 2004 Jul;16(7):2-6, 1. PMID: 15366537. **Exclusion reason:** Ineligible intervention
109. Anonymous. Joint effort to improve the health of older Hispanic Americans. *FDA Consum*. 2004 Jan-Feb;38(1):9. PMID: 15032196. **Exclusion reason:** Ineligible publication type

110. Anonymous. Hypertension in America: a national reading. *Am J Manag Care*. 2005 Nov;11(13 Suppl):S383-5. PMID: 16300452. **Exclusion reason:** Ineligible publication type
111. Anonymous. Study reignites debate on screenings in the ED. *ED Manag*. 2005 Sep;17(9):103-4. PMID: 16153023. **Exclusion reason:** Ineligible publication type
112. Anonymous. Improving health, eliminating disparities. Proceedings of the Fourth Annual Primary Care and Prevention Conference. October 25-27, 2004. Atlanta, Georgia, USA. *Ethn Dis*. 2005;15(2 Suppl 2):S1-85. PMID: 16044621. **Exclusion reason:** Ineligible publication type
113. Anonymous. Text message program improves outcomes, decreases ED utilization among ED patients with poorly controlled diabetes. *ED Manag*. 2014 Feb;26(2):20-3. PMID: 24505864. **Exclusion reason:** Ineligible publication type
114. Anonymous. Does Doctor Race Affect the Health of Black Men? *Natl Bur Econ Res Bull Aging Health*. 2018(4):4. PMID: 30572418. **Exclusion reason:** Ineligible publication type
115. Aponte J, Nickitas DM. Community as client: reaching an underserved urban community and meeting unmet primary health care needs. *J Community Health Nurs*. 2007;24(3):177-90. PMID: 17650987. **Exclusion reason:** Ineligible publication type
116. Appel SJ. Cardiovascular health disparities among African American women and teens. *J Cardiovasc Nurs*. 2007 Jul-Aug;22(4):261-2. doi: 10.1097/01.JCN.0000278956.90500.fc. **Exclusion reason:** Ineligible publication type
117. Arber S, McKinlay J, Adams A, et al. Influence of patient characteristics on doctors' questioning and lifestyle advice for coronary heart disease: a UK/US video experiment. *Br J Gen Pract*. 2004 Sep;54(506):673-8. PMID: 15353053. **Exclusion reason:** Ineligible outcome
118. Arnsberger P, Nussey B, Fox P, et al. Cervical intraepithelial lesions and cervical cancer among Asian Pacific Islander women in a cervical cancer screening program. *Health Care Women Int*. 2002 Jul-Aug;23(5):450-9. PMID: 12180426. **Exclusion reason:** Ineligible outcome
119. Asgary R, Alcabes A, Feldman R, et al. Cervical cancer screening among homeless women of New York City shelters. *Matern Child Health J*. 2016 06;20(6):1143-50. doi: 10.1007/s10995-015-1900-1. PMID: 26649876. **Exclusion reason:** Ineligible outcome
120. Asgary R, Garland V, Sckell B. Breast cancer screening among homeless women of New York City shelter-based clinics. *Womens Health Issues*. 2014 Sep-Oct;24(5):529-34. doi: 10.1016/j.whi.2014.06.002. PMID: 25029909. **Exclusion reason:** Ineligible outcome
121. Asgary R, Naderi R, Wisnivesky J. Opt-out patient navigation to improve breast and cervical cancer screening among homeless women. *J Womens Health*. 2017 09;26(9):999-1003. doi: 10.1089/jwh.2016.6066. PMID: 28103125. **Exclusion reason:** Ineligible comparison
122. Ashe M, Bennett G, Economos C, et al. Assessing coordination of legal-based efforts across jurisdictions and sectors for obesity prevention and control. *J Law Med Ethics*. 2009;37 Suppl 1:45-54. doi: 10.1111/j.1748-720X.2009.00391.x. PMID: 19493091. **Exclusion reason:** Ineligible publication type
123. Ashida S, Wilkinson AV, Koehly LM. Social influence and motivation to change health behaviors among Mexican-origin adults: implications for diet and physical activity. *Am J Health Promot*. 2012 Jan-Feb;26(3):176-9. doi: 10.4278/ajhp.100107-QUAN-2. PMID: 22208416. **Exclusion reason:** Ineligible study design
124. Ashing-Giwa KT, Gonzalez P, Lim J-W, et al. Diagnostic and therapeutic delays among a multiethnic sample of breast and cervical cancer survivors. *Cancer*. 2010 Jul;116(13):3195-204. doi: 10.1002/cncr.25060. PMID: 20564623. **Exclusion reason:** Ineligible population

125. Asvat Y, Cao D, Africk JJ, et al. Feasibility and effectiveness of a community-based smoking cessation intervention in a racially diverse, urban smoker cohort. *Am J Public Health*. 2014 Sep;104 Suppl 4:S620-7. doi: 10.2105/AJPH.2014.302097. PMID: 25100429. **Exclusion reason:** Ineligible comparison
126. Atherly A, Mortensen K. Medicaid primary care physician fees and the use of preventive services among Medicaid enrollees. *Health Serv Res*. 2014 Aug;49(4):1306-28. doi: 10.1111/1475-6773.12169. PMID: 24628495. **Exclusion reason:** Ineligible study design
127. Athey VL, Suckling RJ, Tod AM, et al. Early diagnosis of lung cancer: evaluation of a community-based social marketing intervention. *Thorax*. 2012 May;67(5):412-7. doi: 10.1136/thoraxjnl-2011-200714. PMID: 22052579. **Exclusion reason:** Ineligible intervention
128. Atkinson NL, Billing AS, Desmond SM, et al. Assessment of the nutrition and physical activity education needs of low-income, rural mothers: can technology play a role? *J Community Health*. 2007 Aug;32(4):245-67. PMID: 17696049. **Exclusion reason:** Ineligible outcome
129. Atkinson NL, Gold RS. The promise and challenge of eHealth interventions. *Am J Health Behav*. 2002 Nov-Dec;26(6):494-503. PMID: 12437024. **Exclusion reason:** Ineligible publication type
130. Atkinson NL, Saperstein SL, Desmond SM, et al. Rural eHealth nutrition education for limited-income families: an iterative and user-centered design approach. *J Med Internet Res*. 2009 Jun 22;11(2) Background1. doi: 10.2196/jmir.1148. PMID: 19632974. **Exclusion reason:** Ineligible outcome
131. Atlas SJ, Zai AH, Ashburner JM, et al. Non-visit-based cancer screening using a novel population management system. *J Am Board Fam Med*. 2014 Jul-Aug;27(4):474-85. doi: 10.3122/jabfm.2014.04.130319. PMID: 25002002. **Exclusion reason:** Ineligible population
132. Attwood S, van Sluijs E, Sutton S. Exploring equity in primary-care-based physical activity interventions using PROGRESS-Plus: a systematic review and evidence synthesis. *Int J Behav Nutr Phys Act*. 2016 May 20;13:60. doi: 10.1186/s12966-016-0384-8. PMID: 27206793. **Exclusion reason:** Systematic review used to identify primary studies
133. August KJ, Sorkin DH. Racial/ethnic disparities in exercise and dietary behaviors of middle-aged and older adults. *J Gen Intern Med*. 2011 Mar;26(3):245-50. doi: 10.1007/s11606-010-1514-7. PMID: 20865342. **Exclusion reason:** Ineligible study design
134. Auslander W, Haire-Joshu D, Houston C, et al. A controlled evaluation of staging dietary patterns to reduce the risk of diabetes in African-American women. *Diabetes Care*. 2002 May;25(5):809-14. PMID: 11978673. **Exclusion reason:** Ineligible setting
135. Austin S, Pazaris MJ, Nichols LP, et al. An examination of sexual orientation group patterns in mammographic and colorectal screening in a cohort of U.S. women. *Cancer Causes Control*. 2013 Mar;24(3):539-47. doi: 10.1007/s10552-012-9991-0. PMID: 22729931. **Exclusion reason:** Ineligible outcome
136. Avery MD, Escoto KH, Gilchrist LD, et al. Health education priorities: perspectives from women's voices. *Health Care Women Int*. 2011 Oct;32(10):887-900. doi: 10.1080/07399332.2011.603870. PMID: 21919626. **Exclusion reason:** Ineligible outcome
137. Avis-Williams A, Khoury A, Lisovicz N, et al. Knowledge, attitudes, and practices of underserved women in the rural South toward breast cancer prevention and detection. *Fam Community Health*. 2009 Jul-Sep;32(3):238-46. doi: 10.1097/FCH.0b013e3181ab3bbb. PMID: 19525705. **Exclusion reason:** Background information only

138. Ayanian JZ. Racial disparities in outcomes of colorectal cancer screening: biology or barriers to optimal care? *J Natl Cancer Inst.* 2010 Apr 21;102(8):511-3. doi: 10.1093/jnci/djq089. PMID: 20357246. **Exclusion reason:** Ineligible publication type
139. Babb S, Malarcher A, Schauer G, et al. Quitting Smoking Among Adults - United States, 2000-2015. *MMWR Morb Mortal Wkly Rep.* 2017 Jan 6;65(52):1457-64. doi: 10.15585/mmwr.mm6552a1. PMID: 28056007. **Exclusion reason:** Ineligible study design
140. Babey SH, Ponce NA, Etzioni DA, et al. Cancer screening in California: racial and ethnic disparities persist. Policy Brief (Ucla Center for Health Policy Research). 2003 Sep(PB2003-4):1-6. PMID: 14503536. **Exclusion reason:** Ineligible publication type
141. Babikian R, Chang M. Colonoscopy education among African-American males in the primary care setting of Bronx County, New York. *Gastroenterol Nurs.* 2015 Sep-Oct;38(5):337-41. doi: 10.1097/SGA.0000000000000129. PMID: 26422268. **Exclusion reason:** Ineligible publication type
142. Baeten SA, Baltussen RM, Uyl-de Groot CA, et al. Reducing disparities in breast cancer survival--the effect of large-scale screening of the uninsured. *Breast J.* 2011 Sep-Oct;17(5):548-9. doi: 10.1111/j.1524-4741.2011.01135.x. PMID: 21790843. **Exclusion reason:** Ineligible publication type
143. Baezconde-Garbanati L, Beebe LA, Perez-Stable EJ. Building capacity to address tobacco-related disparities among American Indian and Hispanic/Latino communities: conceptual and systemic considerations. *Addiction.* 2007 Oct;102 Suppl 2:112-22. PMID: 17850621. **Exclusion reason:** Ineligible outcome
144. Bailey SR, Heintzman J, Jacob RL, et al. Disparities in Smoking Cessation Assistance in US Primary Care Clinics. *Am J Public Health.* 2018;108(8):1082-90. doi: 10.2105/AJPH.2018.304492. PMID: 29927641. **Exclusion reason:** Ineligible study design
145. Bailey TM, Delva J, Gretebeck K, et al. A systematic review of mammography educational interventions for low-income women. *Am J Health Promot.* 2005 Nov-Dec;20(2):96-107. PMID: 16295701. **Exclusion reason:** Systematic review used to identify primary studies
146. Bains N, Pickett W, Laundry B, et al. Predictors of smoking cessation in an incentive-based community intervention. *Chronic Dis Can.* 2000;21(2):54-61. PMID: 11007655. **Exclusion reason:** Ineligible population
147. Bajwa HA, Rogers LQ. Physical activity barriers and program preferences among indigent internal medicine patients with arthritis. *Rehabil Nurs.* 2007 Jan-Feb;32(1):31-4, 40. PMID: 17225372. **Exclusion reason:** Ineligible population
148. Baker DW, Brown T, Goldman SN, et al. Two-year follow-up of the effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers. *Cancer Causes Control.* 2015 Nov;26(11):1685-90. PMID: 26337733. **Exclusion reason:** Ineligible comparison
149. Baker LC, Chan J. Laws requiring health plans to provide direct access to obstetricians and gynecologists, and use of cancer screening by women. *Health Serv Res.* 2007 Jun;42(3 Pt 1):990-1007. PMID: 17489900. **Exclusion reason:** Ineligible study design
150. Bakken S, Marden S, Arteaga SS, et al. Behavioral Interventions Using Consumer Information Technology as Tools to Advance Health Equity. *Am J Public Health.* 2019 Jan;109(S1):S79-s85. doi: 10.2105/ajph.2018.304646. PMID: 30699018. **Exclusion reason:** Ineligible publication type
151. Baldwin DM, Williams-Brown S. Uncovering homeless African-American women's knowledge of breast cancer and their use of breast cancer screening services. *J Natl Black Nurses Assoc.* 2005 Jul;16(1):24-30. PMID: 16255312. **Exclusion reason:** Ineligible study design

152. Bale PW, Pearce K. The role of primary care physicians in the prevention and management of colorectal cancer. *J Ky Med Assoc.* 2009 Mar;107(3):88-92. PMID: 19361079. **Exclusion reason:** Ineligible publication type
153. Balsam KF, Beadnell B, Riggs KR. Understanding sexual orientation health disparities in smoking: a population-based analysis. *Am J Orthopsychiatry.* 2012 Oct;82(4):482-93. doi: 10.1111/j.1939-0025.2012.01186.x. PMID: 23039346. **Exclusion reason:** Ineligible outcome
154. Bandi P, Cokkinides VE, Virgo KS, et al. The receipt and utilization of effective clinical smoking cessation services in subgroups of the insured and uninsured populations in the USA. *J Behav Health Serv Res.* 2012 Apr;39(2):202-13. doi: 10.1007/s11414-011-9255-x. PMID: 21842317. **Exclusion reason:** Ineligible study design
155. Banegas MP, Bird Y, Moraros J, et al. Breast cancer knowledge, attitudes, and early detection practices in United States-Mexico border Latinas. *J Womens Health.* 2012 Jan;21(1):101-7. doi: 10.1089/jwh.2010.2638. PMID: 21970564. **Exclusion reason:** Ineligible study design
156. Banerjee R, Findley PA, Sambamoorthi U. Disparities in preventive care by body mass index categories among women. *Women Health.* 2008;47(4):1-17. doi: 10.1080/03630240802099261. PMID: 18843937. **Exclusion reason:** Ineligible study design
157. Banks KW. Increasing the effectiveness of automated outreach calls to promote colorectal cancer screening among African Americans. Dissertation abstracts international. 2018;79(3-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
158. Banning M. Black women and breast health: a review of the literature. *Eur J Oncol Nurs.* 2011 Feb;15(1):16-22. doi: 10.1016/j.ejon.2010.05.005. PMID: 20591734. **Exclusion reason:** Ineligible publication type
159. Bao Y, Fox SA, Escarce JJ. Socioeconomic and racial/ethnic differences in the discussion of cancer screening: "between-" versus "within-" physician differences. *Health Serv Res.* 2007 Jun;42(3 Pt 1):950-70. PMID: 17489898. **Exclusion reason:** Ineligible study design
160. Barbeau EM. Addressing class-based disparities related to tobacco: working with labor unions. *Cancer Causes Control.* 2001 Jan;12(1):91-3. PMID: 11227929. **Exclusion reason:** Ineligible publication type
161. Barbeau EM, Li Y, Calderon P, et al. Results of a union-based smoking cessation intervention for apprentice iron workers (United States). *Cancer Causes Control.* 2006 Feb;17(1):53-61. PMID: 16411053. **Exclusion reason:** Ineligible population
162. Barefoot KN, Warren JC, Smalley KB. Women's health care: the experiences and behaviors of rural and urban lesbians in the USA. *Rural & Remote Health.* 2017 Jan-Mar;17(1):3875. PMID: 28248528. **Exclusion reason:** Ineligible study design
163. Barnes DM, Lu JH. Mexican immigrants' and Mexican Americans' perceptions of hypertension. *Qual Health Res.* 2012 Dec;22(12):1685-93. doi: 10.1177/1049732312458181. PMID: 22923387. **Exclusion reason:** Ineligible outcome
164. Barnes PM, Adams PF, Powell-Griner E. Health characteristics of the Asian adult population: United States, 2004-2006. *Adv Data.* 2008 Jan 22(394):1-22. PMID: 18271366. **Exclusion reason:** Ineligible study design
165. Barnett TM, Bowers PH, Bowers A. Sexual minority women and obesity. Public health, social work and health inequalities. Hauppauge, NY: Nova Science Publishers; US; 2015:33-53. **Exclusion reason:** Ineligible study design
166. Barnhart JM, Cohen O, Wright N, et al. Can non-medical factors contribute to disparities in coronary heart disease treatments? *J Health Care Poor Underserved.* 2006 Aug;17(3):559-74. doi: 10.1353/hpu.2006.0097. PMID: 16960322. **Exclusion reason:** Ineligible outcome

167. Baron RC, Rimer BK, Breslow RA, et al. Client-directed interventions to increase community demand for breast, cervical, and colorectal cancer screening a systematic review. *Am J Prev Med.* 2008 Jul;35(1 Suppl):S34-55. doi: 10.1016/j.amepre.2008.04.002. PMID: 18541187. **Exclusion reason:** Systematic review used to identify primary studies
168. Baron RC, Rimer BK, Coates RJ, et al. Client-directed interventions to increase community access to breast, cervical, and colorectal cancer screening a systematic review. *Am J Prev Med.* 2008 Jul;35(1 Suppl):S56-66. doi: 10.1016/j.amepre.2008.04.001. PMID: 18541188. **Exclusion reason:** Systematic review used to identify primary studies
169. Barr JK, Reisine S, Wang Y, et al. Factors influencing mammography use among women in Medicare managed care. *Health Care Financ Rev.* 2001;22(4):49-61. PMID: 12378781. **Exclusion reason:** Ineligible population
170. Bartle-Haring S, Toviessi P, Katafiasz H. Predicting the use of individualized risk assessment for breast cancer. *Womens Health Issues.* 2008 Mar-Apr;18(2):100-9. doi: 10.1016/j.whi.2008.01.002. PMID: 18319147. **Exclusion reason:** Ineligible outcome
171. Barton MB. Exploring and crossing the disparity divide in cancer mortality. *Ann Intern Med.* 2006 Apr 18;144(8):614-6. PMID: 16618958. **Exclusion reason:** Ineligible publication type
172. Barton MB, Moore S, Shtatland E, et al. The relation of household income to mammography utilization in a prepaid health care system. *J Gen Intern Med.* 2001 Mar;16(3):200-3. PMID: 11318916. **Exclusion reason:** Ineligible study design
173. Bartys S, Baker D, Lewis P, et al. Inequity in recording of risk in a local population-based screening programme for cardiovascular disease. *Eur J Cardiovasc Prev Rehabil.* 2005 Feb;12(1):63-7. PMID: 15703508. **Exclusion reason:** Ineligible outcome
174. Basch CE, Wolf RL, Brouse CH, et al. Telephone outreach to increase colorectal cancer screening in an urban minority population. *Am J Public Health.* 2006;96(12):2246-53. doi: 10.2105/AJPH.2005.067223. PMID: 17077394. **Exclusion reason:** Ineligible setting
175. Basch CE, Zybert P, Wolf RL, et al. A randomized trial to compare alternative educational interventions to increase colorectal cancer screening in a hard-to-reach urban minority population with health insurance. *J Community Health.* 2015 October 01;40(5):975-83. doi: 10.1007/s10900-015-0021-5. **Exclusion reason:** Ineligible population
176. Basch CH, Basch CE, Zybert P, et al. Fear as a barrier to asymptomatic colonoscopy screening in an urban minority population with health insurance. *J Community Health.* 2016 Aug;41(4):818-24. doi: 10.1007/s10900-016-0159-9. PMID: 26831486. **Exclusion reason:** Ineligible population
177. Basilio CD, Kwan VS, Towers MJ. Culture and risk assessments: Why Latino Americans perceive greater risk for diabetes. *Cultur Divers Ethnic Minor Psychol.* 2016 Jan;22(1):104-13. doi: 10.1037/cdp0000034. PMID: 25774897. **Exclusion reason:** Ineligible outcome
178. Bass SB, Gordon TF, Ruzek SB, et al. Perceptions of colorectal cancer screening in urban African American clinic patients: differences by gender and screening status. *J Cancer Educ.* 2011 Mar;26(1):121-8. doi: 10.1007/s13187-010-0123-9. PMID: 20443096. **Exclusion reason:** Ineligible outcome
179. Bastani R, Yabroff KR, Myers RE, et al. Interventions to improve follow-up of abnormal findings in cancer screening. *Cancer.* 2004 Sep 01;101(5 Suppl):1188-200. PMID: 15316914. **Exclusion reason:** Ineligible publication type

180. Battaglia TA, Santana M, Bak S, et al. Predictors of timely follow-up after abnormal cancer screening among women seeking care at urban community health centers. *Cancer*. 2010 Feb;116(4):913-21. doi: 10.1002/cncr.24851. PMID: 20052731. **Exclusion reason:** Ineligible outcome
181. Bauermeister JA, Youatt EJ, Pingel ES, et al. Psychosocial obstacles to smoking cessation attempts among young adult sexual minority women who smoke. *Behav Med*. 2018 Apr-Jun;44(2):123-30. doi: 10.1080/08964289.2017.1282853. PMID: 28632006. **Exclusion reason:** Ineligible study design
182. Baughn D. Care for the socially disadvantaged: The role of race and gender on the physician-patient relationship and patient outcomes in a safety net primary care clinic. *Dissertation abstracts international*. 2013;74(3-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
183. Bautista L, Reininger B, Gay JL, et al. Perceived barriers to exercise in Hispanic adults by level of activity. *J Phys Act Health*. 2011 Sep;8(7):916-25. PMID: 21885882. **Exclusion reason:** Ineligible study design
184. Bazargan M, Ani C, Bazargan-Hejazi S, et al. Colorectal cancer screening among underserved minority population: discrepancy between physicians' recommended, scheduled, and completed tests. *Patient Educ Couns*. 2009 Aug;76(2):240-7. doi: 10.1016/j.pec.2008.12.005. PMID: 19150198. **Exclusion reason:** Ineligible outcome
185. Bazargan M, Bazargan SH, Farooq M, et al. Correlates of cervical cancer screening among underserved Hispanic and African-American women. *Prev Med*. 2004 Sep;39(3):465-73. PMID: 15313085. **Exclusion reason:** Ineligible study design
186. Beal A, Hernandez S, Doty M. Latino access to the patient-centered medical home. *J Gen Intern Med*. 2009 Nov;24 Suppl 3:514-20. doi: 10.1007/s11606-009-1119-1. PMID: 19842000. **Exclusion reason:** Ineligible study design
187. Beauchamp A, Backholer K, Magliano D, et al. The effect of obesity prevention interventions according to socioeconomic position: a systematic review. *Obes Rev*. 2014 Jul;15(7):541-54. doi: 10.1111/obr.12161. PMID: 24629126. **Exclusion reason:** Systematic review used to identify primary studies
188. Beauchamp A, Peeters A, Tonkin A, et al. Best practice for prevention and treatment of cardiovascular disease through an equity lens: a review. *Eur J Cardiovasc Prev Rehabil*. 2010 Oct;17(5):599-606. doi: 10.1097/HJR.0b013e328339cc99. PMID: 20562629. **Exclusion reason:** Systematic review used to identify primary studies
189. Becker DM, Yanek LR, Johnson WR, Jr., et al. Impact of a community-based multiple risk factor intervention on cardiovascular risk in black families with a history of premature coronary disease. *Circulation*. 2005 Mar 15;111(10):1298-304. doi: 10.1161/01.Cir.0000157734.97351.B2. PMID: 15769772. **Exclusion reason:** Ineligible setting
190. Beckjord EB, Klassen AC. Cultural values and secondary prevention of breast cancer in african american women. *Cancer Control*. 2008 Jan;15(1):63-71. PMID: 18094662. **Exclusion reason:** Ineligible study design
191. Befort CA, Klemp JR, Sullivan DK, et al. Weight loss maintenance strategies among rural breast cancer survivors: The rural women connecting for better health trial. *Obesity (Silver Spring)*. 2016 Oct;24(10):2070-7. doi: 10.1002/oby.21625. PMID: 27581328. **Exclusion reason:** Ineligible population
192. Belasco EJ, Gong G, Pence B, et al. The impact of rural health care accessibility on cancer-related behaviors and outcomes. *Applied Health Economics & Health Policy*. 2014 Aug;12(4):461-70. doi: 10.1007/s40258-014-0099-4. PMID: 24889860. **Exclusion reason:** Ineligible outcome
193. Bell RA. Barriers to diabetes prevention and control among American Indians. *N C Med J*. 2011 Sep-Oct;72(5):393-6. PMID: 22416521. **Exclusion reason:** Ineligible publication type

194. Bell TS, Branston LK, Newcombe RG, et al. Interventions to improve uptake of breast screening in inner city Cardiff general practices with ethnic minority lists. *Ethn Health*. 1999 Nov;4(4):277-84. doi: 10.1080/13557859998056. PMID: 10705564. **Exclusion reason:** Ineligible comparison
195. Bellinger JD. The effects of access to care, experiences of discrimination, and health system distrust on cervical cancer prevention and control in a population-based survey of women in south carolina. *Dissertation abstracts international*. 2009;69(11-B):6731. **Exclusion reason:** Ineligible publication type
196. Bellinger JD, Brandt HM, Hardin JW, et al. The role of family history of cancer on cervical cancer screening behavior in a population-based survey of women in the Southeastern United States. *Womens Health Issues*. 2013 Jul-Aug;23(4):e197-204. doi: 10.1016/j.whi.2013.03.003. PMID: 23722075. **Exclusion reason:** Ineligible study design
197. Beltran R, Simms T, Lee HY, et al. HPV literacy and associated factors among Hmong American Immigrants: Implications for reducing cervical cancer disparity. *J Community Health*. 2016 06;41(3):603-11. doi: 10.1007/s10900-015-0135-9. PMID: 26696118. **Exclusion reason:** Ineligible outcome
198. Benarroch-Gampel J, Sheffield KM, Lin YL, et al. Colonoscopist and primary care physician supply and disparities in colorectal cancer screening. *Health Serv Res*. 2012 Jun;47(3 Pt 1):1137-57. doi: 10.1111/j.1475-6773.2011.01355.x. PMID: 22150580. **Exclusion reason:** Ineligible outcome
199. Benavente VG. Predictors of cardiovascular health promotion in Mexican-American women. *Dissertation abstracts international*. 2011;72(5-B):2696. **Exclusion reason:** Ineligible publication type
200. Bender MS, Cooper BA, Flowers E, et al. Filipinos Fit and Trim - A feasible and efficacious DPP-based intervention trial. *Contemporary Clinical Trials Communications*. 2018 Dec;12:76-84. doi: 10.1016/j.conctc.2018.09.004. PMID: 30294699. **Exclusion reason:** Ineligible setting
201. Benitez TJ. Acculturation and social support as predictors of physical activity in a Web-based intervention for Latinas. *Dissertation abstracts international*. 2015;75(8-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
202. Benitez TJ, Cherrington AL, Joseph RP, et al. Using web-based technology to promote physical activity in Latinas: Results of the Muevete Alabama Pilot Study. *CIN: Computers, Informatics, Nursing*. 2015 Jul;33(7):315-24. doi: 10.1097/CIN.000000000000162. PMID: 26049367. **Exclusion reason:** Ineligible population
203. Benjamins MR. Race/ethnic discrimination and preventive service utilization in a sample of whites, blacks, Mexicans, and Puerto Ricans. *Med Care*. 2012 Oct;50(10):870-6. doi: 10.1097/MLR.0b013e31825a8c63. PMID: 22643195. **Exclusion reason:** Ineligible outcome
204. Bennett GG, Steinberg D, Askew S, et al. Effectiveness of an App and Provider Counseling for Obesity Treatment in Primary Care. *Am J Prev Med*. 2018 Dec;55(6):777-86. doi: 10.1016/j.amepre.2018.07.005. PMID: 30361140. **Exclusion reason:** Ineligible population
205. Bennett GG, Steinberg DM, Stoute C, et al. Electronic health (eHealth) interventions for weight management among racial/ethnic minority adults: a systematic review. *Obes Rev*. 2014 Oct;15 Suppl 4:146-58. doi: 10.1111/obr.12218. PMID: 25196411. **Exclusion reason:** Systematic review used to identify primary studies

206. Bennett IM, Chen J, Soroui JS, et al. The contribution of health literacy to disparities in self-rated health status and preventive health behaviors in older adults. *Ann Fam Med*. 2009 May-Jun;7(3):204-11. doi: 10.1370/afm.940. PMID: 19433837. **Exclusion reason:** Ineligible study design
207. Bennett KJ, Probst JC, Bellinger JD. Receipt of cancer screening services: surprising results for some rural minorities. *J Rural Health*. 2012 Jan;28(1):63-72. doi: 10.1111/j.1748-0361.2011.00365.x. PMID: 22236316. **Exclusion reason:** Ineligible study design
208. Bennett KJ, Pumkam C, Bellinger JD, et al. Cancer screening delivery in persistent poverty rural counties. *J Prim Care Community Health*. 2011 Oct 01;2(4):240-9. doi: 10.1177/2150131911406123. PMID: 23804842. **Exclusion reason:** Ineligible outcome
209. Bensink ME, Ramsey SD, Battaglia T, et al. Costs and outcomes evaluation of patient navigation after abnormal cancer screening: evidence from the Patient Navigation Research Program. *Cancer*. 2014 Feb 15;120(4):570-8. doi: <https://dx.doi.org/10.1002/cncr.28438>. PMID: 24166217. **Exclusion reason:** Ineligible outcome
210. Benson GA, Sidebottom A, VanWormer JJ, et al. HeartBeat Connections: A rural community of solution for cardiovascular health. *J Am Board Fam Med*. 2013 May-Jun;26(3):299-310. doi: 10.3122/jabfm.2013.03.120240. PMID: 23657698. **Exclusion reason:** Ineligible publication type
211. Benuzillo JG, Jacobs ET, Hoffman RM, et al. Rural-urban differences in colorectal cancer screening capacity in Arizona. *J Community Health*. 2009 Dec;34(6):523-8. doi: 10.1007/s10900-009-9185-1. PMID: 19728054. **Exclusion reason:** Ineligible study design
212. Berenson J, Doty MM, Abrams MK, et al. Achieving better quality of care for low-income populations: the roles of health insurance and the medical home in reducing health inequities. *Issue Brief (Commonwealth Fund)*. 2012 May;11:1-18. PMID: 22611596. **Exclusion reason:** Ineligible publication type
213. Berman S, Armon C, Todd J. Impact of a decline in Colorado Medicaid managed care enrollment on access and quality of preventive primary care services. *Pediatrics*. 2005 Dec;116(6):1474-9. PMID: 16322173. **Exclusion reason:** Ineligible population
214. Bernstein J, Mutschler P, Bernstein E. Keeping mammography referral appointments: motivation, health beliefs, and access barriers experienced by older minority women. *J Midwifery Womens Health*. 2000 Jul-Aug;45(4):308-13. PMID: 10983429. **Exclusion reason:** Ineligible outcome
215. Bernstein SL, Cabral L, Maantay J, et al. Disparities in access to over-the-counter nicotine replacement products in New York City pharmacies. *Am J Public Health*. 2009 Sep;99(9):1699-704. doi: 10.2105/AJPH.2008.149260. PMID: 19638596. **Exclusion reason:** Ineligible study design
216. Bernstein SL, Rosner JM, Toll B. Cell phone ownership and service plans among low-income smokers: The hidden cost of quitlines. *Nicotine & Tobacco Research*. 2016 08;18(8):1791-3. doi: 10.1093/ntr/ntw042. PMID: 26920647. **Exclusion reason:** Ineligible study design
217. Bertera EM. Assessing perceived health promotion needs and interests of low-income older women. *J Womens Health Gend Based Med*. 1999 Dec;8(10):1323-36. PMID: 10643841. **Exclusion reason:** Ineligible study design
218. Bertera EM. Storytelling slide shows to improve diabetes and high blood pressure knowledge and self-efficacy: Three-year results among community dwelling older African Americans. *Educ Gerontol*. 2014 Nov;40(11):785-800. doi: 10.1080/03601277.2014.894381. **Exclusion reason:** Ineligible population

219. Bertram CC, Magnussen L. Informational needs and the experiences of women with abnormal Papanicolaou smears. *J Am Acad Nurse Pract.* 2008 Sep;20(9):455-62. doi: 10.1111/j.1745-7599.2008.00341.x. PMID: 18786022. **Exclusion reason:** Sample size <20
220. Best AL, Spencer M, Hall IJ, et al. Developing spiritually framed breast cancer screening messages in consultation with African American women. *Health Communication.* 2015;30(3):290-300. doi: 10.1080/10410236.2013.845063. PMID: 24837069. **Exclusion reason:** Ineligible outcome
221. Betancourt H, Flynn PM, Ormseth SR. Healthcare mistreatment and continuity of cancer screening among Latino and Anglo American women in southern California. *Women Health.* 2011 Jan;51(1):1-24. doi: 10.1080/03630242.2011.541853. PMID: 21391158. **Exclusion reason:** Ineligible study design
222. Betancourt H, Flynn PM, Riggs M, et al. A cultural research approach to instrument development: the case of breast and cervical cancer screening among Latino and Anglo women. *Health Educ Res.* 2010 Dec;25(6):991-1007. doi: 10.1093/her/cyq052. PMID: 20864605. **Exclusion reason:** Ineligible outcome
223. Beydoun HA, Beydoun MA. Predictors of colorectal cancer screening behaviors among average-risk older adults in the United States. *Cancer Causes Control.* 2008 May;19(4):339-59. doi: 10.1007/s10552-007-9100-y. PMID: 18085415. **Exclusion reason:** Ineligible outcome
224. Beyer KM, Malecki KM, Hoormann KA, et al. Perceived neighborhood quality and cancer screening behavior: Evidence from the survey of the health of Wisconsin. *J Community Health.* 2016 Feb;41(1):134-7. doi: 10.1007/s10900-015-0078-1. PMID: 26275881. **Exclusion reason:** Ineligible study design
225. Bhalotra S, Ruwe MB, Strickler GK, et al. Disparities in utilization of coronary artery disease treatment by gender, race, and ethnicity: opportunities for prevention. *J Natl Black Nurses Assoc.* 2007 Jul;18(1):36-49. PMID: 17679413. **Exclusion reason:** Ineligible publication type
226. Bharel M, Casey C, Wittenberg E. Disparities in cancer screening: acceptance of Pap smears among homeless women. *J Womens Health.* 2009 Dec;18(12):2011-6. doi: 10.1089/jwh.2008.1111. PMID: 20044864. **Exclusion reason:** Ineligible intervention
227. Bharel M, Santiago ER, Forgione SN, et al. Eliminating health disparities: innovative methods to improve cervical cancer screening in a medically underserved population. *Am J Public Health.* 2015 Jul;105 Suppl 3:S438-42. doi: 10.2105/AJPH.2014.302417. PMID: 25905832. **Exclusion reason:** Ineligible population
228. Bhopal RS, Douglas A, Wallia S, et al. Effect of a lifestyle intervention on weight change in south Asian individuals in the UK at high risk of type 2 diabetes: a family-cluster randomised controlled trial. *Lancet Diabetes Endocrinol.* 2014 Mar;2(3):218-27. doi: 10.1016/s2213-8587(13)70204-3. PMID: 24622752. **Exclusion reason:** Ineligible population
229. Bigby J, Holmes MD. Disparities across the breast cancer continuum. *Cancer Causes Control.* 2005 Feb;16(1):35-44. PMID: 15750856. **Exclusion reason:** Ineligible outcome
230. Billmeier TM, Dallo FJ. Nativity status and mammography use: Results from the 2005 National Health Interview Survey. *J Immigr Health.* 2011 Oct;13(5):883-90. doi: 10.1007/s10903-010-9334-8. PMID: 20204516. **Exclusion reason:** Ineligible study design
231. Bindman AB, Grumbach K, Osmond D, et al. Primary care and receipt of preventive services. *J Gen Intern Med.* 1996 May;11(5):269-76. PMID: 8725975. **Exclusion reason:** Ineligible study design

232. Bird JA, McPhee SJ, Ha NT, et al. Opening pathways to cancer screening for Vietnamese-American women: lay health workers hold a key. *Prev Med.* 1998 Nov-Dec;27(6):821-9. doi: 10.1006/pmed.1998.0365. PMID: 9922064. **Exclusion reason:** Ineligible setting
233. Blair KA. Cancer screening of older women: a primary care issue. *Cancer Pract.* 1998 Jul-Aug;6(4):217-22. PMID: 9767334. **Exclusion reason:** Ineligible population
234. Blake SC, Andes K, Hilb L, et al. Facilitators and barriers to cervical cancer screening, diagnosis, and enrollment in Medicaid: experiences of Georgia's Women's Health Medicaid Program enrollees. *J Cancer Educ.* 2015 Mar;30(1):45-52. doi: 10.1007/s13187-014-0685-z. PMID: 24943328. **Exclusion reason:** Ineligible population
235. Blumenthal DS. "Best science" for the reduction of disparities in cancer. *Ethn Dis.* 2003;13(3 Suppl 3):S3-67-72. PMID: 14552458. **Exclusion reason:** Ineligible publication type
236. Bock BC, Papandonatos GD, de Dios MA, et al. Tobacco cessation among low-income smokers: motivational enhancement and nicotine patch treatment. *Nicotine & Tobacco Research.* 2014 Apr;16(4):413-22. doi: 10.1093/ntr/ntt166. PMID: 24174612. **Exclusion reason:** Ineligible comparison
237. Bolen J, Adams M, Shenson D. Routine preventive services for older women: a composite measure highlights gaps in delivery. *J Womens Health.* 2007 Jun;16(5):583-93. PMID: 17627396. **Exclusion reason:** Ineligible outcome
238. Boling W, Laufman L, Lynch GR, et al. Increasing mammography screening through inpatient education. *J Cancer Educ.* 2005;20(4):247-50. PMID: 16497138. **Exclusion reason:** Ineligible population
239. Bonevski B, O'Brien J, Frost S, et al. Novel setting for addressing tobacco-related disparities: a survey of community welfare organization smoking policies, practices and attitudes. *Health Educ Res.* 2013 Feb;28(1):46-57. doi: 10.1093/her/cys077. PMID: 22798564. **Exclusion reason:** Ineligible study design
240. Borders TF, Warner RD, Sutkin G. Satisfaction with health care and cancer screening practices among women in a largely rural region of West Texas. *Prev Med.* 2003 Jun;36(6):652-8. PMID: 12744907. **Exclusion reason:** Ineligible study design
241. Borkhoff CM, Saskin R, Rabeneck L, et al. Disparities in receipt of screening tests for cancer, diabetes and high cholesterol in Ontario, Canada: a population-based study using area-based methods. *Can J Public Health.* 2013 Jun 21;104(4) Background84-90. PMID: 24044467. **Exclusion reason:** Ineligible outcome
242. Born W, Engelman K, Greiner KA, et al. Colorectal cancer screening, perceived discrimination, and low-income and trust in doctors: a survey of minority patients. *BMC Public Health.* 2009 Sep 25;9:363. doi: 10.1186/1471-2458-9-363. PMID: 19781085. **Exclusion reason:** Ineligible study design
243. Borrayo EA. Using a community readiness model to help overcome breast health disparities among U.S. Latinas. *Subst Use Misuse.* 2007;42(4):603-19. PMID: 17558953. **Exclusion reason:** Ineligible outcome
244. Borrayo EA, Hines L, Byers T, et al. Characteristics associated with mammography screening among both Hispanic and non-Hispanic white women. *J Womens Health.* 2009 Oct;18(10):1585-894. doi: 10.1089/jwh.2008.1009. PMID: 19754247. **Exclusion reason:** Ineligible outcome
245. Borrayo EA, Lawsin C, Coit C. Latinas' appraisal of participation in breast cancer prevention clinical trials. *Cancer Control.* 2005 Nov;12 Suppl 2:107-10. PMID: 16327761. **Exclusion reason:** Ineligible outcome
246. Borrayo EA, Thomas JJ, Lawsin C. Cervical cancer screening among Latinas: the importance of referral and participation in parallel cancer screening behaviors. *Women Health.* 2004;39(2):13-29. PMID: 15130859. **Exclusion reason:** Ineligible study design

247. Borum ML. Cancer screening in women by internal medicine resident physicians. *South Med J*. 1997 Nov;90(11):1101-5. PMID: 9386051. **Exclusion reason:** Ineligible outcome
248. Borum ML, Shafa S, Hatara MC, et al. The primary care physician may have a more critical role in colorectal cancer screening in African Americans when compared to non-African Americans. *J Natl Med Assoc*. 2009 Jul;101(7):734. PMID: 19634599. **Exclusion reason:** Ineligible publication type
249. Bosma LM, D'Silva J, Jansen AL, et al. The Wiidookowishin program: results from a qualitative process evaluation of a culturally tailored commercial tobacco cessation program. *Am Indian Alsk Native Ment Health Res*. 2014;21(1):18-34. doi: 10.5820/aian.2101.2014.18. PMID: 24788919. **Exclusion reason:** Ineligible study design
250. Boutin-Foster C, George KS, Samuel T, et al. Training community health workers to be advocates for health promotion: efforts taken by a community-based organization to reduce health disparities in cardiovascular disease. *J Community Health*. 2008 Apr;33(2):61-8. PMID: 18058210. **Exclusion reason:** Ineligible outcome
251. Bowen DJ, Powers D, Greenlee H. Effects of breast cancer risk counseling for sexual minority women. *Health Care Women Int*. 2006 Jan;27(1):59-74. doi: 10.1080/07399330500377119. PMID: 16338740. **Exclusion reason:** Ineligible setting
252. Bowie JV, Juon HS, Dubay LC, et al. Cancer prevention behaviors in low-income urban whites: an understudied problem. *J Urban Health*. 2009 Nov;86(6):861-71. doi: 10.1007/s11524-009-9391-2. PMID: 19597995. **Exclusion reason:** Ineligible study design
253. Boyer LE, Williams M, Callister LC, et al. Hispanic women's perceptions regarding cervical cancer screening. *JOGNN - J Obstet Gynecol Neonatal Nurs*. 2001 Mar-Apr;30(2):240-5. PMID: 11308115. **Exclusion reason:** Ineligible outcome
254. Brandzel S, Chang E, Tuzzio L, et al. Latina and Black/African American Women's Perspectives on Cancer Screening and Cancer Screening Reminders. *J Racial Ethn Health Disparities*. 2016 Nov 18doi: 10.1007/s40615-016-0304-2. PMID: 27864808. **Exclusion reason:** Ineligible outcome
255. Braschi CD, Sly JR, Singh S, et al. Increasing colonoscopy screening for Latino Americans through a patient navigation model: a randomized clinical trial. *J Immigr Minor Health*. 2014 Oct;16(5):934-40. doi: 10.1007/s10903-013-9848-y. PMID: 23736964. **Exclusion reason:** Ineligible comparison
256. Braun KL, Fong M, Kaanoi ME, et al. Testing a culturally appropriate, theory-based intervention to improve colorectal cancer screening among Native Hawaiians. *Prev Med*. 2005 Jun;40(6):619-27. doi: 10.1016/j.ypmed.2004.09.005. PMID: 15850857. **Exclusion reason:** Ineligible comparison
257. Breitkopf CR, Pearson HC, Breitkopf DM. Poor knowledge regarding the Pap test among low-income women undergoing routine screening. *Perspectives on Sexual & Reproductive Health*. 2005 Jun;37(2):78-84. PMID: 15961361. **Exclusion reason:** Ineligible outcome
258. Brenner AT, Getrich CM, Pignone M, et al. Comparing the effect of a decision aid plus patient navigation with usual care on colorectal cancer screening completion in vulnerable populations: study protocol for a randomized controlled trial. *Trials* [Electronic Resource]. 2014 Jul 08;15:275. doi: <https://dx.doi.org/10.1186/1745-6215-15-275>. PMID: 25004983. **Exclusion reason:** Ineligible outcome
259. Brenner AT, Hoffman R, McWilliams A, et al. Colorectal Cancer Screening in Vulnerable Patients: Promoting Informed and Shared Decisions. *Am J Prev Med*. 2016 Oct;51(4):454-62. doi: 10.1016/j.amepre.2016.03.025. PMID: 27242081. **Exclusion reason:** Ineligible outcome

260. Brenner B. Implementing a community intervention program for health promotion. *Soc Work Health Care*. 2002;35(1-2):359-75. PMID: 12365749. **Exclusion reason:** Ineligible publication type
261. Briant KJ, Espinoza N, Galvan A, et al. An innovative strategy to reach the underserved for colorectal cancer screening. *J Cancer Educ*. 2015 Jun;30(2):237-43. doi: 10.1007/s13187-014-0702-2. PMID: 25002255. **Exclusion reason:** Ineligible outcome
262. Brittain K. The relationships between cultural identity, family support and influence, colorectal cancer beliefs, and gender and an informed decision regarding colorectal cancer screening among African Americans. Dissertation abstracts international. 2011;71(11-B):6687. **Exclusion reason:** Ineligible study design
263. Bromley EG, May FP, Federer L, et al. Explaining persistent under-use of colonoscopic cancer screening in African Americans: a systematic review. *Prev Med*. 2015 Feb;71:40-8. doi: 10.1016/j.ypmed.2014.11.022. PMID: 25481094. **Exclusion reason:** Systematic review used to identify primary studies
264. Brooks SE, Hembree TM, Shelton BJ, et al. Mobile mammography in underserved populations: analysis of outcomes of 3,923 women. *J Community Health*. 2013 Oct;38(5):900-6. doi: 10.1007/s10900-013-9696-7. PMID: 23674194. **Exclusion reason:** Ineligible outcome
265. Brounts LR, Lehmann RK, Lesperance KE, et al. Improved rates of colorectal cancer screening in an equal access population. *Am J Surg*. 2009 May;197(5):609-12; discussion 12-3. doi: 10.1016/j.amjsurg.2008.12.006. PMID: 19306971. **Exclusion reason:** Ineligible study design
266. Brouse CH, Basch CE, Wolf RL, et al. Barriers to colorectal cancer screening with fecal occult blood testing in a predominantly minority urban population: a qualitative study. *Am J Public Health*. 2003 Aug;93(8):1268-71. PMID: 12893609. **Exclusion reason:** Sample size <20
267. Brouse CH, Wolf RL, Basch CE. Facilitating factors for colorectal cancer screening. *J Cancer Educ*. 2008 Jan-Mar;23(1):26-31. doi: 10.1080/08858190701818283. PMID: 18444043. **Exclusion reason:** Ineligible study design
268. Brown JP, Tracy J. Lesbians and cancer: An overlooked health disparity. *Cancer Causes Control*. 2008 Dec;19(10):1009-20. doi: 10.1007/s10552-008-9176-z. PMID: 18551371. **Exclusion reason:** Systematic review used to identify primary studies
269. Brown LD, Vasquez D, Salinas JJ, et al. Evaluation of Healthy Fit: a community health worker model to address Hispanic health disparities. *Prev Chronic Dis*. 2018 Apr 26;15:E49. doi: 10.5888/pcd15.170347. PMID: 29704370. **Exclusion reason:** Ineligible setting
270. Brown RL, Baumann LJ, Helberg CP, et al. The simultaneous analysis of patient, physician and group practice influences on annual mammography performance. *Soc Sci Med*. 1996 Aug;43(3):315-24. PMID: 8844934. **Exclusion reason:** Ineligible intervention
271. Brown SR, Joshweseoma L, Saboda K, et al. Cancer Screening on the Hopi Reservation: A Model for Success in a Native American Community. *J Community Health*. 2015 Dec;40(6):1165-72. doi: 10.1007/s10900-015-0043-z. PMID: 26091896. **Exclusion reason:** Ineligible study design
272. Brown T, Platt S, Amos A. Equity impact of population-level interventions and policies to reduce smoking in adults: a systematic review. *Drug Alcohol Depend*. 2014 May 01;138:7-16. doi: 10.1016/j.drugalcdep.2014.03.001. PMID: 24674707. **Exclusion reason:** Systematic review used to identify primary studies
273. Brown TM, Parmar G, Durant RW, et al. Health Professional Shortage Areas, insurance status, and cardiovascular disease prevention in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study. *J Health Care Poor Underserved*. 2011 Nov;22(4):1179-89. doi: 10.1353/hpu.2011.0127. PMID: 22080702. **Exclusion reason:** Ineligible study design

274. Bryant J, Bonevski B, Paul C, et al. Implementing a smoking cessation program in social and community service organisations: a feasibility and acceptability trial. *Drug & Alcohol Review*. 2012 Jul;31(5):678-84. doi: 10.1111/j.1465-3362.2011.00391.x. PMID: 22146050. **Exclusion reason:** Ineligible outcome
275. Bryant J, Bonevski B, Paul C, et al. A systematic review and meta-analysis of the effectiveness of behavioural smoking cessation interventions in selected disadvantaged groups. *Addiction*. 2011 Sep;106(9):1568-85. doi: 10.1111/j.1360-0443.2011.03467.x. PMID: 21489007. **Exclusion reason:** Systematic review used to identify primary studies
276. Buchman S, Rozmovits L, Glazier RH. Equity and practice issues in colorectal cancer screening: Mixed-methods study. *Can Fam Physician*. 2016 Apr;62(4):e186-93. PMID: 27618142. **Exclusion reason:** Ineligible study design
277. Buchmueller TC, Goldzahl L. The effect of organized breast cancer screening on mammography use: Evidence from France. *Health Econ*. 2018 Dec;27(12):1963-80. doi: 10.1002/hec.3813. PMID: 30084221. **Exclusion reason:** Ineligible study design
278. Buki LP, Jamison J, Anderson CJ, et al. Differences in predictors of cervical and breast cancer screening by screening need in uninsured Latina women. *Cancer*. 2007 Oct;110(7):1578-85. doi: 10.1002/cncr.22929. PMID: 17696119. **Exclusion reason:** Ineligible study design
279. Bull ER, McCleary N, Li X, et al. Interventions to Promote Healthy Eating, Physical Activity and Smoking in Low-Income Groups: a Systematic Review with Meta-Analysis of Behavior Change Techniques and Delivery/Context. *Int J Behav Med*. 2018 Dec;25(6):605-16. doi: 10.1007/s12529-018-9734-z. PMID: 30003476. **Exclusion reason:** Systematic review used to identify primary studies
280. Buller D, Modiano MR, Guernsey de Zapien J, et al. Predictors of cervical cancer screening in Mexican American women of reproductive age. *J Health Care Poor Underserved*. 1998 Feb;9(1):76-95. PMID: 10073195. **Exclusion reason:** Ineligible study design
281. Burack RC, Gimotty PA. Promoting screening mammography in inner-city settings. The sustained effectiveness of computerized reminders in a randomized controlled trial. *Med Care*. 1997 Sep;35(9):921-31. PMID: 9298081. **Exclusion reason:** Ineligible comparison
282. Burack RC, Gimotty PA, George J, et al. How reminders given to patients and physicians affected pap smear use in a health maintenance organization: results of a randomized controlled trial. *Cancer*. 1998 Jun 15;82(12):2391-400. PMID: 9635532. **Exclusion reason:** Ineligible intervention
283. Burden RW, Kumar RN, Phillips DL, et al. Hyperlipidemia in Native Americans: evaluation of lipid management through a cardiovascular risk reduction program. *J Am Pharm Assoc (Wash)*. 2002 Jul-Aug;42(4):652-5. PMID: 12150364. **Exclusion reason:** Ineligible study design
284. Burgess DJ, van Ryn M, Noorbaloochi S, et al. Smoking cessation among African American and White smokers in the Veterans Affairs health care system. *Am J Public Health*. 2014 Sep;104(Suppl 4):S580-S7. doi: 10.2105/AJPH.2014.302023. PMID: 25100424. **Exclusion reason:** Ineligible outcome
285. Burhansstipanov L, Dignan MB, Schumacher A, et al. Breast screening navigator programs within three settings that assist underserved women. *J Cancer Educ*. 2010 Jun;25(2):247-52. doi: 10.1007/s13187-010-0071-4. PMID: 20300914. **Exclusion reason:** Ineligible comparison
286. Burhansstipanov L, Dignan MB, Wound DB, et al. Native American recruitment into breast cancer screening: the NAWWA project. *J Cancer Educ*. 2000;15(1):28-32. PMID: 10730800. **Exclusion reason:** Ineligible outcome

287. Burhansstipanov L, Krebs LU, Dignan MB, et al. Findings from the native navigators and the Cancer Continuum (NNACC) study. *J Cancer Educ.* 2014 Sep;29(3):420-7. doi: <https://dx.doi.org/10.1007/s13187-014-0694-y>. PMID: 25053462. **Exclusion reason:** Ineligible comparison
288. Burkhalter JE, Warren B, Shuk E, et al. Intention to quit smoking among lesbian, gay, bisexual, and transgender smokers. *Nicotine & Tobacco Research.* 2009 Nov;11(11):1312-20. doi: 10.1093/ntr/ntp140. PMID: 19778994. **Exclusion reason:** Ineligible study design
289. Burnett-Hartman AN, Mehta SJ, Zheng Y, et al. Racial/ethnic disparities in colorectal cancer screening across healthcare systems. *Am J Prev Med.* 2016 Oct;51(4):e107-15. doi: 10.1016/j.amepre.2016.02.025. PMID: 27050413. **Exclusion reason:** Ineligible outcome
290. Burns EK, Deaton EA, Levinson AH. Rates and reasons: disparities in low intentions to use a state smoking cessation quitline. *Am J Health Promot.* 2011 May-Jun;25(5 Suppl):S59-65. doi: 10.4278/ajhp.100611-QUAN-183. PMID: 21510788. **Exclusion reason:** Ineligible outcome
291. Bush ML, Kaufman MR, Shackelford T. Adherence in the cancer care setting: a systematic review of patient navigation to traverse barriers. *J Cancer Educ.* 2018 Dec;33(6):1222-9. doi: 10.1007/s13187-017-1235-2. PMID: 28567667. **Exclusion reason:** Systematic review used to identify primary studies
292. Bush RA, Langer RD. The effects of insurance coverage and ethnicity on mammography utilization in a postmenopausal population. *West J Med.* 1998 Apr;168(4):236-40. PMID: 9584660. **Exclusion reason:** Ineligible study design
293. Butler M, McCreedy E, Schwer N, et al. AHRQ Comparative Effectiveness Reviews. Improving Cultural Competence to Reduce Health Disparities. Rockville (MD): Agency for Healthcare Research and Quality (US); 2016. **Exclusion reason:** Background information only
294. Butryn ML, Forman EM, Lowe MR, et al. Efficacy of environmental and acceptance-based enhancements to behavioral weight loss treatment: The ENACT trial. *Obesity.* 2017 May;25(5):866-72. doi: 10.1002/oby.21813. **Exclusion reason:** Ineligible population
295. Byrd TL, Chavez R, Wilson KM. Barriers and facilitators of cervical cancer screening among Hispanic women. *Ethn Dis.* 2007;17(1):129-34. PMID: 17274222. **Exclusion reason:** Ineligible comparison
296. Cadet TJ, Burke SL, Stewart K, et al. Cultural and emotional determinants of cervical cancer screening among older Hispanic women. *Health Care Women Int.* 2017 Dec;38(12):1289-312. doi: 10.1080/07399332.2017.1364740. PMID: 28825525. **Exclusion reason:** Ineligible study design
297. Cairns CP, Viswanath K. Communication and colorectal cancer screening among the uninsured: data from the Health Information National Trends Survey (United States). *Cancer Causes Control.* 2006 Nov;17(9):1115-25. PMID: 17006717. **Exclusion reason:** Ineligible study design
298. Calderon JL, Bazargan M, Sangasubana N, et al. A comparison of two educational methods on immigrant Latinas breast cancer knowledge and screening behaviors. *J Health Care Poor Underserved.* 2010 Aug;21(3 Suppl):76-90. doi: 10.1353/hpu.0.0364. PMID: 20675947. **Exclusion reason:** Ineligible comparison
299. Caldwell JT. Rurality and race: Inequities in access to five types of healthcare services. Dissertation abstracts international. 2016;76(9-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
300. Cameron KA, Francis L, Wolf MS, et al. Investigating Hispanic/Latino perceptions about colorectal cancer screening: a community-based approach to effective message design. *Patient Educ Couns.* 2007 Oct;68(2):145-52. PMID: 17517486. **Exclusion reason:** Ineligible outcome

301. Cameron KA, Persell SD, Brown T, et al. Patient outreach to promote colorectal cancer screening among patients with an expired order for colonoscopy: a randomized controlled trial. *Arch Intern Med*. 2011 Apr 11;171(7):642-6. doi: 10.1001/archinternmed.2010.468. PMID: 21149742. **Exclusion reason:** Ineligible population
302. Campbell MK, James A, Hudson MA, et al. Improving multiple behaviors for colorectal cancer prevention among african american church members. *Health Psychol*. 2004 Sep;23(5):492-502. doi: 10.1037/0278-6133.23.5.492. PMID: 15367069. **Exclusion reason:** Ineligible setting
303. Campbell MK, Quintiliani LM. Tailored interventions in public health: where does tailoring fit in interventions to reduce health disparities? *Am Behav Sci*. 2006 Feb;49(6):775-93. doi: 10.1177/0002764205283807. **Exclusion reason:** Ineligible publication type
304. Campbell MK, Resnicow K, Carr C, et al. Process evaluation of an effective church-based diet intervention: Body & Soul. *Health Educ Behav*. 2007 Dec;34(6):864-80. doi: 10.1177/1090198106292020. PMID: 17200096. **Exclusion reason:** Ineligible setting
305. Campbell MK, Tessaro I, DeVellis B, et al. Effects of a tailored health promotion program for female blue-collar workers: health works for women. *Prev Med*. 2002 Mar;34(3):313-23. doi: 10.1006/pmed.2001.0988. PMID: 11902848. **Exclusion reason:** Ineligible setting
306. Cano MA, Wetter DW. Socioeconomic status and smoking cessation: neighborhood context as an underlying mechanism. *Tex Heart Inst J*. 2014 Jun;41(3):309-10. doi: 10.14503/THIJ-14-4096. PMID: 24955049. **Exclusion reason:** Ineligible publication type
307. Cantrell J, Vallone DM, Thrasher JF, et al. Impact of tobacco-related health warning labels across socioeconomic, race and ethnic groups: results from a randomized web-based experiment. *PLoS ONE [Electronic Resource]*. 2013;8(1):e52206. doi: 10.1371/journal.pone.0052206. PMID: 23341895. **Exclusion reason:** Ineligible outcome
308. Capewell S, Graham H. Will cardiovascular disease prevention widen health inequalities? *PLoS Medicine / Public Library of Science*. 2010 Aug 24;7(8):e1000320. doi: 10.1371/journal.pmed.1000320. PMID: 20811492. **Exclusion reason:** Ineligible publication type
309. Caplan L, Stout C, Blumenthal DS. Training physicians to do office-based smoking cessation increases adherence to PHS guidelines. *J Community Health*. 2011 Apr;36(2):238-43. doi: 10.1007/s10900-010-9303-0. PMID: 20697785. **Exclusion reason:** Ineligible outcome
310. Capps J, Rolfe S, Logsdon MC. Limited English Proficiency: Impact on Health Literacy and Health Disparity. *Ky Nurse*. 2016 Jan-Mar;64(1):13-4. PMID: 27183739. **Exclusion reason:** Ineligible publication type
311. Carethers JM. Screening for colorectal cancer in African Americans: determinants and rationale for an earlier age to commence screening. *Dig Dis Sci*. 2015 Mar;60(3):711-21. doi: 10.1007/s10620-014-3443-5. PMID: 25540085. **Exclusion reason:** Ineligible publication type
312. Carey Jackson J, Taylor VM, Chitnarong K, et al. Development of a cervical cancer control intervention program for Cambodian American women. *J Community Health*. 2000 Oct;25(5):359-75. PMID: 10982010. **Exclusion reason:** Ineligible study design
313. Carlini BH, McDaniel AM, Weaver MT, et al. Reaching out, inviting back: using Interactive voice response (IVR) technology to recycle relapsed smokers back to Quitline treatment--a randomized controlled trial. *BMC Public Health*. 2012 Jul 06;12:507. doi: 10.1186/1471-2458-12-507. PMID: 22768793. **Exclusion reason:** Ineligible setting

314. Carr WP, Maldonado G, Leonard PR, et al. Mammogram utilization among farm women. *J Rural Health*. 1996;12(4 Suppl):278-90. PMID: 10162859. **Exclusion reason:** Ineligible study design
315. Carrasquillo O, Pati S. The role of health insurance on Pap smear and mammography utilization by immigrants living in the United States. *Int J Prev Med*. 2004 Nov;39(5):943-50. doi: 10.1016/j.ypmed.2004.03.033. PMID: 15475028. **Exclusion reason:** Ineligible study design
316. Carruth AK, Browning S, Reed DB, et al. The impact of farm lifestyle and health characteristics: cervical cancer screening among southern farmwomen. *Nurs Res*. 2006 Mar-Apr;55(2):121-7. PMID: 16601624. **Exclusion reason:** Ineligible study design
317. Carson KV, Brinn MP, Peters M, et al. Interventions for smoking cessation in Indigenous populations. *Cochrane Database Syst Rev*. 2012 Jan 18;1:Cd009046. doi: 10.1002/14651858.CD009046.pub2. PMID: 22258998. **Exclusion reason:** Systematic review used to identify primary studies
318. Carter-Pokras OD, Feldman RH, Kanamori M, et al. Barriers and facilitators to smoking cessation among Latino adults. *J Natl Med Assoc*. 2011 May;103(5):423-31. doi: 10.1016/S0027-9684%2815%2930339-4. PMID: 21809792. **Exclusion reason:** Ineligible outcome
319. Casadesus D, Penaloza O, Tewary AM, et al. Access matters: Improved detection of premalignant polyps with a screening colonoscopy program for the uninsured. *J Natl Med Assoc*. 2015 Jun;107(2):46-50. doi: 10.1016/S0027-9684%2815%2930024-9. PMID: 27269490. **Exclusion reason:** Ineligible outcome
320. Casciotti DM, Klassen AC. Factors associated with female provider preference among African American women, and implications for breast cancer screening. *Health Care Women Int*. 2011 Jul;32(7):581-98. doi: 10.1080/07399332.2011.565527. PMID: 21728881. **Exclusion reason:** Ineligible outcome
321. Cassel KD, Braun K, Ka'opua L, et al. Samoan body and soul: Adapting an evidence-based obesity and cancer prevention program. *Qual Health Res*. 2014 Dec;24(12):1658-72. doi: 10.1177/1049732314549021. PMID: 25212854. **Exclusion reason:** Ineligible outcome
322. Castaneda SF, Giacinto RE, Medeiros EA, et al. Academic-community partnership to develop a patient-centered breast cancer risk reduction program for Latina primary care patients. *J Racial Ethn Health Disparities*. 2016 Jun;3(2):189-99. doi: 10.1007/s40615-015-0125-8. PMID: 27271058. **Exclusion reason:** Ineligible outcome
323. Castellanos MR, Conte J, Fadel DA, et al. Improving access to breast health services with an interdisciplinary model of care. *Breast J*. 2008 Jul-Aug;14(4):353-6. doi: 10.1111/j.1524-4741.2008.00597.x. PMID: 18687070. **Exclusion reason:** Ineligible population
324. Castro Y, Basen-Engquist K, Fernandez ME, et al. Design of a randomized controlled trial for multiple cancer risk behaviors among Spanish-speaking Mexican-origin smokers. *BMC Public Health*. 2013 Mar 18;13:237. doi: 10.1186/1471-2458-13-237. PMID: 23506397. **Exclusion reason:** Ineligible publication type
325. Cato K, Hyun S, Bakken S. Response to a mobile health decision-support system for screening and management of tobacco use. *Oncol Nurs Forum*. 2014 Mar;41(2):145-52. doi: 10.1188/14.ONF.145-152. PMID: 24578074. **Exclusion reason:** Ineligible study design
326. Celaya MO, Berke EM, Onega TL, et al. Breast cancer stage at diagnosis and geographic access to mammography screening (New Hampshire, 1998-2004). *Rural & Remote Health*. 2010 Apr-Jun;10(2):1361. PMID: 20438282. **Exclusion reason:** Ineligible population

327. Centers for Disease C, Prevention. Vital signs: breast cancer screening among women aged 50-74 years - United States, 2008. *MMWR - Morbidity & Mortality Weekly Report*. 2010 Jul 09;59(26):813-6. PMID: 20613705. **Exclusion reason:** Ineligible study design
328. Chakkalakal RJ, Kripalani S, Schlundt DG, et al. Disparities in using technology to access health information: race versus health literacy. *Diabetes Care*. 2014;37(3):e53-4. doi: 10.2337/dc13-1984. PMID: 24558085. **Exclusion reason:** Ineligible study design
329. Champion VL, Skinner CS, Menon U, et al. Comparisons of tailored mammography interventions at two months postintervention. *Ann Behav Med*. 2002 Summer;24(3):211-8. doi: 10.1207/s15324796abm2403_06. PMID: 12173678. **Exclusion reason:** Ineligible population
330. Chan W, Yun L, Austin PC, et al. Impact of socio-economic status on breast cancer screening in women with diabetes: a population-based study. *Diabet Med*. 2014 Jul;31(7):806-12. doi: <https://dx.doi.org/10.1111/dme.12422>. PMID: 24588332. **Exclusion reason:** Ineligible population
331. Chang E, Fung L-C, Li C-S, et al. Offering acupuncture as an adjunct for tobacco cessation: A community clinic experience. *Health Promotion Practice*. 2013 Sep;14(5, Suppl):80S-7S. doi: 10.1177/1524839913485756. PMID: 23667059. **Exclusion reason:** Ineligible comparison
332. Chang HC, Hsiung HY, Chen SI, et al. Comparison of a community outreach service with opportunity screening for cervical cancer using Pap smears. *J Public Health*. 2007 Jun;29(2):165-72. PMID: 17389674. **Exclusion reason:** Ineligible population
333. Changoor NR, Pak LM, Nguyen LL, et al. Effect of an equal-access military health system on racial disparities in colorectal cancer screening. *Cancer*. 2018 Sep 15;124(18):3724-32. doi: <https://dx.doi.org/10.1002/cncr.31637>. PMID: 30207379. **Exclusion reason:** Ineligible intervention
334. Charkhchi P, Kolenic GE, Carlos RC. Access to lung cancer screening services: Preliminary analysis of geographic service distribution using the ACR Lung Cancer Screening Registry. *J Am Coll Radiol*. 2017 Nov;14(11):1388-95. doi: 10.1016/j.jacr.2017.06.024. PMID: 29101972. **Exclusion reason:** Ineligible study design
335. Charlton BM, Corliss HL, Missmer SA, et al. Reproductive health screening disparities and sexual orientation in a cohort study of U.S. adolescent and young adult females. *J Adolesc Health*. 2011 Nov;49(5):505-10. doi: 10.1016/j.jadohealth.2011.03.013. PMID: 22018565. **Exclusion reason:** Ineligible study design
336. Charlton ME, Mengeling MA, Halfdanarson TR, et al. Evaluation of a home-based colorectal cancer screening intervention in a rural state. *J Rural Health*. 2014;30(3):322-32. doi: 10.1111/jrh.12052. PMID: 24164375. **Exclusion reason:** Ineligible study design
337. Charney P. Access to cervical cancer screening: training internists so skill limitations are not a barrier to care. *J Womens Health*. 2006 Oct;15(8):977-80. PMID: 17087622. **Exclusion reason:** Ineligible publication type
338. Charry LC, Carrasquilla G, Roca S. [Equity regarding early breast cancer screening according to health insurance status in Colombia]. *Revista de Salud Publica*. 2008 Aug-Oct;10(4):571-82. PMID: 19360207. **Exclusion reason:** Ineligible country
339. Cheatham CT, Barksdale DJ, Rodgers SG. Barriers to health care and health-seeking behaviors faced by Black men. *J Am Acad Nurse Pract*. 2008 Nov;20(11):555-62. doi: 10.1111/j.1745-7599.2008.00359.x. PMID: 19128339. **Exclusion reason:** Ineligible intervention
340. Check W. Too early to solve Pap device puzzle. *CAP Today*. 1997 Jun;11(6):1, 44-6, 8-9 passim. PMID: 10174227. **Exclusion reason:** Ineligible publication type

341. Chen JS, Nguyen AH, Malesker MA, et al. High-Risk Smoking Behaviors and Barriers to Smoking Cessation Among Homeless Individuals. *Respir Care*. 2016 May;61(5):640-5. doi: 10.4187/respcare.04439. PMID: 26860400. **Exclusion reason:** Ineligible study design
342. Chen JY, Diamant A, Pourat N, et al. Racial/ethnic disparities in the use of preventive services among the elderly. *Am J Prev Med*. 2005 Dec;29(5):388-95. PMID: 16376701. **Exclusion reason:** Ineligible study design
343. Chen JY, Diamant AL, Kagawa-Singer M, et al. Disaggregating data on Asian and Pacific Islander women to assess cancer screening. *Am J Prev Med*. 2004 Aug;27(2):139-45. PMID: 15261901. **Exclusion reason:** Ineligible study design
344. Chen Z, Gotway Crawford CA. The role of geographic scale in testing the income inequality hypothesis as an explanation of health disparities. *Soc Sci Med*. 2012 Sep;75(6):1022-31. doi: 10.1016/j.socscimed.2012.04.032. PMID: 22694992. **Exclusion reason:** Ineligible outcome
345. Cheng EM, Chen A, Cunningham W. Primary language and receipt of recommended health care among Hispanics in the United States. *J Gen Intern Med*. 2007 Nov;22 Suppl 2:283-8. PMID: 17957412. **Exclusion reason:** Ineligible study design
346. Chernof BA, Sherman SE, Lanto AB, et al. Health habit counseling amidst competing demands: effects of patient health habits and visit characteristics. *Med Care*. 1999 Aug;37(8):738-47. PMID: 10448717. **Exclusion reason:** Ineligible population
347. Chin MH, Walters AE, Cook SC, et al. Interventions to reduce racial and ethnic disparities in health care. *Med Care Res Rev*. 2007 Oct;64(5, Suppl):7S-28S. doi: 10.1177/1077558707305413. PMID: 17881624. **Exclusion reason:** Background information only
348. Chirinos DA, Goldberg RB, Llabre MM, et al. Lifestyle modification and weight reduction among low-income patients with the metabolic syndrome: the CHARMS randomized controlled trial. *J Behav Med*. 2016 Jun;39(3):483-92. doi: 10.1007/s10865-016-9721-2. PMID: 26846133. **Exclusion reason:** Ineligible population
349. Choi GY, Koh E, Choi S, et al. Understanding breast cancer screening behaviors of Korean American women in sociocultural contexts. *Soc Work Health Care*. 2017 Jan;56(1):45-63. PMID: 27779462. **Exclusion reason:** Ineligible study design
350. Choi SK, Adams SA, Eberth JM, et al. Medicaid coverage expansion and implications for cancer disparities. *Am J Public Health*. 2015 Nov;105 Suppl 5:S706-12. doi: 10.2105/AJPH.2015.302876. PMID: 26447909. **Exclusion reason:** Ineligible study design
351. Chou AF, Brown AF, Jensen RE, et al. Gender and racial disparities in the management of diabetes mellitus among medicare patients. *Womens Health Issues*. 2007 May-Jun;17(3):150-61. doi: 10.1016/j.whi.2007.03.003. PMID: 17475506. **Exclusion reason:** Ineligible population
352. Choudhry NK, Bykov K, Shrank WH, et al. Eliminating medication copayments reduces disparities in cardiovascular care. *Health Aff (Millwood)*. 2014 May;33(5):863-70. doi: 10.1377/hlthaff.2013.0654. PMID: 24799585. **Exclusion reason:** Ineligible intervention
353. Chowdhury R, David N, Bogale A, et al. Assessing the key attributes of low utilization of mammography screening and breast-self exam among African-American women. *J Cancer*. 2016;7(5):532-7. doi: 10.7150/jca.12963. PMID: 26958089. **Exclusion reason:** Ineligible study design
354. Christiansen B, Reeder K, Hill M, et al. Barriers to effective tobacco-dependence treatment for the very poor. *J Stud Alcohol Drugs*. 2012 Nov;73(6):874-84. doi: 10.15288/jsad.2012.73.874. PMID: 23036204. **Exclusion reason:** Ineligible setting

355. Christiansen BA, Brooks M, Keller PA, et al. Closing tobacco-related disparities: Using community organizations to increase consumer demand. *Am J Prev Med*. 2010 Mar;38(3 Suppl):S397-402. doi: 10.1016/j.amepre.2009.11.015. PMID: 20176314. **Exclusion reason:** Ineligible outcome
356. Christie J, Hooper C, Redd WH, et al. Predictors of endoscopy in minority women. *J Natl Med Assoc*. 2005 Oct;97(10):1361-8. PMID: 16355488. **Exclusion reason:** Background information only
357. Christy SM, Davis SN, Williams KR, et al. A community-based trial of educational interventions with fecal immunochemical tests for colorectal cancer screening uptake among blacks in community settings. *Cancer*. 2016 Nov 15;122(21):3288-96. doi: 10.1002/cncr.30207. PMID: 27420119. **Exclusion reason:** Ineligible comparison
358. Cibula DA, Morrow CB. Determining local colorectal cancer screening utilization patterns. *J Public Health Manag Pract*. 2003 Jul-Aug;9(4):315-21. PMID: 12836514. **Exclusion reason:** Ineligible population
359. Clark CR, Tosteson TD, Tosteson ANA, et al. Diffusion of digital breast tomosynthesis among women in primary care: associations with insurance type. *Cancer Medicine*. 2017 May;6(5):1102-7. doi: 10.1002/cam4.1036. PMID: 28378409. **Exclusion reason:** Ineligible intervention
360. Clark MA, Bonacore L, Wright SJ, et al. The cancer screening project for women: experiences of women who partner with women and women who partner with men. *Women Health*. 2003;38(2):19-33. PMID: 14655792. **Exclusion reason:** Sample size <20
361. Clark MA, Rogers ML, Armstrong GF, et al. Comprehensive cancer screening among unmarried women aged 40-75 years: results from the cancer screening project for women. *J Womens Health*. 2009 Apr;18(4):451-9. doi: 10.1089/jwh.2008.1046. PMID: 19361311. **Exclusion reason:** Background information only
362. Clarke KK, Freeland-Graves J, Klohe-Lehman DM, et al. Promotion of physical activity in low-income mothers using pedometers. *J Am Diet Assoc*. 2007 Jun;107(6):962-7. doi: 10.1016/j.jada.2007.03.010. PMID: 17524717. **Exclusion reason:** Ineligible setting
363. Clarke TC, Soler-Vila H, Fleming LE, et al. Trends in adherence to recommended cancer screening: The US population and working cancer survivors. *Front Oncol*. 2012;2:190. doi: 10.3389/fonc.2012.00190. PMID: 23293767. **Exclusion reason:** Ineligible population
364. Clavelle K, King D, Bazzi AR, et al. Breast cancer risk in sexual minority women during routine screening at an urban LGBT health center. *Womens Health Issues*. 2015 Jul-Aug;25(4):341-8. doi: 10.1016/j.whi.2015.03.014. PMID: 26060123. **Exclusion reason:** Ineligible outcome
365. Cleghorn GD, Nguyen M, Roberts B, et al. Practice-based interventions to improve health care for Latinos with diabetes. *Ethn Dis*. 2004;14(3 Suppl 1):S117-21. PMID: 15682780. **Exclusion reason:** Ineligible population
366. Cleland CL, Tully MA, Kee F, et al. The effectiveness of physical activity interventions in socio-economically disadvantaged communities: a systematic review. *Prev Med*. 2012 Jun;54(6):371-80. doi: 10.1016/j.ypmed.2012.04.004. PMID: 22521997. **Exclusion reason:** Ineligible population
367. Clouston K, Katz A, Martens PJ, et al. Does access to a colorectal cancer screening website and/or a nurse-managed telephone help line provided to patients by their family physician increase fecal occult blood test uptake?: A pragmatic cluster randomized controlled trial study protocol. *BMC Cancer*. 2012 May 17;12:182. doi: 10.1186/1471-2407-12-182. PMID: 22607726. **Exclusion reason:** Ineligible publication type

368. Clouston SA, Rubin MS, Chae DH, et al. Fundamental causes of accelerated declines in colorectal cancer mortality: Modeling multiple ways that disadvantage influences mortality risk. *Soc Sci Med*. 2017 Aug;187:1-10. doi: 10.1016/j.socscimed.2017.06.013. PMID: 28645039. **Exclusion reason:** Ineligible outcome
369. Cochran CR, Gorospe EC. Physician satisfaction in a cancer prevention program for low-income women in Nevada. *ScientificWorldJournal*. 2007 Feb 09;7:177-86. PMID: 17334609. **Exclusion reason:** Ineligible outcome
370. Cochran SD, Mays VM, Bowen D, et al. Cancer-related risk indicators and preventive screening behaviors among lesbians and bisexual women. *Am J Public Health*. 2001 Apr;91(4):591-7. PMID: 11291371. **Exclusion reason:** Ineligible outcome
371. Coffman MJ, de Hernandez BU, Smith HA, et al. Using CBPR to decrease health disparities in a suburban Latino neighborhood. *Hisp Health Care Int*. 2017 Sep;15(3):121-9. doi: 10.1177/1540415317727569. PMID: 29164939. **Exclusion reason:** Ineligible study design
372. Cogbill S, Francis B, Sanders Thompson VL. Factors affecting African American men's use of online colorectal cancer education. *J Cancer Educ*. 2014 Mar;29(1):25-9. doi: 10.1007/s13187-013-0532-7. PMID: 23943278. **Exclusion reason:** Ineligible intervention
373. Cohen D, Manuel DG, Tugwell P, et al. Inequity in primary and secondary preventive care for acute myocardial infarction? Use by socioeconomic status across middle-aged and older patients. *Can J Cardiol*. 2013 Dec;29(12):1579-85. doi: 10.1016/j.cjca.2013.06.004. PMID: 23948088. **Exclusion reason:** Ineligible intervention
374. Cohen DJ, Balasubramanian BA, Isaacson NF, et al. Coordination of health behavior counseling in primary care. *Ann Fam Med*. 2011 Sep-Oct;9(5):406-15. doi: 10.1370/afm.1245. PMID: 21911759. **Exclusion reason:** Ineligible outcome
375. Cohen EL, Wilson BR, Vanderpool RC, et al. Identifying sociocultural barriers to mammography adherence among Appalachian Kentucky women. *Health Communication*. 2016 Jan;31(1):72-82. doi: 10.1080/10410236.2014.936337. PMID: 25668682. **Exclusion reason:** Ineligible comparison
376. Cokkinides V, Bandi P, Shah M, et al. The association between state mandates of colorectal cancer screening coverage and colorectal cancer screening utilization among US adults aged 50 to 64 years with health insurance. *BMC Health Serv Res*. 2011 Jan 27;11:19. doi: 10.1186/1472-6963-11-19. PMID: 21272321. **Exclusion reason:** Ineligible study design
377. Cokkinides VE, Halpern MT, Barbeau EM, et al. Racial and ethnic disparities in smoking-cessation interventions: Analysis of the 2005 National Health Interview Survey. *Am J Prev Med*. 2008 May;34(5):404-12. doi: 10.1016/j.amepre.2008.02.003. PMID: 18407007. **Exclusion reason:** Ineligible study design
378. Cole AM, Jackson JE, Doescher M. Colorectal cancer screening disparities for rural minorities in the United States. *J Prim Care Community Health*. 2013 Apr 01;4(2):106-11. doi: 10.1177/2150131912463244. PMID: 23799717. **Exclusion reason:** Ineligible study design
379. Cole RE, Boyer KM, Spanbauer SM, et al. Effectiveness of prediabetes nutrition shared medical appointments: prevention of diabetes. *Diabetes Educ*. 2013 May-Jun;39(3):344-53. doi: 10.1177/0145721713484812. PMID: 23589326. **Exclusion reason:** Ineligible population
380. Coleman KJ, Gonzalez EC, Cooley T. An objective measure of reinforcement and its implications for exercise promotion in sedentary Hispanic and Anglo women. *Ann Behav Med*. 2000;22(3):229-36. PMID: 11126468. **Exclusion reason:** Ineligible population

381. Coleman Wallace DA, Baltrus PT, Wallace TC, et al. Black white disparities in receiving a physician recommendation for colorectal cancer screening and reasons for not undergoing screening. *J Health Care Poor Underserved*. 2013 Aug;24(3):1115-24. doi: 10.1353/hpu.2013.0132. PMID: 23974385. **Exclusion reason:** Ineligible study design
382. Consedine NS. The demographic, system, and psychosocial origins of mammographic screening disparities: prediction of initiation versus maintenance screening among immigrant and non-immigrant women. *J Immigr Minor Health*. 2012 Aug;14(4):570-82. doi: 10.1007/s10903-011-9524-z. PMID: 21904869. **Exclusion reason:** Background information only
383. Consedine NS, Magai C, Neugut AI. The contribution of emotional characteristics to breast cancer screening among women from six ethnic groups. *Prev Med*. 2004 Jan;38(1):64-77. PMID: 14672643. **Exclusion reason:** Ineligible intervention
384. Continelli T, McGinnis S, Holmes T. The effect of local primary care physician supply on the utilization of preventive health services in the United States. *Health & Place*. 2010 Sep;16(5):942-51. doi: 10.1016/j.healthplace.2010.05.010. PMID: 20691391. **Exclusion reason:** Ineligible intervention
385. Cook N, Kobetz E, Reis I, et al. Role of patient race/ethnicity, insurance and age on Pap smear compliance across ten community health centers in Florida. *Ethn Dis*. 2010;20(4):321-6. PMID: 21305816. **Exclusion reason:** Ineligible intervention
386. Cooper GS, Koroukian SM. Racial disparities in the use of and indications for colorectal procedures in Medicare beneficiaries. *Cancer*. 2004 Jan 15;100(2):418-24. doi: 10.1002/cncr.20014. PMID: 14716780. **Exclusion reason:** Ineligible outcome
387. Cooper GS, Kou TD, Dor A, et al. Cancer preventive services, socioeconomic status, and the Affordable Care Act. *Cancer*. 2017 May 01;123(9):1585-9. doi: 10.1002/cncr.30476. PMID: 28067955. **Exclusion reason:** Ineligible outcome
388. Cooper LA. Toward a better understanding of primary care patient-physician relationships. *J Gen Intern Med*. 2004 Sep;19(9):985-6. doi: 10.1111/j.1525-1497.2004.46002.x. PMID: 15333066. **Exclusion reason:** Ineligible publication type
389. Copeland AL, Businelle MS, Stewart DW, et al. Identifying barriers to entering smoking cessation treatment among socioeconomically disadvantaged smokers. *J Smok Cessat*. 2010;5(2):164-71. doi: 10.1375/jsc.5.2.164. **Exclusion reason:** Ineligible outcome
390. Copeland L, Robertson R, Elton R. What happens when GPs proactively prescribe NRT patches in a disadvantaged community. *Scott Med J*. 2005 May;50(2):64-8. doi: 10.1177/003693300505000208. PMID: 15977518. **Exclusion reason:** Ineligible comparison
391. Corcoran J, Crowley M. Latinas' attitudes about cervical cancer prevention: a meta-synthesis. *J Cult Divers*. 2014;21(1):15-21. PMID: 24855810. **Exclusion reason:** Background information only
392. Corcoran J, Dattalo P, Crowley M. Interventions to increase mammography rates among U.S. Latinas: a systematic review. *J Womens Health*. 2010 Jul;19(7):1281-8. doi: 10.1089/jwh.2009.1621. PMID: 20575619. **Exclusion reason:** Systematic review used to identify primary studies
393. Coronado GD, Thompson B, Chen L. Sociodemographic correlates of cancer screening services among Hispanics and non-Hispanic whites in a rural setting. *Am J Health Behav*. 2009 Mar-Apr;33(2):181-91. PMID: 18844512. **Exclusion reason:** Ineligible study design
394. Coronado GD, Thompson B, Koepsell TD, et al. Use of Pap test among Hispanics and non-Hispanic whites in a rural setting. *Prev Med*. 2004 Jun;38(6):713-22. PMID: 15193891. **Exclusion reason:** Ineligible study design

395. Correia A, Rabeneck L, Baxter NN, et al. Lack of follow-up colonoscopy after positive FOBT in an organized colorectal cancer screening program is associated with modifiable health care practices. *Prev Med*. 2015 Jul;76:115-22. doi: 10.1016/j.ypmed.2015.03.028. PMID: 25895843. **Exclusion reason:** Ineligible study design
396. Costanza ME, Luckmann R, Stoddard AM, et al. Using tailored telephone counseling to accelerate the adoption of colorectal cancer screening. *Cancer Detect Prev*. 2007;31(3):191-8. doi: 10.1016/j.cdp.2007.04.008. PMID: 17646058. **Exclusion reason:** Ineligible population
397. Coughlin SS, King J. Breast and cervical cancer screening among women in metropolitan areas of the United States by county-level commuting time to work and use of public transportation, 2004 and 2006. *BMC Public Health*. 2010 Mar 19;10:146. doi: 10.1186/1471-2458-10-146. PMID: 20302614. **Exclusion reason:** Ineligible study design
398. Coughlin SS, Leadbetter S, Richards T, et al. Contextual analysis of breast and cervical cancer screening and factors associated with health care access among United States women, 2002. *Soc Sci Med*. 2008 Jan;66(2):260-75. PMID: 18022299. **Exclusion reason:** Ineligible study design
399. Coughlin SS, Prochaska JJ, Williams LB, et al. Patient web portals, disease management, and primary prevention. *Risk Manag Healthc Policy*. 2017;10:33-40. doi: 10.2147/RMHP.S130431. PMID: 28435342. **Exclusion reason:** Systematic review used to identify primary studies
400. Coughlin SS, Stewart J. Use of consumer wearable devices to promote physical activity: A review of health intervention studies. *J Environ Health Sci*. 2016 Nov;2(6)doi: 10.15436/2378-6841.16.1123. PMID: 28428979. **Exclusion reason:** Ineligible population
401. Coughlin SS, Thompson TD, Hall HI, et al. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998-1999. *Cancer*. 2002 Jun 01;94(11):2801-12. PMID: 12115366. **Exclusion reason:** Ineligible outcome
402. Coughlin SS, Uhler RJ. Breast and cervical cancer screening practices among Asian and Pacific Islander women in the United States, 1994-1997. *Cancer Epidemiol Biomarkers Prev*. 2000 Jun;9(6):597-603. PMID: 10868695. **Exclusion reason:** Ineligible outcome
403. Coughlin SS, Uhler RJ. Breast and cervical cancer screening practices among Hispanic women in the United States and Puerto Rico, 1998-1999. *Prev Med*. 2002 Feb;34(2):242-51. PMID: 11817921. **Exclusion reason:** Ineligible outcome
404. Coughlin SS, Uhler RJ, Blackman DK. Breast and cervical cancer screening practices among American Indian and Alaska Native women in the United States, 1992-1997.[Erratum appears in *Prev Med* 2000 Apr;30(4):348-52]. *Prev Med*. 1999 Oct;29(4):287-95. PMID: 10547054. **Exclusion reason:** Ineligible outcome
405. Coughlin SS, Uhler RJ, Richards T, et al. Breast and cervical cancer screening practices among Hispanic and non-Hispanic women residing near the United States-Mexico border, 1999-2000. *Fam Community Health*. 2003 Apr-Jun;26(2):130-9. PMID: 12802118. **Exclusion reason:** Ineligible outcome
406. Courtney-Long E, Armour B, Frammartino B, et al. Factors associated with self-reported mammography use for women with and women without a disability. *J Womens Health*. 2011 Sep;20(9):1279-86. doi: 10.1089/jwh.2010.2609. PMID: 21732810. **Exclusion reason:** Ineligible study design
407. Covey LS, Weissman J, LoDuca C, et al. A comparison of abstinence outcomes among gay/bisexual and heterosexual male smokers in an intensive, non-tailored smoking cessation study. *Nicotine Tob Res*. 2009 Nov;11(11):1374-7. doi: 10.1093/ntr/ntp137. PMID: 19778993. **Exclusion reason:** Ineligible comparison

408. Cox LS, Okuyemi K, Choi WS, et al. A review of tobacco use treatments in U.S. ethnic minority populations. *Am J Health Promot.* 2011 May-Jun;25(5 Suppl):S11-30. doi: 10.4278/ajhp.100610-LIT-177. PMID: 21510783. **Exclusion reason:** Systematic review used to identify primary studies
409. Crawford A, Benard V, King J, et al. Understanding barriers to cervical cancer screening in women with access to care, Behavioral Risk Factor Surveillance System, 2014. *Prev Chronic Dis.* 2016 11 10;13:E154. doi: 10.5888/pcd13.160225. PMID: 27831682. **Exclusion reason:** Ineligible study design
410. Crawford ND, Jones CP, Richardson LC. Understanding the role of reactions to race-based treatment in breast and cervical cancer screening. *J Natl Med Assoc.* 2008 Feb;100(2):188-96. PMID: 18300536. **Exclusion reason:** Ineligible study design
411. Crawley LM, Ahn DK, Winkleby MA. Perceived medical discrimination and cancer screening behaviors of racial and ethnic minority adults. *Cancer Epidemiol Biomarkers Prev.* 2008 Aug;17(8):1937-44. doi: 10.1158/1055-9965.EPI-08-0005. PMID: 18687583. **Exclusion reason:** Ineligible study design
412. Creatore MI, Booth GL, Manuel DG, et al. Diabetes screening among immigrants: a population-based urban cohort study. *Diabetes Care.* 2012 Apr;35(4):754-61. doi: 10.2337/dc11-1393. PMID: 22357181. **Exclusion reason:** Ineligible outcome
413. Cronan TA, Devos-Comby L, Villalta I, et al. Ethnic differences in colorectal cancer screening. *J Psychosoc Oncol.* 2008;26(2):63-86. PMID: 18285301. **Exclusion reason:** Ineligible study design
414. Cronan TA, Villalta I, Gottfried E, et al. Predictors of mammography screening among ethnically diverse low-income women. *J Womens Health.* 2008 May;17(4):527-37. doi: 10.1089/jwh.2007.0331. PMID: 18447760. **Exclusion reason:** Ineligible study design
415. Cropsey K, Eldridge G, Weaver M, et al. Smoking cessation intervention for female prisoners: addressing an urgent public health need. *Am J Public Health.* 2008 Oct;98(10):1894-901. doi: 10.2105/AJPH.2007.128207. PMID: 18703440. **Exclusion reason:** Ineligible population
416. Cropsey KL, Clark CB, Zhang X, et al. Race and medication adherence moderate cessation outcomes in criminal justice smokers. *Am J Prev Med.* 2015 Sep;49(3):335-44. doi: 10.1016/j.amepre.2015.03.014. PMID: 26091924. **Exclusion reason:** Ineligible intervention
417. Cropsey KL, Leventhal AM, Stevens EN, et al. Expectancies for the effectiveness of different tobacco interventions account for racial and gender differences in motivation to quit and abstinence self-efficacy. *Nicotine & Tobacco Research.* 2014 Sep;16(9):1174-82. doi: 10.1093/ntr/ntu048. PMID: 24719492. **Exclusion reason:** Ineligible study design
418. Crosby RA, Stradtman L, Collins T, et al. Community-Based Colorectal Cancer Screening in a Rural Population: Who Returns Fecal Immunochemical Test (FIT) Kits? *J Rural Health.* 2017 Sep;33(4):371-4. doi: 10.1111/jrh.12210. PMID: 27650560. **Exclusion reason:** Ineligible outcome
419. Crump SR, Shipp MP, McCray GG, et al. Abnormal mammogram follow-up: Do community lay health advocates make a difference? *Health Promotion Practice.* 2008 Apr;9(2):140-8. doi: 10.1177/1524839907312806. PMID: 18340089. **Exclusion reason:** Ineligible population
420. Cummings DM, Whetstone L, Shende A, et al. Predictors of screening mammography: implications for office practice. *Arch Fam Med.* 2000 Sep-Oct;9(9):870-5. PMID: 11031394. **Exclusion reason:** Ineligible study design
421. Cummings DM, Whetstone LM, Earp JA, et al. Disparities in mammography screening in rural areas: analysis of county differences in North Carolina. *J Rural Health.* 2002;18(1):77-83. PMID: 12043758. **Exclusion reason:** Ineligible outcome

422. Cummins SE, Wong S, Bonnevie E, et al. A multistate Asian-language tobacco quitline: Addressing a disparity in access to care. *Am J Public Health*. 2015 Oct;105(10):2150-5. doi: 10.2105/AJPH.2014.302418. PMID: 25905827. **Exclusion reason:** Ineligible comparison
423. Cunningham JE, Walters CA, Hill EG, et al. Mind the gap: racial differences in breast cancer incidence and biologic phenotype, but not stage, among low-income women participating in a government-funded screening program. *Breast Cancer Res Treat*. 2013 Jan;137(2):589-98. doi: 10.1007/s10549-012-2305-0. PMID: 23239148. **Exclusion reason:** Ineligible outcome
424. Curtis E, Quale C, Haggstrom D, et al. Racial and ethnic differences in breast cancer survival: How much is explained by screening, tumor severity, biology, treatment, comorbidities, and demographics? *Cancer*. 2008 Jan;112(1):171-80. doi: 10.1002/cncr.23131. PMID: 18040998. **Exclusion reason:** Ineligible outcome
425. Dailey AB, Kasl SV, Holford TR, et al. Perceived racial discrimination and nonadherence to screening mammography guidelines: results from the race differences in the screening mammography process study. *Am J Epidemiol*. 2007 Jun 01;165(11):1287-95. PMID: 17351294. **Exclusion reason:** Ineligible study design
426. Dailey AB, Kasl SV, Jones BA. Does gender discrimination impact regular mammography screening? Findings from the race differences in screening mammography study. *J Womens Health*. 2008 Mar;17(2):195-206. doi: 10.1089/jwh.2006.0257. PMID: 18321171. **Exclusion reason:** Ineligible study design
427. Daley CM, Greiner KA, Nazir N, et al. All nations breath of life: using community-based participatory research to address health disparities in cigarette smoking among American Indians. *Ethn Dis*. 2010;20(4):334-8. PMID: 21305818. **Exclusion reason:** Ineligible study design
428. Dalton ARH. Incomplete diagnostic follow-up after a positive colorectal cancer screening test: a systematic review. *J Public Health (Oxf)*. 2018 Mar 1;40(1):e46-e58. doi: 10.1093/pubmed/fdw147. PMID: 28069989. **Exclusion reason:** Background information only
429. Danigelis NL, Worden JK, Flynn BS, et al. Increasing mammography screening among low-income African American women with limited access to health information. *Prev Med*. 2005 Jun;40(6):880-7. PMID: 15850891. **Exclusion reason:** Ineligible intervention
430. Datta GD, Colditz GA, Kawachi I, et al. Individual-, neighborhood-, and state-level socioeconomic predictors of cervical carcinoma screening among U.S. black women: a multilevel analysis. *Cancer*. 2006 Feb 01;106(3):664-9. PMID: 16378349. **Exclusion reason:** Ineligible study design
431. Davis AM, Vinci LM, Okwuosa TM, et al. Cardiovascular health disparities: A systematic review of health care interventions. *Med Care Res Rev*. 2007 Oct;64(5, Suppl):29S-100S. doi: 10.1177/1077558707305416. PMID: 17881625. **Exclusion reason:** Systematic review used to identify primary studies
432. Davis C, Darby K, Moore M, et al. Breast care screening for underserved African American women: Community-based participatory approach. *J Psychosoc Oncol*. 2017 Jan-Feb;35(1):90-105. PMID: 27662263. **Exclusion reason:** Ineligible outcome
433. Davis C, Emerson JS, Husaini BA. Breast cancer screening among African American women: adherence to current recommendations. *J Health Care Poor Underserved*. 2005 May;16(2):308-14. PMID: 15937394. **Exclusion reason:** Ineligible study design
434. Davis JL, Ramos R, Rivera-Colon V, et al. The Yo me cuido Program: addressing breast cancer screening and prevention among Hispanic women. *J Cancer Educ*. 2015 Sep;30(3):439-46. doi: 10.1007/s13187-014-0710-2. PMID: 25099235. **Exclusion reason:** Ineligible outcome

435. Davis JL, Rivers BM, Rivers D, et al. A Community-Level Assessment of Barriers to Preventive Health Behaviors Among Culturally Diverse Men. *Am J Mens Health*. 2016 Nov;10(6):495-504. PMID: 25787987. **Exclusion reason:** Ineligible study design
436. Davis MM, Freeman M, Shannon J, et al. A systematic review of clinic and community intervention to increase fecal testing for colorectal cancer in rural and low-income populations in the United States - How, what and when? *BMC Cancer*. 2018 Jan 6;18(1):40. doi: 10.1186/s12885-017-3813-4. PMID: 29304835. **Exclusion reason:** Systematic review used to identify primary studies
437. Davis MM, Renfro S, Pham R, et al. Geographic and population-level disparities in colorectal cancer testing: A multilevel analysis of Medicaid and commercial claims data. *Prev Med*. 2017 Aug;101:44-52. doi: 10.1016/j.ypmed.2017.05.001. PMID: 28506715. **Exclusion reason:** Ineligible study design
438. Davis SN, Christy SM, Chavarria EA, et al. A randomized controlled trial of a multicomponent, targeted, low-literacy educational intervention compared with a nontargeted intervention to boost colorectal cancer screening with fecal immunochemical testing in community clinics. *Cancer*. 2017 Apr 15;123(8):1390-400. doi: 10.1002/cncr.30481. PMID: 27906448. **Exclusion reason:** Ineligible comparison
439. Davis TC, Arnold CL, Rademaker A, et al. Differences in barriers to mammography between rural and urban women. *J Womens Health*. 2012 Jul;21(7):748-55. doi: 10.1089/jwh.2011.3397. PMID: 22519704. **Exclusion reason:** Ineligible study design
440. Davis TC, Berkel HJ, Arnold CL, et al. Intervention to increase mammography utilization in a public hospital. *J Gen Intern Med*. 1998 Apr;13(4):230-3. doi: 10.1046/j.1525-1497.1998.00072.x. PMID: 9565385. **Exclusion reason:** Ineligible study design
441. Davis TC, Rademaker A, Bailey SC, et al. Contrasts in rural and urban barriers to colorectal cancer screening. *Am J Health Behav*. 2013 May;37(3):289-98. doi: 10.5993/AJHB.37.3.1. PMID: 23985175. **Exclusion reason:** Ineligible study design
442. Davis-Yadley AH, Lipka S, Shen H, et al. Ethnic disparities in the risk of colorectal adenomas associated with aspirin and statin use: a retrospective multiethnic study. *J Gastrointest Oncol*. 2014 Apr;5(2):112-8. doi: 10.3978/j.issn.2078-6891.2014.010. PMID: 24772339. **Exclusion reason:** Ineligible outcome
443. De Alba I, Ngo-Metzger Q, Sweningson JM, et al. Pap smear use in California: are we closing the racial/ethnic gap? *Prev Med*. 2005 Jun;40(6):747-55. PMID: 15850875. **Exclusion reason:** Ineligible study design
444. De Alba I, Sweningson JM. English proficiency and physicians' recommendation of Pap smears among Hispanics. *Cancer Detect Prev*. 2006;30(3):292-6. PMID: 16844320. **Exclusion reason:** Ineligible study design
445. de Bosset V, Atashili J, Miller W, et al. Health insurance-related disparities in colorectal cancer screening in Virginia. *Cancer Epidemiol Biomarkers Prev*. 2008 Apr;17(4):834-7. doi: 10.1158/1055-9965.EPI-07-2760. PMID: 18398024. **Exclusion reason:** Ineligible study design
446. De Jesus M, Miller EB. Examining breast cancer screening barriers among Central American and Mexican immigrant women: fatalistic beliefs or structural factors? *Health Care Women Int*. 2015;36(5):593-607. doi: 10.1080/07399332.2014.973496. PMID: 25383565. **Exclusion reason:** Ineligible outcome
447. de Klerk CM, Gupta S, Dekker E, et al. Socioeconomic and ethnic inequities within organised colorectal cancer screening programmes worldwide. *Gut*. 2018 Apr;67(4):679-87. doi: 10.1136/gutjnl-2016-313311. PMID: 28073892. **Exclusion reason:** Ineligible outcome

448. Dean L, Subramanian SV, Williams DR, et al. The role of social capital in African-American women's use of mammography. *Soc Sci Med*. 2014 Mar;104:148-56. doi: 10.1016/j.socscimed.2013.11.057. PMID: 24581073. **Exclusion reason:** Ineligible study design
449. Deandrea S, Molina-Barcelo A, Uluturk A, et al. Presence, characteristics and equity of access to breast cancer screening programmes in 27 European countries in 2010 and 2014. Results from an international survey. *Prev Med*. 2016 Oct;91:250-63. doi: 10.1016/j.ypmed.2016.08.021. PMID: 27527575. **Exclusion reason:** Ineligible study design
450. Deavenport A, Modeste N, Marshak HH, et al. Closing the gap in mammogram screening: an experimental intervention among low-income Hispanic women in community health clinics. *Health Educ Behav*. 2011 Oct;38(5):452-61. doi: 10.1177/1090198110375037. PMID: 21482702. **Exclusion reason:** Ineligible outcome
451. Debarros M, Steele SR. Colorectal cancer screening in an equal access healthcare system. *J Cancer*. 2013;4(3):270-80. doi: 10.7150/jca.5833. PMID: 23459768. **Exclusion reason:** Ineligible publication type
452. Decker KM, Demers AA, Nugent Z, et al. Longitudinal Rates of Colon Cancer Screening Use in Winnipeg, Canada: The Experience of a Universal Health-Care System with an Organized Colon Screening Program. *Am J Gastroenterol*. 2015 Dec;110(12):1640-6. doi: 10.1038/ajg.2015.206. PMID: 26169513. **Exclusion reason:** Ineligible population
453. Decker KM, Demers AA, Nugent Z, et al. Reducing income-related inequities in colorectal cancer screening: lessons learned from a retrospective analysis of organised programme and non-programme screening delivery in Winnipeg, Manitoba. *BMJ Open*. 2016 Feb 23;6(2):e009470. doi: 10.1136/bmjopen-2015-009470. PMID: 26908517. **Exclusion reason:** Ineligible population
454. del Carmen MG, Findley M, Muzikansky A, et al. Demographic, risk factor, and knowledge differences between Latinas and non-Latinas referred to colposcopy. *Gynecol Oncol*. 2007 Jan;104(1):70-6. PMID: 16949138. **Exclusion reason:** Ineligible study design
455. DeLaet DE, Shea S, Carrasquillo O. Receipt of preventive services among privately insured minorities in managed care versus fee-for-service insurance plans. *J Gen Intern Med*. 2002 Jun;17(6):451-7. PMID: 12133160. **Exclusion reason:** Ineligible study design
456. Delaronde S. Barriers to A1C testing among a managed care population. *Diabetes Educ*. 2005 Mar-Apr;31(2):235-9. PMID: 15797852. **Exclusion reason:** Ineligible study design
457. Demers AA, Decker KM, Kliever EV, et al. Mammography rates for breast cancer screening: a comparison of First Nations women and all other women living in Manitoba, Canada, 1999-2008. *Prev Chronic Dis*. 2015 May 28;12:E82. doi: 10.5888/pcd12.140571. PMID: 26020546. **Exclusion reason:** Ineligible study design
458. Denberg TD, Myers BA, Lin CT, et al. Screening colonoscopy through telephone outreach without antecedent provider visits: a pilot study. *Prev Med*. 2009 Jan;48(1):91-3. doi: 10.1016/j.ypmed.2008.10.023. PMID: 19027785. **Exclusion reason:** Ineligible comparison
459. Deroose KP, Duan N, Fox SA. Women's receptivity to church-based mobile mammography. *J Health Care Poor Underserved*. 2002 May;13(2):199-213. PMID: 12017910. **Exclusion reason:** Ineligible outcome
460. DeVoe JE, Fryer GE, Phillips R, et al. Receipt of preventive care among adults: insurance status and usual source of care. *Am J Public Health*. 2003 May;93(5):786-91. PMID: 12721145. **Exclusion reason:** Ineligible study design

461. Dharni N, Armstrong D, Chung-Faye G, et al. Factors influencing participation in colorectal cancer screening-a qualitative study in an ethnic and socio-economically diverse inner city population. *Health Expect*. 2017 Aug;20(4):608-17. doi: 10.1111/hex.12489. PMID: 27550367. **Exclusion reason:** Background information only
462. Diab ME, Johnston MV. Relationships between level of disability and receipt of preventive health services. *Arch Phys Med Rehabil*. 2004 May;85(5):749-57. PMID: 15129399. **Exclusion reason:** Ineligible study design
463. Diamant AL, Brook RH, Fink A, et al. Use of preventive services in a population of very low-income women. *J Health Care Poor Underserved*. 2002 May;13(2):151-63. PMID: 12017906. **Exclusion reason:** Ineligible study design
464. Diamant AL, Schuster MA, Lever J. Receipt of preventive health care services by lesbians. *Am J Prev Med*. 2000 Oct;19(3):141-8. PMID: 11020589. **Exclusion reason:** Ineligible study design
465. Diaz JA, Roberts MB, Clarke JG, et al. Colorectal cancer screening: language is a greater barrier for Latino men than Latino women. *J Immigr Minor Health*. 2013 Jun;15(3):472-5. doi: 10.1007/s10903-012-9667-6. PMID: 22752660. **Exclusion reason:** Ineligible study design
466. Diaz JA, Roberts MB, Goldman RE, et al. Effect of language on colorectal cancer screening among Latinos and non-Latinos. *Cancer Epidemiol Biomarkers Prev*. 2008 Aug;17(8):2169-73. doi: 10.1158/1055-9965.EPI-07-2692. PMID: 18708410. **Exclusion reason:** Ineligible study design
467. Diaz-Perez Mde J, Farley T, Cabanis CM. A program to improve access to health care among Mexican immigrants in rural Colorado. *J Rural Health*. 2004;20(3):258-64. PMID: 15298101. **Exclusion reason:** Ineligible comparison
468. Dibble SL, Roberts SA. Improving cancer screening among lesbians over 50: results of a pilot study. *Oncol Nurs Forum*. 2003 Jul-Aug;30(4):E71-9. doi: 10.1188/03.Onf.E71-e79. PMID: 12861329. **Exclusion reason:** Ineligible study design
469. Dickson-Spillmann M, Sullivan R, Zahno B, et al. Queer quit: a pilot study of a smoking cessation programme tailored to gay men. *BMC Public Health*. 2014 Feb 6;14:126. doi: 10.1186/1471-2458-14-126. PMID: 24498915. **Exclusion reason:** Ineligible setting
470. Dietrich AJ, Tobin JN, Cassells A, et al. Translation of an efficacious cancer-screening intervention to women enrolled in a Medicaid managed care organization. *Ann Fam Med*. 2007 Jul-Aug;5(4):320-7. PMID: 17664498. **Exclusion reason:** Ineligible population
471. Dietrich AJ, Tobin JN, Sox CH, et al. Cancer early-detection services in community health centers for the underserved. A randomized controlled trial. *Arch Fam Med*. 1998 Jul-Aug;7(4):320-7; discussion 8. PMID: 9682685. **Exclusion reason:** Ineligible outcome
472. Dignan MB, Burhansstipanov L, Hariton J, et al. A comparison of two Native American Navigator formats: face-to-face and telephone. *Cancer Control*. 2005 Nov;12 Suppl 2:28-33. PMID: 16327748. **Exclusion reason:** Ineligible comparison
473. Dillard AJ, Fagerlin A, Dal Cin S, et al. Narratives that address affective forecasting errors reduce perceived barriers to colorectal cancer screening. *Soc Sci Med*. 2010 Jul;71(1):45-52. doi: 10.1016/j.socscimed.2010.02.038. PMID: 20417005. **Exclusion reason:** Ineligible population
474. Dimou A, Syrigos KN, Saif MW. Disparities in colorectal cancer in African-Americans vs Whites: before and after diagnosis. *World J Gastroenterol*. 2009 Aug 14;15(30):3734-43. PMID: 19673013. **Exclusion reason:** Ineligible publication type
475. Do M. Predictors of cervical cancer screening among Vietnamese American women. *J Immigr Minor Health*. 2015 Jun;17(3):756-64. doi: 10.1007/s10903-013-9925-2. PMID: 24078321. **Exclusion reason:** Ineligible study design

476. Documet P, Bear TM, Flatt JD, et al. The association of social support and education with breast and cervical cancer screening. *Health Educ Behav*. 2015 Feb;42(1):55-64. doi: 10.1177/1090198114557124. PMID: 25394824. **Exclusion reason:** Ineligible study design
477. Dolan NC, Ramirez-Zohfeld V, Rademaker AW, et al. The effectiveness of a physician-only and physician-patient intervention on colorectal cancer screening discussions between providers and African American and Latino patients. *J Gen Intern Med*. 2015 Dec;30(12):1780-7. doi: 10.1007/s11606-015-3381-8. PMID: 25986137. **Exclusion reason:** Ineligible outcome
478. Domingo JB, Braun KL. Characteristics of Effective Colorectal Cancer Screening Navigation Programs in Federally Qualified Health Centers: A Systematic Review. *J Health Care Poor Underserved*. 2017;28(1):108-26. doi: 10.1353/hpu.2017.0013. PMID: 28238992. **Exclusion reason:** Systematic review used to identify primary studies
479. Dominick GM, Dunsiger SI, Pekmezi DW, et al. Moderating effects of health literacy on change in physical activity among Latinas in a randomized trial. *J Racial Ethn Health Disparities*. 2015 Sep;2(3):351-7. doi: 10.1007/s40615-014-0080-9. PMID: 26863464. **Exclusion reason:** Ineligible population
480. Donaldson EA, Holtgrave DR, Duffin RA, et al. Patient navigation for breast and colorectal cancer in 3 community hospital settings: an economic evaluation. *Cancer*. 2012 Oct 01;118(19):4851-9. doi: 10.1002/cncr.27487. PMID: 22392629. **Exclusion reason:** Ineligible population
481. Donelan K, Mailhot JR, Dutwin D, et al. Patient perspectives of clinical care and patient navigation in follow-up of abnormal mammography. *J Gen Intern Med*. 2011 Feb;26(2):116-22. doi: 10.1007/s11606-010-1436-4. PMID: 20607432. **Exclusion reason:** Ineligible study design
482. D'Orsi C, Tu SP, Nakano C, et al. Current realities of delivering mammography services in the community: do challenges with staffing and scheduling exist? *Radiology*. 2005 May;235(2):391-5. PMID: 15798153. **Exclusion reason:** Ineligible study design
483. Doubeni CA, Laiyemo AO, Klabunde CN, et al. Racial and ethnic trends of colorectal cancer screening among Medicare enrollees. *Am J Prev Med*. 2010 Feb;38(2):184-91. doi: 10.1016/j.amepre.2009.10.037. PMID: 20117575. **Exclusion reason:** Ineligible study design
484. Doubeni CA, Laiyemo AO, Reed G, et al. Socioeconomic and racial patterns of colorectal cancer screening among Medicare enrollees in 2000 to 2005. *Cancer Epidemiol Biomarkers Prev*. 2009 Aug;18(8):2170-5. doi: 10.1158/1055-9965.EPI-09-0104. PMID: 19622721. **Exclusion reason:** Ineligible study design
485. Dougherty MK, Brenner AT, Crockett SD, et al. Evaluation of Interventions Intended to Increase Colorectal Cancer Screening Rates in the United States: A Systematic Review and Meta-analysis. *JAMA Intern Med*. 2018 Dec 1;178(12):1645-58. doi: 10.1001/jamainternmed.2018.4637. PMID: 30326005. **Exclusion reason:** Systematic review used to identify primary studies
486. Drake BF, Abadin SS, Lyons S, et al. Mammograms on-the-go-predictors of repeat visits to mobile mammography vans in St Louis, Missouri, USA: a case-control study. *BMJ Open*. 2015 Mar 20;5(3):e006960. doi: 10.1136/bmjopen-2014-006960. PMID: 25795693. **Exclusion reason:** Ineligible population
487. Drake BF, Tannan S, Anwuri VV, et al. A Community-Based Partnership to Successfully Implement and Maintain a Breast Health Navigation Program. *J Community Health*. 2015 Dec;40(6):1216-23. doi: 10.1007/s10900-015-0051-z. PMID: 26077018. **Exclusion reason:** Ineligible comparison

488. Drieling RL, Ma J, Stafford RS. Evaluating clinic and community-based lifestyle interventions for obesity reduction in a low-income Latino neighborhood: Vivamos Activos Fair Oaks Program. *BMC Public Health*. 2011 Feb 14;11:98. doi: 10.1186/1471-2458-11-98. PMID: 21320331. **Exclusion reason:** Ineligible publication type
489. Driscoll SD. Barriers and facilitators to cervical cancer screening in high incidence populations: A synthesis of qualitative evidence. *Women Health*. 2016;56(4):448-67. doi: 10.1080/03630242.2015.1101742. PMID: 26496628. **Exclusion reason:** Systematic review used to identify primary studies
490. D'Silva J, Schillo BA, Sandman NR, et al. Evaluation of a tailored approach for tobacco dependence treatment for American Indians. *Am J Health Promot*. 2011 May-Jun;25(5, Suppl):S66-S9. doi: 10.4278/ajhp.100611-QUAN-180. PMID: 21510789. **Exclusion reason:** Ineligible outcome
491. DuBard CA, Gizlice Z. Language spoken and differences in health status, access to care, and receipt of preventive services among US Hispanics. *Am J Public Health*. 2008 Nov;98(11):2021-8. doi: 10.2105/AJPH.2007.119008. PMID: 18799780. **Exclusion reason:** Ineligible study design
492. Dudley DJ, Drake J, Quinlan J, et al. Beneficial effects of a combined navigator/promotora approach for Hispanic women diagnosed with breast abnormalities. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1639-44. doi: 10.1158/1055-9965.Epi-12-0538. PMID: 23045538. **Exclusion reason:** Ineligible population
493. Duggan C, Coronado G, Martinez J, et al. Cervical cancer screening and adherence to follow-up among Hispanic women study protocol: a randomized controlled trial to increase the uptake of cervical cancer screening in Hispanic women. *BMC Cancer*. 2012 May 06;12:170. doi: 10.1186/1471-2407-12-170. PMID: 22559251. **Exclusion reason:** Ineligible study design
494. Dulai GS, Farmer MM, Ganz PA, et al. Primary care provider perceptions of barriers to and facilitators of colorectal cancer screening in a managed care setting. *Cancer*. 2004 May 1;100(9):1843-52. doi: 10.1002/cncr.20209. PMID: 15112264. **Exclusion reason:** Ineligible study design
495. Dunlop AL, Adams EK, Hawley J, et al. Georgia's Medicaid family planning waiver: working together with Title X to enhance access to and use of contraceptive and preventive health services. *Womens Health Issues*. 2016 Nov - Dec;26(6):602-11. doi: 10.1016/j.whi.2016.07.006. PMID: 27599676. **Exclusion reason:** Ineligible setting
496. Dunton GF, Robertson TP. A tailored Internet-plus-email intervention for increasing physical activity among ethnically-diverse women. *Prev Med*. 2008 Dec;47(6):605-11. doi: 10.1016/j.ypmed.2008.10.004. PMID: 18977243. **Exclusion reason:** Ineligible population
497. Durkin SJ, Biener L, Wakefield MA. Effects of different types of antismoking ads on reducing disparities in smoking cessation among socioeconomic subgroups. *Am J Public Health*. 2009 Dec;99(12):2217-23. doi: 10.2105/AJPH.2009.161638. PMID: 19833980. **Exclusion reason:** Ineligible intervention
498. Dwyer DM, Groves C, Hopkins A, et al. Experience of a public health colorectal cancer testing program in Maryland. *Public Health Rep*. 2012 May-Jun;127(3):330-9. PMID: 22547865. **Exclusion reason:** Ineligible comparison
499. Eakin E, Reeves M, Winkler E, et al. Maintenance of physical activity and dietary change following a telephone-delivered intervention. *Health Psychol*. 2010 Nov;29(6):566-73. doi: 10.1037/a0021359. PMID: 20954778. **Exclusion reason:** Ineligible population

500. Eamranond PP, Davis RB, Phillips RS, et al. Patient-physician language concordance and primary care screening among spanish-speaking patients. *Med Care*. 2011 Jul;49(7):668-72. doi: 10.1097/MLR.0b013e318215d803. PMID: 21478772. **Exclusion reason:** Ineligible study design
501. Echeverria SE, Carrasquillo O. The Roles of citizenship status, acculturation, and health insurance in breast and cervical cancer screening among immigrant women. *Med Care*. 2006 Aug;44(8):788-92. doi: 10.1097/01.mlr.0000215863.24214.41. PMID: 16862042. **Exclusion reason:** Ineligible study design
502. Edelman DJ, Gao Q, Mosca L. Predictors and barriers to timely medical follow-up after cardiovascular disease risk factor screening according to race/ethnicity. *J Natl Med Assoc*. 2008 May;100(5):534-9. PMID: 18507205. **Exclusion reason:** Ineligible population
503. Eder MM, Firke C. Stand against cancer: evaluating a breast and cervical cancer screening program for uninsured patients. *Progress in Community Health Partnerships*. 2015;9(1):129-34. doi: 10.1353/cpr.2015.0006. PMID: 25981432. **Exclusion reason:** Ineligible publication type
504. Edgar L, Glackin M, Hughes C, et al. Factors influencing participation in breast cancer screening. *Br J Nurs*. 2013 Sep 12-25;22(17):1021-6. PMID: 24067312. **Exclusion reason:** Ineligible publication type
505. Edmiston EK, Donald CA, Sattler AR, et al. Opportunities and gaps in primary care preventative health services for transgender patients: a systemic review. *Transgender Health*. 2016;1(1):216-30. doi: 10.1089/trgh.2016.0019. PMID: 28861536. **Exclusion reason:** Ineligible outcome
506. Edwards JB, Tudiver F. Women's preventive screening in rural health clinics. *Womens Health Issues*. 2008 May-Jun;18(3):155-66. doi: 10.1016/j.whi.2008.01.005. PMID: 18457753. **Exclusion reason:** Ineligible outcome
507. Edwards QT, Li AX, Pike MC, et al. Ethnic differences in the use of regular mammography: the multiethnic cohort. *Breast Cancer Res Treat*. 2009 May;115(1):163-70. doi: 10.1007/s10549-008-0049-7. PMID: 18493849. **Exclusion reason:** Ineligible outcome
508. Efuni E, DuHamel KN, Winkel G, et al. Optimism and barriers to colonoscopy in low-income Latinos at average risk for colorectal cancer. *Psychooncology*. 2015 Sep;24(9):1138-44. doi: 10.1002/pon.3733. PMID: 25528993. **Exclusion reason:** Ineligible outcome
509. Egan BM, White K. Weight Loss Pharmacotherapy: Brief Summary of the Clinical Literature and Comments on Racial Differences. *Ethn Dis*. 2015 Nov 05;25(4):511-4. doi: 10.18865/ed.25.4.511. PMID: 26675365. **Exclusion reason:** Ineligible publication type
510. Elder JP, Candelaria JI, Woodruff SI, et al. Results of language for health: cardiovascular disease nutrition education for Latino English-as-a-second-language students. *Health Educ Behav*. 2000 Feb;27(1):50-63. doi: 10.1177/109019810002700106. PMID: 10709792. **Exclusion reason:** Ineligible setting
511. Elkin EB, Snow JG, Leoce NM, et al. Mammography capacity and appointment wait times: barriers to breast cancer screening. *Cancer Causes Control*. 2012 Jan;23(1):45-50. doi: 10.1007/s10552-011-9853-1. PMID: 22037904. **Exclusion reason:** Ineligible outcome
512. Ell K, Vourlekis B, Lee PJ, et al. Patient navigation and case management following an abnormal mammogram: a randomized clinical trial. *Prev Med*. 2007 Jan;44(1):26-33. doi: 10.1016/j.ypmed.2006.08.001. PMID: 16962652. **Exclusion reason:** Ineligible population
513. Ell K, Vourlekis B, Muderspach L, et al. Abnormal cervical screen follow-up among low-income Latinas: Project SAFe. *J Womens Health Gend Based Med*. 2002 Sep;11(7):639-51. doi: 10.1089/152460902760360586. PMID: 12396896. **Exclusion reason:** Ineligible comparison

514. Ell K, Vourlekis B, Nissly J, et al. Integrating mental health screening and abnormal cancer screening follow-up: an intervention to reach low-income women. *Community Ment Health J*. 2002 Aug;38(4):311-25. PMID: 12166918. **Exclusion reason:** Ineligible population
515. Ellison J, Jandorf L, DuHamel K. Colonoscopy screening information preferences among urban hispanics. *J Immigr Minor Health*. 2011 Oct;13(5):963-6. doi: 10.1007/s10903-010-9368-y. PMID: 20607609. **Exclusion reason:** Ineligible outcome
516. Elmore JG, Nakano CY, Linden HM, et al. Racial inequities in the timing of breast cancer detection, diagnosis, and initiation of treatment. *Med Care*. 2005 Feb;43(2):141-8. doi: 10.1097/00005650-200502000-00007. PMID: 15655427. **Exclusion reason:** Ineligible outcome
517. Elmunzer BJ, O'Connell MT, Prendes S, et al. Improving access to colorectal cancer screening through medical philanthropy: feasibility of a flexible sigmoidoscopy health fair for uninsured patients. *Am J Gastroenterol*. 2011 Oct;106(10):1741-6. doi: 10.1038/ajg.2011.147. PMID: 21979199. **Exclusion reason:** Ineligible comparison
518. Elting LS, Cooksley CD, Bekele BN, et al. Mammography capacity impact on screening rates and breast cancer stage at diagnosis. *Am J Prev Med*. 2009 Aug;37(2):102-8. doi: 10.1016/j.amepre.2009.03.017. PMID: 19524392. **Exclusion reason:** Ineligible study design
519. Ely GE, White C, Jones K, et al. Cervical cancer screening: exploring Appalachian patients' barriers to follow-up care. *Soc Work Health Care*. 2014;53(2):83-95. doi: 10.1080/00981389.2013.827149. PMID: 24483330. **Exclusion reason:** Ineligible outcome
520. Emmons KM, Lobb R, Puleo E, et al. Colorectal cancer screening: prevalence among low-income groups with health insurance. *Health Aff (Millwood)*. 2009 Jan-Feb;28(1):169-77. doi: 10.1377/hlthaff.28.1.169. PMID: 19124867. **Exclusion reason:** Ineligible outcome
521. Emmons KM, Stoddard AM, Gutheil C, et al. Cancer prevention for working class, multi-ethnic populations through health centers: the healthy directions study. *Cancer Causes Control*. 2003 Oct;14(8):727-37. PMID: 14674737. **Exclusion reason:** Ineligible publication type
522. Engalgau MM, Narayan KM, Geiss LS, et al. A project to reduce the burden of diabetes in the African-American Community: Project DIRECT. *J Natl Med Assoc*. 1998 Oct;90(10):605-13. PMID: 9803725. **Exclusion reason:** Ineligible publication type
523. Engelman KK, Cupertino AP, Daley CM, et al. Engaging diverse underserved communities to bridge the mammography divide. *BMC Public Health*. 2011 Jan 21;11:47. doi: 10.1186/1471-2458-11-47. PMID: 21255424. **Exclusion reason:** Ineligible publication type
524. Engelstad LP, Stewart S, Otero-Sabogal R, et al. The effectiveness of a community outreach intervention to improve follow-up among underserved women at highest risk for cervical cancer. *Prev Med*. 2005 Sep-Oct;41(3-4):741-8. PMID: 16125761. **Exclusion reason:** Ineligible population
525. English KC, Fairbanks J, Finster CE, et al. A socioecological approach to improving mammography rates in a tribal community. *Health Educ Behav*. 2008 Jun;35(3):396-409. PMID: 17114330. **Exclusion reason:** Ineligible publication type
526. English KC, Merzel C, Moon-Howard J. Translating public health knowledge into practice: development of a lay health advisor perinatal tobacco cessation program. *J Public Health Manag Pract*. 2010 May-Jun;16(3):E9-E19. doi: 10.1097/PHH.0b013e3181af6387. PMID: 20357602. **Exclusion reason:** Ineligible study design
527. Ericson R, St Claire A, Schillo B, et al. Developing leaders in priority populations to address tobacco disparities: results from a leadership institute. *J Public Health Manag Pract*. 2013 Jan-Feb;19(1):E1-8. doi: 10.1097/PHH.0b013e31822d4c41. PMID: 22960392. **Exclusion reason:** Ineligible population

528. Ersel M, Kitapcioglu G, Solak ZA, et al. Are emergency department visits really a teachable moment? Smoking cessation promotion in emergency department. *Eur J Emerg Med.* 2010 Apr;17(2):73-9. doi: 10.1097/MEJ.0b013e32832e67d6. PMID: 19543095. **Exclusion reason:** Ineligible population
529. Erwin DO, Johnson VA, Trevino M, et al. A comparison of African American and Latina social networks as indicators for culturally tailoring a breast and cervical cancer education intervention. *Cancer.* 2007 Jan 15;109(2 Suppl):368-77. PMID: 17173279. **Exclusion reason:** Ineligible study design
530. Escoffery C, Kegler MC, Alcantara I, et al. A qualitative examination of the role of small, rural workites in obesity prevention. *Prev Chronic Dis.* 2011 Jul;8(4):A75. PMID: 21672399. **Exclusion reason:** Ineligible comparison
531. Espinosa de los Monteros K, Gallo LC. The relevance of fatalism in the study of Latinas' cancer screening behavior: A systematic review of the literature. *Int J Behav Med.* 2011 Dec;18(4):310-8. doi: 10.1007/s12529-010-9119-4. PMID: 20953916. **Exclusion reason:** Systematic review used to identify primary studies
532. Esser-Stuart JE, Lyons MA. Barriers and influences in seeking health care among lower income minority women. *Soc Work Health Care.* 2002;35(3):85-99. PMID: 12371794. **Exclusion reason:** Ineligible comparison
533. Essien UR, He W, Ray A, et al. Disparities in Quality of Primary Care by Resident and Staff Physicians: Is There a Conflict Between Training and Equity? *J Gen Intern Med.* 2019 Apr 08;08:08. doi: 10.1007/s11606-019-04960-5. PMID: 30963439. **Exclusion reason:** Ineligible population
534. Facione NC. Breast cancer screening in relation to access to health services. *Oncol Nurs Forum.* 1999 May;26(4):689-96. PMID: 10337647. **Exclusion reason:** Ineligible study design
535. Facione NC, Facione PA. Perceived prejudice in healthcare and women's health protective behavior. *Nurs Res.* 2007 May-Jun;56(3):175-84. PMID: 17495573. **Exclusion reason:** Ineligible study design
536. Fagan HB, Myers RE, Daskalakis C, et al. Race/Ethnicity, gender, weight status, and colorectal cancer screening. *J Obes.* 2011;2011:314619. doi: 10.1155/2011/314619. PMID: 22187635. **Exclusion reason:** Ineligible study design
537. Fair AM, Wujcik D, Lin J-MS, et al. Obesity, gynecological factors, and abnormal mammography follow-up in minority and medically underserved women. *J Womens Health.* 2009 Jul;18(7):1033-9. doi: 10.1089/jwh.2008.0791. PMID: 19558307. **Exclusion reason:** Ineligible population
538. Falk D, Cubbin C, Jones B, et al. Increasing breast and cervical cancer screening in rural and border Texas with Friend to Friend plus Patient Navigation. *J Cancer Educ.* 2018 Aug;33(4):798-805. doi: 10.1007/s13187-016-1147-6. PMID: 27900660. **Exclusion reason:** Ineligible comparison
539. Fallin A, Lee YO, Bennett K, et al. Smoking Cessation Awareness and Utilization Among Lesbian, Gay, Bisexual, and Transgender Adults: An Analysis of the 2009-2010 National Adult Tobacco Survey. *Nicotine & Tobacco Research.* 2016 Apr;18(4):496-500. doi: 10.1093/ntr/ntv103. PMID: 26014455. **Exclusion reason:** Ineligible study design
540. Fan L, Mohile S, Zhang N, et al. Self-reported cancer screening among elderly Medicare beneficiaries: a rural-urban comparison. *J Rural Health.* 2012;28(3):312-9. doi: 10.1111/j.1748-0361.2012.00405.x. PMID: 22757956. **Exclusion reason:** Ineligible study design
541. Fang CY, Ma GX, Miller SM, et al. A brief smoking cessation intervention for Chinese and Korean American smokers. *Prev Med.* 2006 Oct;43(4):321-4. doi: 10.1016/j.ypmed.2006.06.009. PMID: 16860858. **Exclusion reason:** Ineligible setting

542. Fang CY, Ma GX, Tan Y, et al. A multifaceted intervention to increase cervical cancer screening among underserved Korean women. *Cancer Epidemiol Biomarkers Prev.* 2007 Jun;16(6):1298-302. doi: 10.1158/1055-9965.Epi-07-0091. PMID: 17548702. **Exclusion reason:** Ineligible setting
543. Fang DM, Baker DL. Barriers and facilitators of cervical cancer screening among women of Hmong origin. *J Health Care Poor Underserved.* 2013 May;24(2):540-55. doi: 10.1353/hpu.2013.0067. PMID: 23728027. **Exclusion reason:** Ineligible comparison
544. Farkas DT, Greenbaum A, Singhal V, et al. Effect of insurance status on the stage of breast and colorectal cancers in a safety-net hospital. *Am J Manag Care.* 2012 May;18(5 Spec No. 2):SP65-70. PMID: 22693983. **Exclusion reason:** Ineligible population
545. Fatone A, Jandorf L. Predictors of cervical cancer screening among urban African Americans and Latinas. *Am J Health Behav.* 2009 Jul-Aug;33(4):416-24. PMID: 19182986. **Exclusion reason:** Ineligible study design
546. Fazeli Dehkordy S, Fendrick AM, Bell S, et al. Breast Screening Utilization and Cost Sharing Among Employed Insured Women Following the Affordable Care Act: Impact of Race and Income. *J Womens Health.* 2019 Apr 13;13:13. doi: 10.1089/jwh.2018.7403. PMID: 30985249. **Exclusion reason:** Ineligible intervention
547. Fedewa SA, Corley DA, Jensen CD, et al. Colorectal Cancer Screening Initiation After Age 50 Years in an Organized Program. *Am J Prev Med.* 2017 Sep;53(3):335-44. doi: 10.1016/j.amepre.2017.02.018. PMID: 28427954. **Exclusion reason:** Ineligible comparison
548. Fedewa SA, Goodman M, Flanders WD, et al. Elimination of cost-sharing and receipt of screening for colorectal and breast cancer. *Cancer.* 2015 Sep 15;121(18):3272-80. doi: 10.1002/cncr.29494. PMID: 26042576. **Exclusion reason:** Ineligible study design
549. Fedewa SA, Sauer AG, DeSantis C, et al. Disparities in cancer screening by occupational characteristics. *Prev Med.* 2017 Dec;105:311-8. doi: 10.1016/j.ypmed.2017.10.012. PMID: 28987332. **Exclusion reason:** Ineligible study design
550. Fedewa SA, Sauer AG, Siegel RL, et al. Temporal trends in colorectal cancer screening among Asian Americans. *Cancer Epidemiol Biomarkers Prev.* 2016 06;25(6):995-1000. doi: 10.1158/1055-9965.EPI-15-1147. PMID: 27197273. **Exclusion reason:** Ineligible study design
551. Felsen CB, Piasecki A, Ferrante JM, et al. Colorectal cancer screening among primary care patients: does risk affect screening behavior? *J Community Health.* 2011 Aug;36(4):605-11. doi: 10.1007/s10900-010-9348-0. PMID: 21203806. **Exclusion reason:** Ineligible study design
552. Fenton JJ, Tancredi DJ, Green P, et al. Persistent racial and ethnic disparities in up-to-date colorectal cancer testing in medicare enrollees. *J Am Geriatr Soc.* 2009 Mar;57(3):412-8. doi: 10.1111/j.1532-5415.2008.02143.x. PMID: 19175435. **Exclusion reason:** Ineligible study design
553. Fernandez L, Morales A. Language and use of cancer screening services among borders and non-border Hispanic Texas women. *Ethn Health.* 2007 Jun;12(3):245-63. doi: 10.1080/13557850701235150. PMID: 17454099. **Exclusion reason:** Ineligible study design
554. Fernandez ME, DeBor M, Candreia M, et al. Dissemination of a breast and cervical cancer early detection program through a network of community-based organizations. *Health Promotion Practice.* 2010 Sep;11(5):654-64. doi: 10.1177/1524839908325064. PMID: 19116426. **Exclusion reason:** Ineligible publication type

555. Fernandez ME, Gonzales A, Tortolero-Luna G, et al. Effectiveness of Cultivando la Salud: a breast and cervical cancer screening promotion program for low-income Hispanic women. *Am J Public Health*. 2009 May;99(5):936-43. doi: 10.2105/ajph.2008.136713. PMID: 19299678. **Exclusion reason:** Ineligible setting
556. Fernandez ME, Savas LS, Carmack CC, et al. A randomized controlled trial of two interventions to increase colorectal cancer screening among Hispanics on the Texas-Mexico border. *Cancer Causes Control*. 2015 Jan;26(1):1-10. doi: 10.1007/s10552-014-0472-5. PMID: 25466604. **Exclusion reason:** Ineligible setting
557. Fernandez ME, Savas LS, Lipizzi E, et al. Cervical cancer control for Hispanic women in Texas: strategies from research and practice. *Gynecol Oncol*. 2014 Mar;132 Suppl 1:S26-32. doi: 10.1016/j.ygyno.2013.12.038. PMID: 24398135. **Exclusion reason:** Ineligible publication type
558. Fernandez-Esquer ME, Cardenas-Turanzas M. Cervical cancer screening among Latinas recently immigrated to the United States. *Prev Med*. 2004 May;38(5):529-35. PMID: 15066355. **Exclusion reason:** Ineligible comparison
559. Fernandez-Esquer ME, Espinoza P, Torres I, et al. A su salud: a quasi-experimental study among Mexican American women. *Am J Health Behav*. 2003 Sep-Oct;27(5):536-45. PMID: 14521249. **Exclusion reason:** Ineligible setting
560. Ferrante JM, Wu J, Dicicco-Bloom B. Strategies used and challenges faced by a breast cancer patient navigator in an urban underserved community. *J Natl Med Assoc*. 2011 Aug;103(8):729-34. doi: 10.1016/S0027-9684%2815%2930412-0. PMID: 22046850. **Exclusion reason:** Sample size <20
561. Finney MF, Tumiel-Berhalter LM, Fox C, et al. Breast and cervical cancer screening for Puerto Ricans, African Americans, and non-Hispanic whites attending inner-city family practice centers. *Ethn Dis*. 2006;16(4):994-1000. PMID: 17061758. **Exclusion reason:** Ineligible study design
562. Finney Rutten LJ, Nelson DE, Meissner HI. Examination of population-wide trends in barriers to cancer screening from a diffusion of innovation perspective (1987-2000). *Prev Med*. 2004 Mar;38(3):258-68. PMID: 14766107. **Exclusion reason:** Ineligible outcome
563. Fiscella K, Holt K. Impact of primary care patient visits on racial and ethnic disparities in preventive care in the United States. *J Am Board Fam Med*. 2007 Nov-Dec;20(6):587-97. PMID: 17954867. **Exclusion reason:** Ineligible study design
564. Fiscella K, Whitley E, Hendren S, et al. Patient navigation for breast and colorectal cancer treatment: a randomized trial. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1673-81. doi: 10.1158/1055-9965.Epi-12-0506. PMID: 23045542. **Exclusion reason:** Ineligible population
565. Fisher DA, Dougherty K, Martin C, et al. Race and colorectal cancer screening: a population-based study in North Carolina. *N C Med J*. 2004 Jan-Feb;65(1):12-5. PMID: 15052704. **Exclusion reason:** Ineligible study design
566. Fisher DA, Jeffreys A, Coffman CJ, et al. Barriers to full colon evaluation for a positive fecal occult blood test. *Cancer Epidemiol Biomarkers Prev*. 2006 Jun;15(6):1232-5. PMID: 16775188. **Exclusion reason:** Ineligible population
567. Fisher E, Musick J, Scott C, et al. Improving clinic- and neighborhood-based smoking cessation services within federally qualified health centers serving low-income, minority neighborhoods. *Nicotine & Tobacco Research*. 2005 Apr;7 Suppl 1:S45-56. PMID: 16036269. **Exclusion reason:** Ineligible outcome
568. Fitzgibbon ML, Stolley MR, Schiffer L, et al. Obesity reduction black intervention trial (ORBIT): 18-month results. *Obesity (Silver Spring)*. 2010 Dec;18(12):2317-25. doi: 10.1038/oby.2010.47. PMID: 20300081. **Exclusion reason:** Ineligible setting

569. Fleming ST, Schoenberg NE, Tarasenko YN, et al. Prevalence of colorectal cancer screening among a multimorbid rural Appalachian population. *South Med J*. 2011 Dec;104(12):811-8. doi: 10.1097/SMJ.0b013e31823a8879. PMID: 22089360. **Exclusion reason:** Ineligible study design
570. Flocke SA, Stange KC, Goodwin MA. Patient and visit characteristics associated with opportunistic preventive services delivery. *J Fam Pract*. 1998 Sep;47(3):202-8. PMID: 9752372. **Exclusion reason:** Ineligible outcome
571. Floyd TD, DuHamel KN, Rao J, et al. Acceptability of a salon-based intervention to promote colonoscopy screening among African American women. *Health Educ Behav*. 2017 Oct;44(5):791-804. doi: 10.1177/1090198117726571. PMID: 28877599. **Exclusion reason:** Ineligible outcome
572. Flynn BS, Gavin P, Worden JK, et al. Community education programs to promote mammography participation in rural New York State. *Prev Med*. 1997 Jan-Feb;26(1):102-8. PMID: 9010904. **Exclusion reason:** Ineligible comparison
573. Flynn PM, Betancourt H, Ormseth SR. Culture, emotion, and cancer screening: an integrative framework for investigating health behavior. *Ann Behav Med*. 2011 Aug;42(1):79-90. doi: 10.1007/s12160-011-9267-z. PMID: 21472484. **Exclusion reason:** Ineligible study design
574. Fogel SC, McElroy JA, Garbers S, et al. Program design for healthy weight in lesbian and bisexual women: a ten-city prevention initiative. *Womens Health Issues*. 2016 07;26 Suppl 1:S7-S17. doi: 10.1016/j.whi.2015.10.005. PMID: 27397919. **Exclusion reason:** Ineligible setting
575. Foley KL, Song EY, Klepin H, et al. Screening colonoscopy among colorectal cancer survivors insured by Medicaid. *Am J Clin Oncol*. 2012 Jun;35(3):205-11. doi: 10.1097/COC.0b013e318209d21e. PMID: 21358299. **Exclusion reason:** Ineligible population
576. Forjuoh SN, Lee C, Won J, et al. Correlates of receiving a recommendation for more physical activity from a primary care provider. *Am J Prev Med*. 2017 Feb;52(2):207-14. doi: 10.1016/j.amepre.2016.09.037. PMID: 27890517. **Exclusion reason:** Ineligible outcome
577. Forney-Gorman A, Kozhimannil KB. Differences in cervical cancer screening between African-American versus African-born Black women in the United States. *J Immigr Minor Health*. 2016 Dec;18(6):1371-7. PMID: 26349483. **Exclusion reason:** Ineligible outcome
578. Fowler CI, Saraiya M, Moskosky SB, et al. Trends in Cervical Cancer Screening in Title X-Funded Health Centers - United States, 2005-2015. *MMWR - Morbidity & Mortality Weekly Report*. 2017 Sep 22;66(37):981-5. doi: 10.15585/mmwr.mm6637a4. PMID: 28934183. **Exclusion reason:** Ineligible publication type
579. Fox SA, Stein JA, Gonzalez RE, et al. A trial to increase mammography utilization among Los Angeles Hispanic women. *J Health Care Poor Underserved*. 1998 Aug;9(3):309-21. PMID: 10073211. **Exclusion reason:** Ineligible population
580. Fox SA, Stein JA, Sockloskie RJ, et al. Targeted mailed materials and the Medicare beneficiary: increasing mammogram screening among the elderly. *Am J Public Health*. 2001 Jan;91(1):55-61. PMID: 11189826. **Exclusion reason:** Ineligible setting
581. Frank JC, Kietzman KG, Wallace SP. Bringing it to the community: successful programs that increase the use of clinical preventive services by vulnerable older populations. *Policy Brief (Ucla Center for Health Policy Research)*. 2014 Aug(PB2014-6):1-8. PMID: 25376060. **Exclusion reason:** Ineligible publication type
582. Franks P, Fiscella K. Effect of patient socioeconomic status on physician profiles for prevention, disease management, and diagnostic testing costs. *Med Care*. 2002 Aug;40(8):717-24. PMID: 12187185. **Exclusion reason:** Ineligible study design

583. Franks P, Fiscella K, Meldrum S. Racial disparities in the content of primary care office visits. *J Gen Intern Med*. 2005 Jul;20(7):599-603. doi: 10.1007/s11606-005-0106-4. PMID: 16050853. **Exclusion reason:** Background information only
584. Frazier LM, Molgaard CA, Fredrickson DD, et al. Barriers to smoking cessation initiatives for Medicaid clients in managed care. *Subst Use Misuse*. 2001 Dec;36(13):1875-99. PMID: 11795583. **Exclusion reason:** Ineligible publication type
585. Freund KM, Battaglia TA, Calhoun E, et al. Impact of patient navigation on timely cancer care: the Patient Navigation Research Program. *J Natl Cancer Inst*. 2014 Jun;106(6):dju115. doi: <https://dx.doi.org/10.1093/jnci/dju115>. PMID: 24938303. **Exclusion reason:** Systematic review used to identify primary studies
586. Friedberg MW, Safran DG, Coltin K, et al. Paying for performance in primary care: potential impact on practices and disparities. *Health Aff (Millwood)*. 2010 May;29(5):926-32. doi: 10.1377/hlthaff.2009.0985. PMID: 20439882. **Exclusion reason:** Background information only
587. Friedemann-Sanchez G, Griffin JM, Partin MR. Gender differences in colorectal cancer screening barriers and information needs. *Health Expect*. 2007 Jun;10(2):148-60. PMID: 17524008. **Exclusion reason:** Ineligible population
588. Fritz C, Naylor K, Kim K. Knowledge of polyp history and recommended follow-up among a predominately African American patient population and the impact of patient navigation. *J Racial Ethn Health Disparities*. 2016 Sep;3(3):403-12. doi: 10.1007/s40615-015-0152-5. PMID: 27294735. **Exclusion reason:** Ineligible outcome
589. Froelicher ES, Doolan D, Yerger VB, et al. Combining community participatory research with a randomized clinical trial: the Protecting the Hood Against Tobacco (PHAT) smoking cessation study. *Heart Lung*. 2010 Jan-Feb;39(1):50-63. doi: 10.1016/j.hrtlng.2009.06.004. PMID: 20109986. **Exclusion reason:** Ineligible comparison
590. Fulton JP. Controlling cancer of the cervix uteri in Rhode Island: preliminary evidence of success in eliminating disparities. *Med Health R I*. 2006 Jun;89(6):217-8. PMID: 16875012. **Exclusion reason:** Ineligible outcome
591. Gaduputi V, Chandrala C, Tariq H, et al. Influence of perception of colorectal cancer risk and patient bowel preparation behaviors: a study in minority populations. *Clin Exp Gastroenterol*. 2015;8:69-75. doi: 10.2147/CEG.S75593. PMID: 25670910. **Exclusion reason:** Ineligible outcome
592. Gany F, Bari S, Gill P, et al. Step on it! Impact of a workplace New York City taxi driver health intervention to increase necessary health care access. *Am J Public Health*. 2015 Apr;105(4):786-92. doi: 10.2105/AJPH.2014.302122. PMID: 25211738. **Exclusion reason:** Ineligible setting
593. Gany FM, Shah SM, Changrani J. New York City's immigrant minorities. Reducing cancer health disparities. *Cancer*. 2006 Oct 15;107(8 Suppl):2071-81. PMID: 16983657. **Exclusion reason:** Ineligible publication type
594. Ganz PA, Farmer MM, Belman MJ, et al. Results of a randomized controlled trial to increase colorectal cancer screening in a managed care health plan. *Cancer*. 2005 Nov 15;104(10):2072-83. doi: 10.1002/cncr.21434. PMID: 16216030. **Exclusion reason:** Ineligible population
595. Gao G, Burke N, Somkin CP, et al. Considering culture in physician-patient communication during colorectal cancer screening. *Qual Health Res*. 2009 Jun;19(6):778-89. doi: 10.1177/1049732309335269. PMID: 19363141. **Exclusion reason:** Ineligible outcome

596. Garbers S, Jessop DJ, Foti H, et al. Barriers to breast cancer screening for low-income Mexican and Dominican women in New York City. *J Urban Health*. 2003 Mar;80(1):81-91. PMID: 12612098. **Exclusion reason:** Ineligible outcome
597. Garcia-Dominic O, Lengerich EJ, Wray LA, et al. Barriers to CRC screening among Latino adults in Pennsylvania: ACCN results. *Am J Health Behav*. 2012 Mar;36(2):153-67. doi: <https://dx.doi.org/10.5993/AJHB.36.2.2>. PMID: 22370254. **Exclusion reason:** Ineligible comparison
598. Gardner C, Arya N, McAllister ML. Can a health unit take action on the determinants of health? *Can J Public Health*. 2005 Sep-Oct;96(5):374-9. PMID: 16238158. **Exclusion reason:** Ineligible publication type
599. Gardner T, Gavaza P, Meade P, et al. Delivering free healthcare to rural Central Appalachia population: the case of the Health Wagon. *Rural & Remote Health*. 2012;12:2035. PMID: 22452285. **Exclusion reason:** Ineligible publication type
600. Garner EI. Cervical cancer: disparities in screening, treatment, and survival. *Cancer Epidemiol Biomarkers Prev*. 2003 Mar;12(3):242s-7s. PMID: 12646519. **Exclusion reason:** Ineligible publication type
601. Garnett BR, Wendel J, Banks C, et al. Challenges of data dissemination efforts within a community-based participatory project about persistent racial disparities in excess weight. *Progress in Community Health Partnerships*. 2015;9(2):289-98. doi: 10.1353/cpr.2015.0047. PMID: 26412770. **Exclusion reason:** Ineligible population
602. Garza MA, Luan J, Blinka M, et al. A culturally targeted intervention to promote breast cancer screening among low-income women in East Baltimore, Maryland. *Cancer Control*. 2005 Nov;12 Suppl 2:34-41. PMID: 16327749. **Exclusion reason:** Ineligible outcome
603. Gathirua-Mwangi W, Cohee A, Tarver WL, et al. Factors Associated with Adherence to Mammography Screening Among Insured Women Differ by Income Levels. *Womens Health Issues*. 2018 Sep - Oct;28(5):462-9. doi: 10.1016/j.whi.2018.06.001. PMID: 30098875. **Exclusion reason:** Background information only
604. Gauss JW, Mabiso A, Williams KP. Pap screening goals and perceptions of pain among black, Latina, and Arab women: steps toward breaking down psychological barriers. *J Cancer Educ*. 2013 Jun;28(2):367-74. doi: 10.1007/s13187-012-0441-1. PMID: 23288606. **Exclusion reason:** Ineligible outcome
605. Gawron AJ, Yadlapati R. Disparities in endoscopy use for colorectal cancer screening in the United States. *Dig Dis Sci*. 2014 Mar;59(3):530-7. doi: 10.1007/s10620-013-2937-x. PMID: 24248417. **Exclusion reason:** Background information only
606. Genoff MC, Zaballa A, Gany F, et al. Navigating language barriers: A systematic review of patient navigators' impact on cancer screening for limited English proficient patients. *J Gen Intern Med*. 2016 Apr;31(4):426-34. doi: 10.1007/s11606-015-3572-3. PMID: 26786875. **Exclusion reason:** Systematic review used to identify primary studies
607. George SA. Barriers to breast cancer screening: an integrative review. *Health Care Women Int*. 2000 Jan-Feb;21(1):53-65. PMID: 11022449. **Exclusion reason:** Ineligible publication type
608. Ghai NR, Jensen CD, Corley DA, et al. Colorectal Cancer Screening Participation Among Asian Americans Overall and Subgroups in an Integrated Health Care Setting with Organized Screening. *Clinical and Translational Gastroenterology*. 2018 09 21;9(9):186. doi: 10.1038/s41424-018-0051-2. PMID: 30242160. **Exclusion reason:** Ineligible outcome

609. Giarratano G, Bustamante-Forest R, Carter C. A multicultural and multilingual outreach program for cervical and breast cancer screening. *J Obstet Gynecol Neonatal Nurs*. 2005 May-Jun;34(3):395-402. PMID: 15890840. **Exclusion reason:** Ineligible publication type
610. Gibson EG, Gage JC, Castle PE, et al. Perceived Susceptibility to Cervical Cancer among African American Women in the Mississippi Delta: Does Adherence to Screening Matter? *Womens Health Issues*. 2019 Jan - Feb;29(1):38-47. doi: <https://dx.doi.org/10.1016/j.whi.2018.09.006>. PMID: 30401612. **Exclusion reason:** Ineligible study design
611. Gibson L, Brennan E, Momjian A, et al. Assessing the consequences of implementing graphic warning labels on cigarette packs for tobacco-related health disparities. *Nicotine & Tobacco Research*. 2015 Aug;17(8):898-907. doi: 10.1093/ntr/ntv082. PMID: 26180214. **Exclusion reason:** Ineligible outcome
612. Gierisch JM, Earp JA, Brewer NT, et al. Longitudinal predictors of nonadherence to maintenance of mammography. *Cancer Epidemiol Biomarkers Prev*. 2010 Apr;19(4):1103-11. doi: 10.1158/1055-9965.EPI-09-1120. PMID: 20354125. **Exclusion reason:** Ineligible population
613. Gilles ME, Strayer LJ, Leischow R, et al. Awareness and implementation of tobacco dependence treatment guidelines in Arizona: Healthcare Systems Survey 2000. *Health Res Policy Syst*. 2008 Dec 19;6:13. doi: 10.1186/1478-4505-6-13. PMID: 19099593. **Exclusion reason:** Ineligible study design
614. Gingiss PM, Boerm M, Huang P, et al. Smoke-free ordinances in Texas worksites, restaurants, and bars, 2000-2007. *Am J Prev Med*. 2009 Feb;36(2):91-5. doi: 10.1016/j.amepre.2008.09.032. PMID: 19062236. **Exclusion reason:** Ineligible outcome
615. Ginossar T, Shah SF, West AJ, et al. Content, Usability, and Utilization of Plain Language in Breast Cancer Mobile Phone Apps: A Systematic Analysis. *JMIR MHealth and UHealth*. 2017 Mar 13;5(3) Background0. doi: 10.2196/mhealth.7073. PMID: 28288954. **Exclusion reason:** Ineligible outcome
616. Giordano L, Stefanini V, Senore C, et al. The impact of different communication and organizational strategies on mammography screening uptake in women aged 40-45 years. *Eur J Public Health*. 2012 Jun;22(3):413-8. doi: 10.1093/eurpub/ckr090. PMID: 21746751. **Exclusion reason:** Ineligible population
617. Gittelsohn J, Jock B, Redmond L, et al. OPREVENT2: design of a multi-institutional intervention for obesity control and prevention for American Indian adults. *BMC Public Health*. 2017 01 23;17(1):105. doi: 10.1186/s12889-017-4018-0. PMID: 28114926. **Exclusion reason:** Ineligible publication type
618. Glasgow RE, Whitlock EP, Valanis BG, et al. Barriers to mammography and Pap smear screening among women who recently had neither, one or both types of screening. *Ann Behav Med*. 2000;22(3):223-8. PMID: 11126467. **Exclusion reason:** Ineligible study design
619. Glenn B, Bastani R, Reuben D. How important are psychosocial predictors of mammography receipt among older women when immediate access is provided via on-site service? *Am J Health Promot*. 2006 Mar-Apr;20(4):237-46. PMID: 16562348. **Exclusion reason:** Ineligible outcome
620. Goel A, George J, Burack RC. Telephone reminders increase re-screening in a county breast screening program. *J Health Care Poor Underserved*. 2008 May;19(2):512-21. doi: 10.1353/hpu.0.0025. PMID: 18469422. **Exclusion reason:** Ineligible outcome
621. Gollust SE, Schroeder SA, Warner KE. Helping smokers quit: understanding the barriers to utilization of smoking cessation services. *Milbank Q*. 2008 Dec;86(4):601-27. doi: 10.1111/j.1468-0009.2008.00536.x. PMID: 19120982. **Exclusion reason:** Ineligible population

622. Gombeski WR, Jr., Kramer K, Wilson T, et al. Women's Heart Advantage program: motivating rapid and assertive behavior. *J Cardiovasc Manag.* 2002 Sep-Oct;13(5):21-8. PMID: 12412359. **Exclusion reason:** Ineligible publication type
623. Gonzalez P, Borrayo EA. The role of physician involvement in Latinas' mammography screening adherence. *Womens Health Issues.* 2011 Mar-Apr;21(2):165-70. doi: 10.1016/j.whi.2010.09.001. PMID: 21232975. **Exclusion reason:** Ineligible outcome
624. Gonzalvo JD, Sharaya NH. Language concordance as a determinant of patient outcomes in a pharmacist-managed cardiovascular risk reduction clinic. *J Pharm Pract.* 2016 Apr;29(2):103-5. doi: 10.1177/0897190014544790. PMID: 25107414. **Exclusion reason:** Ineligible outcome
625. Goode R, Ye L, Zheng Y, et al. The impact of racial and socioeconomic disparities on binge eating and self-efficacy among adults in a behavioral weight loss trial. *Health Soc Work.* 2016 Aug;41(3):e60-e7. doi: 10.1093/hsw/hlw032. PMID: 29206958. **Exclusion reason:** Ineligible outcome
626. Goodman J, Blake J. Nutrition education: a computer-based education program. *J Health Care Poor Underserved.* 2005 Nov;16(4 Suppl A):118-27. PMID: 16327100. **Exclusion reason:** Ineligible population
627. Gorin SS, Ashford AR, Lantigua R, et al. Intraurban influences on physician colorectal cancer screening practices. *J Natl Med Assoc.* 2007 Dec;99(12):1371-80. PMID: 18229773. **Exclusion reason:** Ineligible study design
628. Gorin SS, Badr H, Krebs P, et al. Multilevel interventions and racial/ethnic health disparities. *J Natl Cancer Inst Monogr.* 2012 May;2012(44):100-11. doi: 10.1093/jncimonographs/lgs015. PMID: 22623602. **Exclusion reason:** Systematic review used to identify primary studies
629. Gottlieb LM, Wing H, Adler NE. A systematic review of interventions on patients' social and economic needs. *Am J Prev Med.* 2017 Nov;53(5):719-29. doi: 10.1016/j.amepre.2017.05.011. PMID: 28688725. **Exclusion reason:** Ineligible outcome
630. Govil SR, Weidner G, Merritt-Worden T, et al. Socioeconomic status and improvements in lifestyle, coronary risk factors, and quality of life: the Multisite Cardiac Lifestyle Intervention Program. *Am J Public Health.* 2009 Jul;99(7):1263-70. doi: 10.2105/AJPH.2007.132852. PMID: 18923113. **Exclusion reason:** Ineligible population
631. Grady ES, Humfleet GL, Delucchi KL, et al. Smoking cessation outcomes among sexual and gender minority and nonminority smokers in extended smoking treatments. *Nicotine Tob Res.* 2014 Sep;16(9):1207-15. doi: 10.1093/ntr/ntu050. PMID: 24727483. **Exclusion reason:** Ineligible setting
632. Graham AL, Fang Y, Moreno JL, et al. Online advertising to reach and recruit Latino smokers to an Internet cessation program: Impact and costs. *J Med Internet Res.* 2012 Jul-Aug;14(4):135-47. doi: 10.2196/jmir.2162. PMID: 22954502. **Exclusion reason:** Ineligible outcome
633. Graham GN, Guendelman M, Leong BS, et al. Impact of heart disease and quality of care on minority populations in the United States. *J Natl Med Assoc.* 2006 Oct;98(10):1579-86. PMID: 17052047. **Exclusion reason:** Ineligible publication type
634. Green BB. Colorectal Cancer Control: Where Have We Been and Where Should We Go Next? *JAMA Intern Med.* 2018 Dec 1;178(12):1658-60. doi: 10.1001/jamainternmed.2018.4627. PMID: 30326022. **Exclusion reason:** Ineligible publication type
635. Green BB, Anderson ML, Ralston JD, et al. Patient ability and willingness to participate in a web-based intervention to improve hypertension control group. *J Med Internet Res.* 2011 Jan-Mar;13(1):44-60. doi: 10.2196/jmir.1625. PMID: 21371993. **Exclusion reason:** Ineligible population

636. Green BB, Anderson ML, Wang CY, et al. Results of nurse navigator follow-up after positive colorectal cancer screening test: a randomized trial. *J Am Board Fam Med*. 2014 Nov-Dec;27(6):789-95. doi: 10.3122/jabfm.2014.06.140125. PMID: 25381076. **Exclusion reason:** Ineligible population
637. Green BB, Wang C-Y, Anderson ML, et al. An Automated Intervention With Stepped Increases in Support to Increase Uptake of Colorectal Cancer Screening: A Randomized Trial. *Ann Intern Med*. 2013;158(5_Part_1):301-11. doi: 10.7326/0003-4819-158-5-201303050-00002. PMID: 23460053. **Exclusion reason:** Ineligible population
638. Green PM, Guerrier-Adams S, Okunji PO, et al. African American health disparities in Lung cancer. *Clin J Oncol Nurs*. 2013 Apr;17(2):180-6. doi: 10.1188/13.CJON.180-186. PMID: 23538254. **Exclusion reason:** Ineligible publication type
639. Greenberg LM. A pilot randomized controlled trial comparing the efficacy of problem-solving therapy to enhanced treatment as usual for reducing high blood pressure. *Dissertation abstracts international*. 2016;76(11-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible population
640. Greenblatt AP, Estrada I, Schrimshaw EW, et al. Acceptability of chairside screening for racial/ethnic minority older adults: A qualitative study. *JDR Clin Trans Res*. 2017 Oct;2(4):343-52. doi: 10.1177/2380084417716880. PMID: 28944291. **Exclusion reason:** Ineligible outcome
641. Greene AL, Torio CM, Klassen AC. Measuring sustained mammography use by urban African-American women. *J Community Health*. 2005 Aug;30(4):235-51. PMID: 15989207. **Exclusion reason:** Ineligible study design
642. Greene MZ, Meghani SH, Sommers MS, et al. Health Care-Related Correlates of Cervical Cancer Screening among Sexual Minority Women: An Integrative Review. *J Midwifery Womens Health*. 2018 Sep 25;25:25. doi: <https://dx.doi.org/10.1111/jmwh.12872>. PMID: 30251464. **Exclusion reason:** Systematic review used to identify primary studies
643. Greenlund KJ, Keenan NL, Clayton PF, et al. Public health options for improving cardiovascular health among older Americans. *Am J Public Health*. 2012 Aug;102(8):1498-507. doi: 10.2105/AJPH.2011.300570. PMID: 22698028. **Exclusion reason:** Ineligible publication type
644. Greenwald BJ, Edwards JU. Worksite education programs by county extension agents to promote colorectal cancer prevention and screening. *Gastroenterol Nurs*. 2010 Sep-Oct;33(5):348-52. doi: 10.1097/SGA.0b013e3181f33cb8. PMID: 20890157. **Exclusion reason:** Ineligible outcome
645. Greer TM. Age influences the effects of provider racial biases on treatment adherence and blood pressure control for African American hypertensive patients. *J Health Care Poor Underserved*. 2016 May;27(2):604-21. doi: 10.1353/hpu.2016.0066. PMID: 27180698. **Exclusion reason:** Ineligible population
646. Greiner K, Daley CM, Epp A, et al. "Implementation intentions and colorectal screening: A randomized trial in safety-net clinics": Correction. *Am J Prev Med*. 2015 Aug;49(2):322. PMID: 25455115. **Exclusion reason:** Ineligible publication type
647. Greiner KA, Daley CM, Epp A, et al. Implementation intentions and colorectal screening: a randomized trial in safety-net clinics. *Am J Prev Med*. 2014 Dec;47(6):703-14. doi: <https://dx.doi.org/10.1016/j.amepre.2014.08.005>. PMID: 25455115. **Exclusion reason:** Ineligible publication type

648. Greiner KA, Geana MV, Epp A, et al. A computerized intervention to promote colorectal cancer screening for underserved populations: theoretical background and algorithm development. *Technol Health Care*. 2012;20(1):25-35. doi: 10.3233/THC-2011-0653. PMID: 22297711. **Exclusion reason:** Ineligible outcome
649. Greiner KA, James AS, Born W, et al. Predictors of fecal occult blood test (FOBT) completion among low-income adults. *Prev Med*. 2005 Aug;41(2):676-84. doi: 10.1016/j.ypmed.2004.12.010. PMID: 15917068. **Exclusion reason:** Ineligible population
650. Griffith KA. Biological, psychological and behavioral, and social variables influencing colorectal cancer screening in African Americans. *Nurs Res*. 2009 Sep-Oct;58(5):312-20. doi: <https://dx.doi.org/10.1097/NNR.0b013e3181ac143d>. PMID: 19752671. **Exclusion reason:** Ineligible study design
651. Grossman LV, Masterson Creber RM, Benda NC, et al. Interventions to increase patient portal use in vulnerable populations: a systematic review. *J Am Med Inform Assoc*. 2019 Apr 8doi: 10.1093/jamia/ocz023. PMID: 30958532. **Exclusion reason:** Ineligible outcome
652. Guerra CE, Schwartz JS, Armstrong K, et al. Barriers of and facilitators to physician recommendation of colorectal cancer screening. *J Gen Intern Med*. 2007 Dec;22(12):1681-8. PMID: 17939007. **Exclusion reason:** Ineligible outcome
653. Guertler D, Meyer C, Dorr M, et al. Reach of individuals at risk for cardiovascular disease by proactive recruitment strategies in general practices, job centers, and health insurance. *Int J Behav Med*. 2017 02;24(1):153-60. doi: 10.1007/s12529-016-9584-5. PMID: 27469997. **Exclusion reason:** Ineligible population
654. Gundersen DA. Examining heterogeneity in the Latino population's smoking cessation behaviors: The role of language, immigrant generation, and tobacco control context. *Dissertation abstracts international*. 2012;73(5-B):2862. **Exclusion reason:** Ineligible publication type
655. Gutierrez J, Devia C, Weiss L, et al. Health, community, and spirituality: evaluation of a multicultural faith-based diabetes prevention program. *Diabetes Educ*. 2014 Mar-Apr;40(2):214-22. doi: 10.1177/0145721714521872. PMID: 24518138. **Exclusion reason:** Ineligible intervention
656. Habtes I, Friedman D, Raskind-Hood C, et al. Determining the impact of US mammography screening guidelines on patient survival in a predominantly African American population treated in a public hospital during 2008. *Cancer*. 2013 Feb 01;119(3):481-7. doi: 10.1002/cncr.27698. PMID: 22864994. **Exclusion reason:** Ineligible outcome
657. Haley SJ, Barnes J. New York community health centers' population health activities: Findings from a statewide assessment. *J Health Care Poor Underserved*. 2017;28(2):677-93. doi: 10.1353/hpu.2017.0067. PMID: 28529217. **Exclusion reason:** Ineligible outcome
658. Hall IJ, Rim SH, Johnson-Turbes CA, et al. The African American women and mass media campaign: a CDC breast cancer screening project. *J Womens Health*. 2012 Nov;21(11):1107-13. doi: 10.1089/jwh.2012.3903. PMID: 23072329. **Exclusion reason:** Ineligible outcome
659. Hall SM, Humfleet GL, Munoz RF, et al. Using extended cognitive behavioral treatment and medication to treat dependent smokers. *Am J Public Health*. 2011 Dec;101(12):2349-56. doi: 10.2105/ajph.2010.300084. PMID: 21653904. **Exclusion reason:** Ineligible setting
660. Hall SM, Humfleet GL, Munoz RF, et al. Extended treatment of older cigarette smokers. *Addiction*. 2009 Jun;104(6):1043-52. doi: 10.1111/j.1360-0443.2009.02548.x. PMID: 19392908. **Exclusion reason:** Ineligible setting

661. Hall WJ, Chapman MV, Lee KM, et al. Implicit Racial/Ethnic Bias Among Health Care Professionals and Its Influence on Health Care Outcomes: A Systematic Review. *Am J Public Health*. 2015;105(12):e60-e76. doi: 10.2105/AJPH.2015.302903. PMID: 26469668. **Exclusion reason:** Systematic review used to identify primary studies
662. Halpern MT, Arena LC, Royce RA, et al. Neighborhood and Individual Sociodemographic Characteristics Associated with Disparities in Adult Obesity and Perceptions of the Home Food Environment. *Health Equity*. 2017;1(1):139-49. doi: 10.1089/heq.2017.0010. PMID: 29167837. **Exclusion reason:** Ineligible study design
663. Hamman MK, Kapinos KA. Mandated coverage of preventive care and reduction in disparities: evidence from colorectal cancer screening. *Am J Public Health*. 2015 Jul;105 Suppl 3:S508-16. doi: 10.2105/AJPH.2015.302578. PMID: 25905835. **Exclusion reason:** Ineligible study design
664. Han HR, Kim J, Lee JE, et al. Interventions that increase use of Pap tests among ethnic minority women: a meta-analysis. *Psychooncology*. 2011 Apr;20(4):341-51. doi: 10.1002/pon.1754. PMID: 20878847. **Exclusion reason:** Systematic review used to identify primary studies
665. Han HR, Lee JE, Kim J, et al. A meta-analysis of interventions to promote mammography among ethnic minority women. *Nurs Res*. 2009 Jul-Aug;58(4):246-54. doi: 10.1097/NNR.0b013e3181ac0f7f. PMID: 19609176. **Exclusion reason:** Systematic review used to identify primary studies
666. Hardy ST, Holliday KM, Chakladar S, et al. Heterogeneity in blood pressure transitions over the life course: Age-specific emergence of racial/ethnic and sex disparities in the United States. *JAMA Cardiology*. 2017 Jun 01;2(6):653-61. doi: 10.1001/jamacardio.2017.0652. PMID: 28423153. **Exclusion reason:** Ineligible outcome
667. Harrison RV, Janz NK, Wolfe RA, et al. Personalized targeted mailing increases mammography among long-term noncompliant medicare beneficiaries: a randomized trial. *Med Care*. 2003 Mar;41(3):375-85. PMID: 12618641. **Exclusion reason:** Ineligible setting
668. Harvey I, Schulz A, Israel B, et al. The Healthy Connections project: a community-based participatory research project involving women at risk for diabetes and hypertension. *Prog Community Health Partnersh*. 2009;3(4):287-300. doi: 10.1353/cpr.0.0088. PMID: 20097990. **Exclusion reason:** Ineligible outcome
669. Harvey JR, Ogden DE. Obesity treatment in disadvantaged population groups: where do we stand and what can we do? *Prev Med*. 2014 Nov;68:71-5. doi: 10.1016/j.ypmed.2014.05.015. PMID: 24878585. **Exclusion reason:** Ineligible publication type
670. Haskell WL, Berra K, Arias E, et al. Multifactor cardiovascular disease risk reduction in medically underserved, high-risk patients. *Am J Cardiol*. 2006 Dec 1;98(11):1472-9. doi: 10.1016/j.amjcard.2006.06.049. PMID: 17126653. **Exclusion reason:** Ineligible population
671. Hasson RE. Do metabolic and psychosocial responses to exercise explain ethnic/racial disparities in insulin resistance? Dissertation abstracts international. 2009;70(6-B):3462. **Exclusion reason:** Ineligible publication type
672. Heinen L, Darling H. Addressing obesity in the workplace: the role of employers. *Milbank Q*. 2009 Mar;87(1):101-22. doi: 10.1111/j.1468-0009.2009.00549.x. PMID: 19298417. **Exclusion reason:** Ineligible publication type
673. Heintzman J, Hatch B, Coronado G, et al. Role of Race/Ethnicity, Language, and Insurance in Use of Cervical Cancer Prevention Services Among Low-Income Hispanic Women, 2009-2013. *Prev Chronic Dis*. 2018 02 22;15:BACKGROUND5. doi: https://dx.doi.org/10.5888/pcd15.170267. PMID: 29470167. **Exclusion reason:** Ineligible study design

674. Heitkemper EM, Mamykina L, Tobin JN, et al. Baseline Characteristics and Technology Training of Underserved Adults With Type 2 Diabetes in the Mobile Diabetes Detective (MoDD) Randomized Controlled Trial. *Diabetes Educ.* 2017 12;43(6):576-88. doi: <https://dx.doi.org/10.1177/0145721717737367>. PMID: 29059017. **Exclusion reason:** Ineligible population
675. Helmer DA, Rowneki M, Feng X, et al. State-Level Variability in Veteran Reliance on Veterans Health Administration and Potentially Preventable Hospitalizations: A Geospatial Analysis. *Inquiry.* 2018 Jan-Dec;55:46958018756216. doi: <https://dx.doi.org/10.1177/0046958018756216>. PMID: 29490533. **Exclusion reason:** Ineligible outcome
676. Hendren S, Humiston S, Fiscella K. Partnering with safety-net primary care clinics: A model to enhance screening in low-income populations-Principles, challenges, and key lessons. *Cancer disparities: Causes and evidence-based solutions.* New York, NY ; Atlanta, GA: Springer Publishing Co; American Cancer Society; US; US; 2012:315-37. **Exclusion reason:** Ineligible publication type
677. Hendricks PS, Westmaas J, Ta Park VM, et al. Smoking abstinence-related expectancies among American Indians, African Americans, and women: Potential mechanisms of tobacco-related disparities. *Psychol Addict Behav.* 2014 Mar;28(1):193-205. doi: 10.1037/a0031938. PMID: 23528192. **Exclusion reason:** Ineligible study design
678. Henley SJ, Gallaway S, Singh SD, et al. Lung Cancer Among Women in the United States. *J Womens Health.* 2018 Nov;27(11):1307-16. doi: <https://dx.doi.org/10.1089/jwh.2018.7397>. PMID: 30312110. **Exclusion reason:** Ineligible publication type
679. Hennekens CH, Schneider WR, Levine RS. Cardiovascular disease. *Handbook of African American health.* New York, NY: Guilford Press; US; 2010:271-303. **Exclusion reason:** Ineligible publication type
680. Henwood BF, Stanhope V, Brawer R, et al. Addressing chronic disease within supportive housing programs. *Prog Community Health Partnersh.* 2013;7(1):67-75. doi: 10.1353/cpr.2013.0005. PMID: 23543023. **Exclusion reason:** Ineligible outcome
681. Herman WH, Ma Y, Uwaifo G, et al. Differences in A1C by race and ethnicity among patients with impaired glucose tolerance in the Diabetes Prevention Program. *Diabetes Care.* 2007 Oct;30(10):2453-7. PMID: 17536077. **Exclusion reason:** Ineligible outcome
682. Hermosura AHPPo. The relationship between perceived racism and cardiovascular reactivity and recovery in native Hawaiians. *Dissertation abstracts international.* 2015;76(1-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
683. Hicken MT, Lee H, Hing AK. The weight of racism: Vigilance and racial inequalities in weight-related measures. *Soc Sci Med.* 2018 Feb;199:157-66. doi: 10.1016/j.socscimed.2017.03.058. PMID: 28372829. **Exclusion reason:** Ineligible study design
684. Higgins ST. Editorial: 5th Special Issue on behavior change, health, and health disparities. *Prev Med.* 2018 12;117:1-4. doi: <https://dx.doi.org/10.1016/j.ypmed.2018.10.008>. PMID: 30340697. **Exclusion reason:** Ineligible publication type
685. Hillier-Brown FC, Bambra CL, Cairns JM, et al. A systematic review of the effectiveness of individual, community and societal-level interventions at reducing socio-economic inequalities in obesity among adults. *Int J Obes.* 2014 Dec;38(12):1483-90. doi: <https://dx.doi.org/10.1038/ijo.2014.75>. PMID: 24813369. **Exclusion reason:** Systematic review used to identify primary studies

686. Hillman AL, Ripley K, Goldfarb N, et al. Physician financial incentives and feedback: failure to increase cancer screening in Medicaid managed care. *Am J Public Health*. 1998 Nov;88(11):1699-701. PMID: 9807540. **Exclusion reason:** Ineligible population
687. Hoffman HJ, LaVerda NL, Young HA, et al. Patient navigation significantly reduces delays in breast cancer diagnosis in the District of Columbia. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1655-63. doi: 10.1158/1055-9965.Epi-12-0479. PMID: 23045540. **Exclusion reason:** Ineligible outcome
688. Holden DJ, Jonas DE, Porterfield DS, et al. Systematic review: enhancing the use and quality of colorectal cancer screening. *Ann Intern Med*. 2010 May 18;152(10):668-76. doi: 10.7326/0003-4819-152-10-201005180-00239. PMID: 20388703. **Exclusion reason:** Systematic review used to identify primary studies
689. Holub CK, Elder JP, Arredondo EM, et al. Obesity control in Latin American and U.S. Latinos: a systematic review. *Am J Prev Med*. 2013 May;44(5):529-37. doi: 10.1016/j.amepre.2013.01.023. PMID: 23597819. **Exclusion reason:** Systematic review used to identify primary studies
690. Homan SG, McBride DG, Yun S. The Effect of the Missouri WISEWOMAN Program on Control of Hypertension, Hypercholesterolemia, and Elevated Blood Glucose Among Low-Income Women. *Prev Chronic Dis*. 2014;11:E74. doi: 10.5888/pcd11.130338. PMID: 24784910. **Exclusion reason:** Ineligible population
691. Hooper MW, Baker EA, de Ybarra DR, et al. Acculturation predicts 7-day smoking cessation among treatment-seeking African-Americans in a group intervention. *Ann Behav Med*. 2012 Feb;43(1):74-83. doi: <http://dx.doi.org/10.1007/s12160-011-9304-y>. PMID: 2012-03666-008. **Exclusion reason:** Ineligible comparison
692. Howard G, Cushman M, Moy CS, et al. Association of clinical and social factors with excess hypertension risk in Black compared with White US adults. *JAMA*. 2018 Oct;320(13):1338-48. doi: 10.1001/jama.2018.13467. PMID: 30285178 **Exclusion reason:** Ineligible intervention
693. Huang J, Yu H, Marin E, et al. Physicians' weight loss counseling in two public hospital primary care clinics. *Acad Med*. 2004 Feb;79(2):156-61. PMID: 14744717. **Exclusion reason:** Ineligible intervention
694. Hunter JB, de Zapien JG, Papenfuss M, et al. The impact of a promotora on increasing routine chronic disease prevention among women aged 40 and older at the U.S.-Mexico border. *Health Educ Behav*. 2004 Aug;31(4 Suppl):18s-28s. doi: 10.1177/1090198104266004. PMID: 15296689. **Exclusion reason:** Ineligible outcome
695. Ingraham N, Harbatkin D, Lorvick J, et al. Women's Health and Mindfulness (WHAM): a randomized intervention among older lesbian/bisexual women. *Health Promot Pract*. 2017 May;18(3):348-57. doi: 10.1177/1524839916670874. PMID: 27698102. **Exclusion reason:** Ineligible population
696. Jacobs EA, Rathouz PJ, Karavolos K, et al. Perceived discrimination is associated with reduced breast and cervical cancer screening: the Study of Women's Health Across the Nation (SWAN). *J Womens Health*. 2014 Feb;23(2):138-45. doi: <https://dx.doi.org/10.1089/jwh.2013.4328>. PMID: 24261647. **Exclusion reason:** Ineligible outcome
697. Jandorf L, Braschi C, Ernstoff E, et al. Culturally targeted patient navigation for increasing african americans' adherence to screening colonoscopy: a randomized clinical trial. *Cancer Epidemiol Biomarkers Prev*. 2013 Sep;22(9):1577-87. doi: 10.1158/1055-9965.Epi-12-1275. PMID: 23753039. **Exclusion reason:** Ineligible outcome

698. Jandorf L, Cooperman JL, Stossel LM, et al. Implementation of culturally targeted patient navigation system for screening colonoscopy in a direct referral system. *Health Educ Res.* 2013 Oct;28(5):803-15. doi: 10.1093/her/cyt003. PMID: 23393099. **Exclusion reason:** Ineligible comparison
699. Jean-Jacques M, Persell SD, Thompson JA, et al. Changes in disparities following the implementation of a health information technology-supported quality improvement initiative. *J Gen Intern Med.* 2012 Jan;27(1):71-7. doi: <https://dx.doi.org/10.1007/s11606-011-1842-2>. PMID: 21892661. **Exclusion reason:** Ineligible study design
700. Jenkins RG, Ornstein SM, Nietert PJ, et al. Quality improvement for prevention of cardiovascular disease and stroke in an academic family medicine center: do racial differences in outcome exist? *Ethn Dis.* 2006 Winter;16(1):132-7. PMID: 16599361. **Exclusion reason:** Ineligible population
701. Jerome-D'Emilia B, Gachupin FC, Suplee PD. A Systematic Review of Barriers and Facilitators to Mammography in American Indian/Alaska Native Women. *J Transcult Nurs.* 2019 Mar;30(2):173-86. doi: <https://dx.doi.org/10.1177/1043659618793706>. PMID: 30122121. **Exclusion reason:** Systematic review used to identify primary studies
702. Jerome-D'Emilia B, Merwin E, Stern S. Feasibility of using technology to disseminate evidence to rural nurses and improve patient outcomes. *J Contin Educ Nurs.* 2010 Jan;41(1):25-32. doi: 10.3928/00220124-20091222-08. PMID: 20102140. **Exclusion reason:** Ineligible outcome
703. Jewett PI, Gangnon RE, Elkin E, et al. Geographic access to mammography facilities and frequency of mammography screening. *Ann Epidemiol.* 2018 02;28(2):65-71. Background. doi: <https://dx.doi.org/10.1016/j.annepidem.2017.11.012>. PMID: 29439783. **Exclusion reason:** Ineligible population
704. Jiang L, Huang H, Johnson A, et al. Socioeconomic disparities in weight and behavioral outcomes among American Indian and Alaska Native participants of a translational lifestyle intervention project. *Diabetes Care.* 2015 Nov;38(11):2090-9. doi: 10.2337/dc15-0394. PMID: 26494807. **Exclusion reason:** Ineligible outcome
705. Jo AM, Nguyen TT, Stewart S, et al. Lay health educators and print materials for the promotion of colorectal cancer screening among Korean Americans: A randomized comparative effectiveness study. *Cancer.* 2017 Jul 15;123(14):2705-15. doi: 10.1002/cncr.30568. PMID: 28440872. **Exclusion reason:** Ineligible setting
706. Jobe JB, Adams AK, Henderson JA, et al. Community-responsive interventions to reduce cardiovascular risk in American Indians. *J Prim Prev.* 2012 Aug;33(4):153-9. doi: 10.1007/s10935-012-0277-9. PMID: 22983753. **Exclusion reason:** Ineligible publication type
707. Johnson J, Ross L, Iwanenko W, et al. Are podcasts effective at educating African American men about diabetes? *Am J Mens Health.* 2012 Sep;6(5):365-7. doi: 10.1177/1557988312444717. PMID: 22516566. **Exclusion reason:** Ineligible outcome
708. Johnson RM, Johnson T, Zimmerman SD, et al. Outcomes of a seven practice pilot in a pay-for-performance (P4P)-based program in Pennsylvania. *J Racial Ethn Health Disparities.* 2015 Mar;2(1):139-48. doi: 10.1007/s40615-014-0057-8. PMID: 25893158. **Exclusion reason:** Ineligible population
709. Johnson-Lawrence V, Bailey S, Sanders PE, et al. The Church Challenge: A community-based multilevel cluster randomized controlled trial to improve blood pressure and wellness in African American churches in Flint, Michigan. *Contemporary Clinical Trials Communications.* 2019 Jun;14:100329. doi: <https://dx.doi.org/10.1016/j.conctc.2019.100329>. PMID: 30886933. **Exclusion reason:** Ineligible publication type

710. Johnston SS, Mark TL, Dirani R. Smoking cessation: the value of a comprehensive carved-in benefit. *Am J Health Promot.* 2008 Nov-Dec;23(2):85-7, ii. doi: 10.4278/ajhp.07091499. PMID: 19004155. **Exclusion reason:** Ineligible publication type
711. Jones BA, Reams K, Calvocoressi L, et al. Adequacy of communicating results from screening mammograms to African American and White women. *Am J Public Health.* 2007 Mar;97(3):531-8. PMID: 17267723. **Exclusion reason:** Ineligible outcome
712. Jones KM, Carter MM, Schulkin J. Racial and ethnic disparities in cardiovascular disease: An assessment of obstetrician-gynecologists' knowledge, attitudes, and practice patterns. *J Racial Ethn Health Disparities.* 2015 Jun;2(2):256-66. doi: 10.1007/s40615-015-0088-9. PMID: 26863341. **Exclusion reason:** Ineligible outcome
713. Jones NL, Breen N, Das R, et al. Cross-Cutting Themes to Advance the Science of Minority Health and Health Disparities. *Am J Public Health.* 2019 Jan;109(S1):S21-S4. doi: 10.2105/AJPH.2019.304950. PMID: 30699031. **Exclusion reason:** Background information only
714. Jones TP, Katapodi MC, Lockhart JS. Factors influencing breast cancer screening and risk assessment among young African American women: An integrative review of the literature. *J Am Assoc Nurse Pract.* 2015 Sep;27(9):521-9. doi: 10.1002/2327-6924.12223. PMID: 25736320. **Exclusion reason:** Ineligible publication type
715. Jordan KC, Freeland-Graves JH, Klohe-Lehman DM, et al. A nutrition and physical activity intervention promotes weight loss and enhances diet attitudes in low-income mothers of young children. *Nutr Res.* 2008 Jan;28(1):13-20. doi: 10.1016/j.nutres.2007.11.005. PMID: 19083382. **Exclusion reason:** Ineligible setting
716. Joseph DA, Redwood D, DeGroff A, et al. Use of evidence-based interventions to address disparities in colorectal cancer screening. *MMWR Suppl.* 2016 Feb 12;65(1):21-8. doi: 10.15585/mmwr.su6501a5. PMID: 26915961. **Exclusion reason:** Ineligible publication type
717. Joseph RP, Pekmezi D, Dutton GR, et al. Results of a culturally adapted internet-enhanced physical activity pilot intervention for overweight and obese young adult African American women. *J Transcult Nurs.* 2016 Mar;27(2):136-46. doi: 10.1177/1043659614539176. PMID: 24934566. **Exclusion reason:** Ineligible outcome
718. Jung MY, Holt CL, Ng D, et al. The Chinese and Korean American immigrant experience: a mixed-methods examination of facilitators and barriers of colorectal cancer screening. *Ethn Health.* 2018 11;23(8):847-66. doi: 10.1080/13557858.2017.1296559. PMID: 28277021. **Exclusion reason:** Ineligible study design
719. Juon HS, Choi S, Klassen A, et al. Impact of breast cancer screening intervention on Korean-American women in Maryland. *Cancer Detect Prev.* 2006;30(3):297-305. PMID: 16870356. **Exclusion reason:** Ineligible outcome
720. Kaalekahi JM, Gandhi KR, Chen JJ, et al. Colonoscopy Screening among Native Hawaiians at Queen's Medical Center between August 2011 and January 2013. *Hawaii J Med Public Health.* 2016 Jan;75(1):13-7. PMID: 26870602. **Exclusion reason:** Ineligible outcome
721. Kadison P, Pelletier EM, Mounib EL, et al. Improved screening for breast cancer associated with a telephone-based risk assessment. *Prev Med.* 1998 May-Jun;27(3):493-501. PMID: 9612841. **Exclusion reason:** Ineligible population
722. Kagawa-Singer M, Tanjasiri SP, Valdez A, et al. Outcomes of a breast health project for Hmong women and men in California. *Am J Public Health.* 2009 Oct;99 Suppl 2:S467-73. doi: 10.2105/ajph.2008.143974. PMID: 19443830. **Exclusion reason:** Ineligible population

723. Kaholokula JK, Ing CT, Look MA, et al. Culturally responsive approaches to health promotion for Native Hawaiians and Pacific Islanders. *Ann Hum Biol.* 2018 May;45(3):249-63. doi: <https://dx.doi.org/10.1080/03014460.2018.1465593>. PMID: 29843522. **Exclusion reason:** Ineligible publication type
724. Kaholokula JK, Kekauoha P, Dillard A, et al. The PILI 'Ohana Project: a community-academic partnership to achieve metabolic health equity in Hawai'i. *Hawaii J Med Public Health.* 2014 Dec;73(12 Suppl 3):29-33. PMID: 25535599. **Exclusion reason:** Ineligible publication type
725. Kaholokula JK, Look MA, Wills TA, et al. Ka-HOLO Project: a protocol for a randomized controlled trial of a native cultural dance program for cardiovascular disease prevention in Native Hawaiians. *BMC Public Health.* 2017 Apr 17;17(1):321. doi: 10.1186/s12889-017-4246-3. PMID: 28415975. **Exclusion reason:** Ineligible publication type
726. Kaholokula JK, Mau MK, Efird JT, et al. A family and community focused lifestyle program prevents weight regain in Pacific Islanders: a pilot randomized controlled trial. *Health Educ Behav.* 2012 Aug;39(4):386-95. doi: 10.1177/1090198110394174. PMID: 21551421. **Exclusion reason:** Ineligible comparison
727. Kaholokula JK, Townsend CK, Ige A, et al. Sociodemographic, behavioral, and biological variables related to weight loss in native Hawaiians and other Pacific Islanders. *Obesity.* 2013 Mar;21(3):E196-203. doi: 10.1002/oby.20038. PMID: 23404724. **Exclusion reason:** Ineligible comparison
728. Kaminsky J, Gadaleta D. A study of discrimination within the medical community as viewed by obese patients. *Obes Surg.* 2002 Feb;12(1):14-8. PMID: 11868290. **Exclusion reason:** Ineligible outcome
729. Kandula NR, Dave S, De Chavez PJ, et al. Translating a heart disease lifestyle intervention into the community: the South Asian Heart Lifestyle Intervention (SAHELI) study; a randomized control trial. *BMC Public Health.* 2015 Oct 16;15:1064. doi: 10.1186/s12889-015-2401-2. PMID: 26475629. **Exclusion reason:** Ineligible setting
730. Karcher R, Fitzpatrick DC, Leonard DJ, et al. A community-based collaborative approach to improve breast cancer screening in underserved African American women. *J Cancer Educ.* 2014 Sep;29(3):482-7. doi: 10.1007/s13187-014-0608-z. PMID: 24446167. **Exclusion reason:** Ineligible outcome
731. Katula JA, Vitolins MZ, Rosenberger EL, et al. One-year results of a community-based translation of the Diabetes Prevention Program: Healthy-Living Partnerships to Prevent Diabetes (HELP PD) Project. *Diabetes Care.* 2011 Jul;34(7):1451-7. doi: 10.2337/dc10-2115. PMID: 21593290. **Exclusion reason:** Ineligible setting
732. Katz D, Tengekyon AJ, Kahan NR, et al. Patient and physician characteristics affect adherence to screening mammography: A population-based cohort study. *PLoS ONE [Electronic Resource].* 2018;13(3):e0194409. doi: 10.1371/journal.pone.0194409. PMID: 29584742. **Exclusion reason:** Ineligible population
733. Katz ML, Wewers ME, Single N, et al. Key informants' perspectives prior to beginning a cervical cancer study in Ohio Appalachia. *Qual Health Res.* 2007 Jan;17(1):131-41. PMID: 17170251. **Exclusion reason:** Sample size <20
734. Katz ML, Young GS, Zimmermann BJ, et al. Assessing colorectal cancer screening barriers by two methods. *J Cancer Educ.* 2018 Jun;33(3):536-43. doi: 10.1007/s13187-016-1148-5. PMID: 27933460. **Exclusion reason:** Background information only

735. Katz SJ, Zemencuk JK, Hofer TP. Breast cancer screening in the United States and Canada, 1994: socioeconomic gradients persist. *Am J Public Health*. 2000 May;90(5):799-803. PMID: 10800435. **Exclusion reason:** Ineligible outcome
736. Kauh J, Brawley OW, Berger M. Racial disparities in colorectal cancer. *Curr Probl Cancer*. 2007 May-Jun;31(3):123-33. PMID: 17543944. **Exclusion reason:** Ineligible publication type
737. Kelaher M, Stellman JM. The impact of medicare funding on the use of mammography among older women: implications for improving access to screening. *Prev Med*. 2000 Dec;31(6):658-64. PMID: 11133332. **Exclusion reason:** Ineligible setting
738. Kelly KM, Dickinson SL, DeGraffinreid CR, et al. Colorectal cancer screening in 3 racial groups. *Am J Health Behav*. 2007 Sep-Oct;31(5):502-13. doi: 10.5993/AJHB.31.5.6. PMID: 17555381. **Exclusion reason:** Ineligible study design
739. Kelly KM, Phillips CM, Jenkins C, et al. Physician and staff perceptions of barriers to colorectal cancer screening in Appalachian Kentucky. *Cancer Control*. 2007 Apr;14(2):167-75. PMID: 17387302. **Exclusion reason:** Background information only
740. Kelly PJ, Hunter J, Daily EB, et al. Challenges to Pap smear follow-up among women in the criminal justice system. *J Community Health*. 2017 Feb;42(1):15-20. doi: 10.1007/s10900-016-0225-3. PMID: 27449030. **Exclusion reason:** Ineligible outcome
741. Kelly S, Martin S, Kuhn I, et al. Barriers and Facilitators to the Uptake and Maintenance of Healthy Behaviours by People at Mid-Life: A Rapid Systematic Review. *PLoS ONE* [Electronic Resource]. 2016;11(1):e0145074. doi: 10.1371/journal.pone.0145074. PMID: 26815199. **Exclusion reason:** Background information only
742. Kempe KL, Larson RS, Shetterley S, et al. Breast cancer screening in an insured population: whom are we missing? *Perm J*. 2013;17(1):38-44. doi: 10.7812/TPP/12-068. PMID: 23596367. **Exclusion reason:** Ineligible study design
743. Kendzor DE, Businelle MS, Mazas CA, et al. Pathways between socioeconomic status and modifiable risk factors among African American smokers. *J Behav Med*. 2009 Dec;32(6):545-57. doi: 10.1007/s10865-009-9226-3. PMID: 19757014. **Exclusion reason:** Ineligible outcome
744. Kendzor DE, Businelle MS, Reitzel LR, et al. The influence of discrimination on smoking cessation among Latinos. *Drug Alcohol Depend*. 2014 Mar;136:143-8. doi: 10.1016/j.drugalcdep.2014.01.003. PMID: 24485880. **Exclusion reason:** Background information only
745. Kendzor DE, Reitzel LR, Mazas CA, et al. Individual- and area-level unemployment influence smoking cessation among African Americans participating in a randomized clinical trial. *Soc Sci Med*. 2012 May;74(9):1394-401. doi: 10.1016/j.socscimed.2012.01.013. PMID: 22405506. **Exclusion reason:** Ineligible outcome
746. Kennel J. Health and Wellness Coaching Improves Weight and Nutrition Behaviors. *Am J Lifestyle Med*. 2018 Nov-Dec;12(6):448-50. doi: <https://dx.doi.org/10.1177/1559827618792846>. PMID: 30783395. **Exclusion reason:** Ineligible publication type
747. Kerner JF, Yedidia M, Padgett D, et al. Realizing the promise of breast cancer screening: clinical follow-up after abnormal screening among Black women. *Prev Med*. 2003 Aug;37(2):92-101. PMID: 12855208. **Exclusion reason:** Ineligible population
748. Keyserling TC, Ammerman AS, Davis CE, et al. A randomized controlled trial of a physician-directed treatment program for low-income patients with high blood cholesterol: the Southeast Cholesterol Project. *Arch Fam Med*. 1997 Mar-Apr;6(2):135-45. PMID: 9075448. **Exclusion reason:** Ineligible population

749. Khaliq W, Aamar A, Wright SM. Predictors of non-adherence to breast cancer screening among hospitalized women. PLoS ONE [Electronic Resource]. 2015;10(12):e0145492. doi: 10.1371/journal.pone.0145492. PMID: 26709510. **Exclusion reason:** Ineligible study design
750. Khan N, Kaestner R, Salmon JW, et al. Does supply influence mammography screening? Am J Health Behav. 2010 Jul-Aug;34(4):465-75. PMID: 20218758. **Exclusion reason:** Ineligible study design
751. Kidder B. P.O.W. (protect our women): results of a breast cancer prevention project targeted to older African-American women. Soc Work Health Care. 2008;47(1):60-72. doi: 10.1080/00981380801970830. PMID: 18956513. **Exclusion reason:** Ineligible outcome
752. Kieffer EC, Willis SK, Odoms-Young AM, et al. Reducing disparities in diabetes among African-American and Latino residents of Detroit: the essential role of community planning focus groups. Ethn Dis. 2004;14(3 Suppl 1):S27-37. PMID: 15682769. **Exclusion reason:** Ineligible outcome
753. Kilbourne AM, Switzer G, Hyman K, et al. Advancing health disparities research within the health care system: a conceptual framework. Am J Public Health. 2006 Dec;96(12):2113-21. doi: 10.2105/AJPH.2005.077628. PMID: 17077411. **Exclusion reason:** Background information only
754. Kim K, Han H-R. Potential links between health literacy and cervical cancer screening behaviors: A systematic review. Psychooncology. 2016 Feb;25(2):122-30. doi: 10.1002/pon.3883. PMID: 26086119. **Exclusion reason:** Background information only
755. Kim MJ, Lee H, Kim EH, et al. Disparity in health screening and health utilization according to economic status. Korean J Fam Med. 2017 Jul;38(4):220-5. doi: 10.4082/kjfm.2017.38.4.220. PMID: 28775812. **Exclusion reason:** Ineligible population
756. Kim S, Yeon A, Cho E, et al. Effectiveness of a Tailored Colorectal Cancer Educational Seminar in Enhancing the Awareness, Knowledge, and Behavior of Korean Americans Living in the Los Angeles Koreatown Area. Diversity & Equality in Health & Care. 2019;16(1):1-8. doi: https://dx.doi.org/10.21767/2049-5471.1000185. PMID: 31019695. **Exclusion reason:** Ineligible outcome
757. Kim SJ, Glassgow AE, Watson KS, et al. Gendered and racialized social expectations, barriers, and delayed breast cancer diagnosis. Cancer. 2018 Nov 15;124(22):4350-7. doi: 10.1002/cncr.31636. PMID: 30246241. **Exclusion reason:** Ineligible population
758. King A, Sanchez-Johnsen L, Van Orman S, et al. A pilot community-based intensive smoking cessation intervention in African Americans: feasibility, acceptability and early outcome indicators. J Natl Med Assoc. 2008 Feb;100(2):208-17. PMID: 18300538. **Exclusion reason:** Ineligible comparison
759. King AC, Bickmore TW, Campero MI, et al. Employing virtual advisors in preventive care for underserved communities: results from the COMPASS study. J Health Commun. 2013;18(12):1449-64. doi: 10.1080/10810730.2013.798374. PMID: 23941610. **Exclusion reason:** Ineligible population
760. King AC, Cao D, Southard CC, et al. Racial differences in eligibility and enrollment in a smoking cessation clinical trial. Health Psychol. 2011 Jan;30(1):40-8. doi: 10.1037/a0021649. PMID: 21299293. **Exclusion reason:** Ineligible outcome
761. King E, Rimer BK, Benincasa T, et al. Strategies to encourage mammography use among women in senior citizens' housing facilities. J Cancer Educ. 1998;13(2):108-15. PMID: 9659630. **Exclusion reason:** Ineligible population
762. King JL, Pomeranz JL, Young ME, et al. Evaluation of a newly developed tobacco cessation program for people with disabilities. Disabil Health J. 2016 Jan;9(1):145-9. doi: 10.1016/j.dhjo.2015.08.002. PMID: 26365086. **Exclusion reason:** Ineligible population

763. King TK, Borrelli B, Black C, et al. Minority women and tobacco: implications for smoking cessation interventions. *Ann Behav Med.* 1997;19(3):301-13. PMID: 9603705. **Exclusion reason:** Ineligible publication type
764. Kirk JK, Bell RA, Bertoni AG, et al. A qualitative review of studies of diabetes preventive care among minority patients in the United States, 1993-2003. *Am J Manag Care.* 2005 Jun;11(6):349-60. PMID: 15974554. **Exclusion reason:** Ineligible population
765. Kiviniemi MT, Jandorf L, Erwin DO. Disgusted, embarrassed, annoyed: Affective associations relate to uptake of colonoscopy screening. *Ann Behav Med.* 2014 Aug;48(1):112-9. doi: 10.1007/s12160-013-9580-9. PMID: 24500079. **Exclusion reason:** Ineligible outcome
766. Kiviniemi MT, Klasko-Foster LB, Erwin DO, et al. Decision-making and socioeconomic disparities in colonoscopy screening in African Americans. *Health Psychol.* 2018 May;37(5):481-90. doi: 10.1037/hea0000603. PMID: 29595298. **Exclusion reason:** Background information only
767. Klasko-Foster LB, Jandorf LM, Erwin DO, et al. Predicting Colonoscopy Screening Behavior and Future Screening Intentions for African Americans Older than 50 Years. *Behav Med.* 2018 Nov 14:1-10. doi: <https://dx.doi.org/10.1080/08964289.2018.1510365>. PMID: 30427773. **Exclusion reason:** Ineligible study design
768. Knight JR, Kanotra S, Siameh S, et al. Understanding barriers to colorectal cancer screening in Kentucky. *Prev Chronic Dis.* 2015 Jun 18;12:E95. doi: 10.5888/pcd12.140586. PMID: 26086608. **Exclusion reason:** Ineligible study design
769. Knox M. Creating a preference for prevention: the role of universal health care in the demand for preventive care among Mexico's vulnerable populations. *Health Policy Plan.* 2018 Sep;33(7):853-60. doi: 10.1093/heapol/czy062. PMID: 31222331. **Exclusion reason:** Ineligible country
770. Ko LK, Reuland D, Jolles M, et al. Cultural and linguistic adaptation of a multimedia colorectal cancer screening decision aid for Spanish-speaking Latinos. *J Health Commun.* 2014;19(2):192-209. doi: 10.1080/10810730.2013.811325. PMID: 24328496. **Exclusion reason:** Ineligible comparison
771. Ko ML. Colorectal cancer screening behaviors among korean americans. Dissertation abstracts international. 2014;75(4-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
772. Kobetz E, Menard J, Barton B, et al. Barriers to breast cancer screening among Haitian immigrant women in Little Haiti, Miami. *J Immigr Minor Health.* 2010 Aug;12(4):520-6. doi: 10.1007/s10903-010-9316-x. PMID: 20091231. **Exclusion reason:** Ineligible comparison
773. Kobetz E, Mendoza AD, Barton B, et al. Mammography use among Haitian women in Miami, Florida: An opportunity for intervention. *J Immigr Minor Health.* 2010 Jun;12(3):418-21. doi: 10.1007/s10903-008-9193-8. PMID: 18841475. **Exclusion reason:** Ineligible study design
774. Kochevar AJ, Smith KL, Bernard MA. Effects of a community-based intervention to increase activity in American Indian elders. *J Okla State Med Assoc.* 2001 Oct;94(10):455-60. PMID: 11642001. **Exclusion reason:** Ineligible population
775. Koh E, Choi GY, Cho JY. Effectiveness of an ongoing, community-based breast cancer prevention program for Korean American Women. *Health Soc Work.* 2016 Feb;41(1):51-9. PMID: 26946886. **Exclusion reason:** Ineligible outcome
776. Kolahdooz F, Jang SL, Corriveau A, et al. Knowledge, attitudes, and behaviours towards cancer screening in indigenous populations: a systematic review. *Lancet Oncol.* 2014 Oct;15(11):e504-16. doi: 10.1016/S1470-2045(14)70508-X. PMID: 25281469. **Exclusion reason:** Systematic review used to identify primary studies

777. Koma JW, Donohue JM, Barry CL, et al. Medicaid coverage expansions and cigarette smoking cessation among low-income adults. *Med Care*. 2017 Dec;55(12):1023-9. doi: 10.1097/MLR.0000000000000821. PMID: 29068908. **Exclusion reason:** Ineligible study design
778. Kones R, Rumana U, Arain F. A General Pathway Model for Improving Health Disparities: Lessons from Community and Cultural Involvement in Improving Cervical Cancer Screening in Vietnamese Women. *J Clin Med*. 2019 Jan 29;8(2):29. doi: <https://dx.doi.org/10.3390/jcm8020154>. PMID: 30700062. **Exclusion reason:** Ineligible publication type
779. Kopp MK, Hornberger C. Proper exercise and nutrition kit: use of obesity screening and assessment tools with underserved populations. *J Pediatr Nurs*. 2008 Feb;23(1):58-64. doi: 10.1016/j.pedn.2007.11.006. PMID: 18207048. **Exclusion reason:** Ineligible population
780. Koren ME, Hertz JE. Older women's breast screening behaviors: what nurses need to know. *Medsurg Nurs*. 2007 Apr;16(2):80-5; quiz 6. PMID: 17547264. **Exclusion reason:** Ineligible study design
781. Koroukian SM, Xu F, Dor A, et al. Colorectal Cancer Screening in the Elderly Population: Disparities by Dual Medicare-Medicaid Enrollment Status. *Health Serv Res*. 2006 Dec;41(6):2136-54. doi: 10.1111/j.1475-6773.2006.00585.x. PMID: 17116113. **Exclusion reason:** Ineligible study design
782. Kottke TE, Trapp MA. Implementing nurse-based systems to provide American Indian women with breast and cervical cancer screening. *Mayo Clin Proc*. 1998 Sep;73(9):815-23. PMID: 9737216. **Exclusion reason:** Ineligible outcome
783. Krahenmann-Muller S, Virgini VS, Blum MR, et al. Patient and physician gender concordance in preventive care in university primary care settings. *Prev Med*. 2014 Oct;67:242-7. doi: 10.1016/j.ypmed.2014.08.004. PMID: 25117521. **Exclusion reason:** Ineligible study design
784. Kraschnewski JL, McCall-Hosenfeld JS, Weisman CS. Prospective association between body mass index and receipt of preventive services: results from the Central Pennsylvania Women's Health Study (CePAWHS). *Prev Med*. 2012 May;54(5):302-5. doi: 10.1016/j.ypmed.2012.02.010. PMID: 22391575. **Exclusion reason:** Ineligible population
785. Kreuter MW, Garibay LB, Pfeiffer DJ, et al. Small media and client reminders for colorectal cancer screening: current use and gap areas in CDC's Colorectal Cancer Control Program. *Prev Chronic Dis*. 2012;9:E131. PMID: 22814237. **Exclusion reason:** Ineligible outcome
786. Kreuter MW, Holmes K, Alcaraz K, et al. Comparing narrative and informational videos to increase mammography in low-income African American women. *Patient Educ Couns*. 2010 Dec;81 Suppl:S6-14. doi: 10.1016/j.pec.2010.09.008. PMID: 21071167. **Exclusion reason:** Ineligible comparison
787. Krist AH, Woolf SH, Hochheimer C, et al. Harnessing Information Technology to Inform Patients Facing Routine Decisions: Cancer Screening as a Test Case. *Ann Fam Med*. 2017 May;15(3):217-24. doi: 10.1370/afm.2063. PMID: 28483886. **Exclusion reason:** Ineligible population
788. Krok-Schoen JL, Katz ML, Oliveri JM, et al. A media and clinic intervention to increase colorectal cancer screening in Ohio Appalachia. *Biomed Res Int*. 2015;2015:943152. doi: 10.1155/2015/943152. PMID: 26509172. **Exclusion reason:** Ineligible outcome
789. Kudadjie-Gyamfi E, Magai C. The influence of coping styles on mammography screening in a multiethnic sample. *Cultur Divers Ethnic Minor Psychol*. 2008 Jul;14(3):183-92. doi: 10.1037/1099-9809.14.3.183. PMID: 18624582. **Exclusion reason:** Ineligible outcome

790. Kue J, Hanegan H, Tan A. Perceptions of cervical cancer screening, screening behavior, and post-migration living difficulties among Bhutanese-Nepali refugee women in the United States. *J Community Health*. 2017 Dec;42(6):1079-89. doi: 10.1007/s10900-017-0355-2. PMID: 28455671. **Exclusion reason:** Ineligible study design
791. Kuiper N, Zhang L, Lee J, et al. A National Asian-Language Smokers' Quitline--United States, 2012-2014. *Prev Chronic Dis*. 2015 Jun 25;12:E99. doi: 10.5888/pcd12.140584. PMID: 26111159. **Exclusion reason:** Ineligible intervention
792. Kullgren JT, Dicks TN, Fu X, et al. Financial incentives for completion of fecal occult blood tests among veterans: a 2-stage, pragmatic, cluster, randomized, controlled trial. *Ann Intern Med*. 2014 Nov 18;161(10 Suppl):S35-43. doi: 10.7326/M13-3015. PMID: 25402401. **Exclusion reason:** Ineligible population
793. Kumanyika S. Obesity, health disparities, and prevention paradigms: hard questions and hard choices. *Prev Chronic Dis*. 2005 Oct;2(4):A02. PMID: 16164806. **Exclusion reason:** Ineligible publication type
794. Kumanyika S, Fassbender J, Phipps E, et al. Design, recruitment and start up of a primary care weight loss trial targeting African American and Hispanic adults. *Contemp Clin Trials*. 2011 Mar;32(2):215-24. doi: 10.1016/j.cct.2010.11.002. PMID: 21062645. **Exclusion reason:** Ineligible publication type
795. Kumanyika SK, Adams-Campbell L, Van Horn B, et al. Outcomes of a cardiovascular nutrition counseling program in African-Americans with elevated blood pressure or cholesterol level. *J Am Diet Assoc*. 1999 Nov;99(11):1380-91. doi: 10.1016/s0002-8223(99)00336-3. PMID: 10570675. **Exclusion reason:** Ineligible population
796. Kumanyika SK, Yancey AK. Physical activity and health equity: evolving the science. *Am J Health Promot*. 2009 Jul-Aug;23(6):S4-7. doi: 10.4278/ajhp.23.6.S4. PMID: 19601484. **Exclusion reason:** Ineligible publication type
797. LaHousse SF. Factors associated with mammography screening utilization among latinas: A revision of the behavioral model of health services use. Dissertation abstracts international. 2010;70(7-B):4469. **Exclusion reason:** Ineligible publication type
798. Lai D, Bodson J, Warner EL, et al. Younger age and health beliefs associated with being overdue for pap testing among Utah Latinas who were non-adherent to cancer screening guidelines. *J Immigr Health*. 2017 Oct;19(5):1088-99. doi: 10.1007/s10903-017-0559-7. PMID: 28251421. **Exclusion reason:** Ineligible study design
799. Laiyemo AO, Doubeni C, Pinsky PF, et al. Race and colorectal cancer disparities: health-care utilization vs different cancer susceptibilities. *J Natl Cancer Inst*. 2010 Apr 21;102(8):538-46. doi: 10.1093/jnci/djq068. PMID: 20357245. **Exclusion reason:** Ineligible outcome
800. Lam TK, McPhee SJ, Mock J, et al. Encouraging Vietnamese-American women to obtain Pap tests through lay health worker outreach and media education. *J Gen Intern Med*. 2003 Jul;18(7):516-24. PMID: 12848834. **Exclusion reason:** Ineligible setting
801. Landrine H, Corral I. Targeting cancer information to African Americans: the trouble with talking about disparities. *J Health Commun*. 2015;20(2):196-203. doi: 10.1080/10810730.2014.920061. PMID: 25412018. **Exclusion reason:** Ineligible outcome
802. Landry AS, Thomson JL, Madson MB, et al. Psychosocial constructs and postintervention changes in physical activity and dietary outcomes in a lifestyle intervention, HUB City Steps, 2010. *Prev Chronic Dis*. 2015 May 21;12:E79. doi: 10.5888/pcd12.140525. PMID: 25996987. **Exclusion reason:** Ineligible population
803. Landy DC, Gorin MA, Rudock RJ, et al. Increasing access to cholesterol screening in rural communities catalyzes cardiovascular disease prevention. *J Rural Health*. 2013;29(4):360-7. doi: 10.1111/jrh.12002. PMID: 24088210. **Exclusion reason:** Ineligible setting

804. Lane A, Martin M, Uhler J, et al. Enhancing breast health in rural populations: clinical nurse specialist as the key. *Clin Nurse Spec*. 2003 Nov;17(6):292-7. PMID: 14986732. **Exclusion reason:** Ineligible publication type
805. Langwell K, Keene C, Zullo M, et al. An American Indian community implements the chronic care model: Evolution and lessons learned. *Health Promotion Practice*. 2014 Nov;15(2, Suppl):23S-8S. doi: 10.1177/1524839914544171. PMID: 25359246. **Exclusion reason:** Ineligible publication type
806. Lannin DR, Mathews HF, Mitchell J, et al. Impacting cultural attitudes in African-American women to decrease breast cancer mortality. *Am J Surg*. 2002 Nov;184(5):418-23. PMID: 12433605. **Exclusion reason:** Background information only
807. Lansdorp-Vogelaar I, Kuntz KM, Knudsen AB, et al. Contribution of screening and survival differences to racial disparities in colorectal cancer rates. *Cancer Epidemiol Biomarkers Prev*. 2012 May;21(5):728-36. doi: 10.1158/1055-9965.EPI-12-0023. PMID: 22514249. **Exclusion reason:** Background information only
808. Lantz PM, Rosenbaum S, Ku L, et al. Pay for success and population health: Early results from eleven projects reveal challenges and promise. *Health Aff (Millwood)*. 2016 11 01;35(11):2053-61. PMID: 27834246. **Exclusion reason:** Ineligible outcome
809. Larkey L. Las mujeres saludables: reaching Latinas for breast, cervical and colorectal cancer prevention and screening. *J Community Health*. 2006 Feb;31(1):69-77. PMID: 16482767. **Exclusion reason:** Ineligible setting
810. Larsen B, Gilmer T, Pekmezi D, et al. Cost effectiveness of a mail-delivered individually tailored physical activity intervention for Latinas vs. a mailed contact control. *Int J Behav Nutr Phys Act*. 2015 Nov 11;12:140. doi: 10.1186/s12966-015-0302-5. PMID: 26559336. **Exclusion reason:** Ineligible outcome
811. Larsen B, Marcus B, Pekmezi D, et al. A web-based physical activity intervention for Spanish-speaking Latinas: A costs and cost-effectiveness analysis. *J Med Internet Res*. 2017 Feb 22;19(2):e43. doi: 10.2196/jmir.6257. PMID: 28228368. **Exclusion reason:** Ineligible outcome
812. Larson CO, Schlundt DG, Patel K, et al. Trends in smoking among African-Americans: a description of Nashville's REACH 2010 initiative. *J Community Health*. 2009 Aug;34(4):311-20. doi: 10.1007/s10900-009-9154-8. PMID: 19365712. **Exclusion reason:** Ineligible outcome
813. Lasser KE, Murillo J, Medlin E, et al. A multilevel intervention to promote colorectal cancer screening among community health center patients: results of a pilot study. *BMC Fam Pract*. 2009 May 29;10:37. doi: 10.1186/1471-2296-10-37. PMID: 19480698. **Exclusion reason:** Sample size <20
814. Latasa P, Gandarillas AM, Ordobas M. [Trends and social inequalities in cervical cancer and breast cancer screening in Madrid: Non-Communicable Disease Risk Factor Surveillance System (SIVFRENT-A) from 1995 to 2010]. *Anales del Sistema Sanitario de Navarra*. 2015 Jan-Apr;38(1):21-31. PMID: 25963455. **Exclusion reason:** Ineligible outcome
815. Lau DT, Machizawa S, Demonte W, et al. Colorectal cancer knowledge, attitudes, screening, and intergenerational communication among Japanese American families: an exploratory, community-based participatory study. *J Cross Cult Gerontol*. 2013 Mar;28(1):89-101. doi: 10.1007/s10823-012-9184-z. PMID: 23263883. **Exclusion reason:** Ineligible outcome
816. Lau JS, Adams SH, Park MJ, et al. Improvement in preventive care of young adults after the affordable care act: the affordable care act is helping. *JAMA Pediatr*. 2014 Dec;168(12):1101-6. doi: 10.1001/jamapediatrics.2014.1691. PMID: 25347766. **Exclusion reason:** Ineligible outcome

817. Lauver DR, Kane J. A motivational message, external barriers, and mammography utilization. *Cancer Detect Prev.* 1999;23(3):254-64. PMID: 10337005. **Exclusion reason:** Ineligible population
818. Lauver DR, Settersten L, Kane JH, et al. Tailored messages, external barriers, and women's utilization of professional breast cancer screening over time. *Cancer.* 2003 Jun 01;97(11):2724-35. PMID: 12767084. **Exclusion reason:** Ineligible outcome
819. Laws MB, Mayo SJ. The Latina Breast Cancer Control Study, year one: factors predicting screening mammography utilization by urban Latina women in Massachusetts. *J Community Health.* 1998 Aug;23(4):251-67. PMID: 9693984. **Exclusion reason:** Ineligible study design
820. Lawsin C, DuHamel K, Weiss A, et al. Colorectal cancer screening among low-income African Americans in East Harlem: a theoretical approach to understanding barriers and promoters to screening. *J Urban Health.* 2007 Jan;84(1):32-44. PMID: 17186375. **Exclusion reason:** Ineligible study design
821. Leahey TM, LaRose JG, Mitchell MS, et al. Small Incentives Improve Weight Loss in Women From Disadvantaged Backgrounds. *Am J Prev Med.* 2018 03;54(3):e41-e7. doi: <https://dx.doi.org/10.1016/j.amepre.2017.11.007>. PMID: 29338951. **Exclusion reason:** Ineligible outcome
822. Lebrun LA, Chowdhury J, Sripipatana A, et al. Overweight/obesity and weight-related treatment among patients in U.S. federally supported health centers. *Obes Res Clin Pract.* 2013 Sep-Oct;7(5):e377-90. doi: 10.1016/j.orcp.2012.04.001. PMID: 24304480. **Exclusion reason:** Ineligible outcome
823. Lebrun LA, Shi L, Zhu J, et al. Racial/ethnic differences in clinical quality performance among health centers. *J Ambul Care Manage.* 2013 Jan-Mar;36(1):24-34. doi: 10.1097/JAC.0b013e3182473523. PMID: 23222010. **Exclusion reason:** Ineligible outcome
824. Lee EE, Eun Y, Lee S-Y, et al. Age-related differences in health beliefs regarding cervical cancer screening among Korean American women. *J Transcult Nurs.* 2012 Jul;23(3):237-45. doi: 10.1177/1043659612441015. PMID: 22477716. **Exclusion reason:** Ineligible study design
825. Lee F, Paszat LF, Sutradhar R. Immigration and Adherence to Cervical Cancer Screening: A Provincewide Longitudinal Matched Cohort Study Using Multistate Transitional Models. *J Obstet Gynaecol Can.* 2019 Jun;41(6):813-23. doi: <https://dx.doi.org/10.1016/j.jogc.2018.06.008>. PMID: 31130182. **Exclusion reason:** Ineligible intervention
826. Lee HY, Lundquist M, Ju E, et al. Colorectal cancer screening disparities in Asian Americans and Pacific Islanders: Which groups are most vulnerable? *Ethn Health.* 2011 Dec;16(6):501-18. doi: 10.1080/13557858.2011.575219. PMID: 22050536. **Exclusion reason:** Ineligible outcome
827. Lee HY, Vang S. Barriers to cancer screening in Hmong Americans: The influence of health care accessibility, culture, and cancer literacy. *J Comm Health.* 2010 Jun;35(3):302-14. doi: 10.1007/s10900-010-9228-7. PMID: 20140486. **Exclusion reason:** Background information only
828. Lee HY, Yang PN, Lee DK, et al. Cervical cancer screening behavior among Hmong-American immigrant women. *Am J Health Behav.* 2015 May;39(3):301-7. doi: 10.5993/AJHB.39.3.2. PMID: 25741675. **Exclusion reason:** Ineligible study design
829. Lee JH, Fulp W, Wells KJ, et al. Patient navigation and time to diagnostic resolution: results for a cluster randomized trial evaluating the efficacy of patient navigation among patients with breast cancer screening abnormalities, Tampa, FL. *PLoS One.* 2013;8(9):e74542. doi: 10.1371/journal.pone.0074542. PMID: 24066145. **Exclusion reason:** Ineligible population

830. Lee JH, Fulp W, Wells KJ, et al. Effect of patient navigation on time to diagnostic resolution among patients with colorectal cancer-related abnormalities. *J Cancer Educ*. 2014 Mar;29(1):144-50. doi: 10.1007/s13187-013-0561-2. PMID: 24113902. **Exclusion reason:** Ineligible outcome
831. Lee KS, Park EC. Cost effectiveness of colorectal cancer screening interventions with their effects on health disparity being considered. *Cancer Res Treat*. 2016 Jul;48(3):1010-9. doi: 10.4143/crt.2015.279. PMID: 26727714. **Exclusion reason:** Ineligible outcome
832. Lee NC. The unequal cancer burden. Efforts of the Centers for Disease Control and Prevention to bridge the gap through public health. *Cancer*. 2001 Jan 01;91(1 Suppl):199-204. PMID: 11148579. **Exclusion reason:** Ineligible publication type
833. Lee RE, Medina AV, Mama SK, et al. Health is Power: an ecological, theory-based health intervention for women of color. *Contemp Clin Trials*. 2011 Nov;32(6):916-23. doi: 10.1016/j.cct.2011.07.008. PMID: 21782975. **Exclusion reason:** Ineligible publication type
834. Lee S, Schorr E, Chi CL, et al. Peer Group and Text Message-Based Weight-Loss and Management Intervention for African American Women. *West J Nurs Res*. 2018 08;40(8):1203-19. doi: 10.1177/0193945917697225. PMID: 28335711. **Exclusion reason:** Ineligible population
835. Lee YC, Fann JC, Chiang TH, et al. Time to colonoscopy and risk of colorectal cancer in patients with positive results from fecal immunochemical tests. *Clin Gastroenterol Hepatol*. 2018 Oct 31doi: 10.1016/j.cgh.2018.10.041. PMID: 30391435. **Exclusion reason:** Ineligible population
836. Lee-Lin F, Menon U. Breast and cervical cancer screening practices and inventions among Chinese, Japanese, and Vietnamese Americans. *Oncol Nurs Forum*. 2005 Sep 01;32(5):995-1003. PMID: 16136197. **Exclusion reason:** Systematic review used to identify primary studies
837. Lee-Lin F, Menon U, Leo MC, et al. Feasibility of a targeted breast health education intervention for Chinese American immigrant women. *Oncol Nurs Forum*. 2013 Jul;40(4):361-72. doi: 10.1188/13.ONF.361-372. PMID: 23803269. **Exclusion reason:** Ineligible outcome
838. Lee-Lin F, Nguyen T, Pedhiwala N, et al. A longitudinal examination of stages of change model applied to mammography screening. *West J Nurs Res*. 2016 Apr;38(4):441-58. doi: 10.1177/0193945915618398. PMID: 26712817. **Exclusion reason:** Ineligible outcome
839. Lee-Lin F, Pedhiwala N, Nguyen T, et al. Breast health intervention effects on knowledge and beliefs over time among Chinese American immigrants--a randomized controlled study. *J Cancer Educ*. 2015 Sep;30(3):482-9. doi: 10.1007/s13187-014-0727-6. PMID: 25200949. **Exclusion reason:** Ineligible outcome
840. Leeman J, Moore A, Teal R, et al. Promoting community practitioners' use of evidence-based approaches to increase breast cancer screening. *Public Health Nurs*. 2013 Jul;30(4):323-31. doi: 10.1111/phn.12021. PMID: 23808857. **Exclusion reason:** Ineligible intervention
841. Legler J, Meissner HI, Coyne C, et al. The effectiveness of interventions to promote mammography among women with historically lower rates of screening. *Cancer Epidemiol Biomarkers Prev*. 2002 Jan;11(1):59-71. PMID: 11815402. **Exclusion reason:** Systematic review used to identify primary studies
842. Lehne G, Bolte G. Impact of universal interventions on social inequalities in physical activity among older adults: an equity-focused systematic review. *Int J Behav Nutr Phys Act*. 2017 02 10;14(1):20. doi: 10.1186/s12966-017-0472-4. PMID: 28187766. **Exclusion reason:** Ineligible outcome

843. Leng S, Weissfeld JL, Picchi MA, et al. A prospective and retrospective analysis of smoking behavior changes in ever smokers with high risk for lung cancer from New Mexico and Pennsylvania. *Int J Mol Epidemiol Genet.* 2016;7(2):95-104. PMID: 27335628. **Exclusion reason:** Ineligible outcome
844. Lengerich EJ, Kluhsman BC, Bencivenga M, et al. Development of community plans to enhance survivorship from colorectal cancer: community-based participatory research in rural communities. *J Cancer Surviv.* 2007 Sep;1(3):205-11. doi: 10.1007/s11764-007-0025-y. PMID: 18648971. **Exclusion reason:** Ineligible outcome
845. Leone LA, Allicock M, Pignone MP, et al. Cancer screening patterns by weight group and gender for urban African American church members. *J Comm Health.* 2012 Apr;37(2):299-306. doi: 10.1007/s10900-011-9445-8. PMID: 21800187. **Exclusion reason:** Ineligible outcome
846. Leone LA, Tripicchio GL, Haynes-Maslow L, et al. Cluster randomized controlled trial of a mobile market intervention to increase fruit and vegetable intake among adults in lower-income communities in North Carolina. *Int J Behav Nutr Phys Act.* 2018 01 05;15(1):2. doi: <https://dx.doi.org/10.1186/s12966-017-0637-1>. PMID: 29304862. **Exclusion reason:** Ineligible outcome
847. Leong-Wu CA, Fernandez ME. Correlates of breast cancer screening among Asian Americans enrolled in ENCOREplus. *J Immigr Minor Health.* 2006 Jul;8(3):235-43. PMID: 16791533. **Exclusion reason:** Ineligible study design
848. Leon-Salas A, Hunt JJ, Richter KP, et al. Pharmaceutical assistance programs to support smoking cessation medication access. *J Am Pharm Assoc.* 2017 Jan - Feb;57(1):67-71.e1. doi: 10.1016/j.japh.2016.08.009. PMID: 27816543. **Exclusion reason:** Ineligible outcome
849. Lettlow HA. Engaging culturally competent, community-based programs in reducing tobacco-related health disparities. *Am J Public Health.* 2008 Nov;98(11):1936-9. doi: 10.2105/AJPH.2008.147314. PMID: 18799759. **Exclusion reason:** Ineligible publication type
850. Leung DY, Leung AY, Chi I. Breast and colorectal cancer screening and associated correlates among Chinese older women. *Asian Pac J Cancer Prev.* 2012;13(1):283-7. PMID: 22502686. **Exclusion reason:** Ineligible outcome
851. Leventhal W, Ascanio R. Recognizing and overcoming barriers to colorectal screening in primary care. *J S C Med Assoc.* 2008 Feb;104(2):25-8. PMID: 18396599. **Exclusion reason:** Ineligible publication type
852. Levine JA, Koepp GA. Federal health-care reform: opportunities for obesity prevention. *Obesity.* 2011 May;19(5):897-9. doi: 10.1038/oby.2010.281. PMID: 21519335. **Exclusion reason:** Ineligible publication type
853. Levine RS, Kilbourne BE, Baltrus PA, et al. Black-White disparities in elderly breast cancer mortality before and after implementation of Medicare benefits for screening mammography. *J Health Care Poor Underserved.* 2008 Feb;19(1):103-34. doi: 10.1353/hpu.2008.0019. PMID: 18263989. **Exclusion reason:** Ineligible outcome
854. Levy BT, Daly JM, Xu Y, et al. Mailed fecal immunochemical tests plus educational materials to improve colon cancer screening rates in Iowa Research Network (IRENE) practices. *J Am Board Fam Med.* 2012 Jan-Feb;25(1):73-82. doi: 10.3122/jabfm.2012.01.110055. PMID: 22218627. **Exclusion reason:** Ineligible publication type
855. Li CC, Matthews AK, Rywant MM, et al. Racial disparities in eligibility for low-dose computed tomography lung cancer screening among older adults with a history of smoking. *Cancer Causes Control.* 2019 Mar;30(3):235-40. doi: <https://dx.doi.org/10.1007/s10552-018-1092-2>. PMID: 30377905. **Exclusion reason:** Ineligible study design

856. Lin SC, McKinley D, Sripipatana A, et al. Colorectal cancer screening at US community health centers: Examination of sociodemographic disparities and association with patient-provider communication. *Cancer*. 2017 Nov 01;123(21):4185-92. doi: <https://dx.doi.org/10.1002/cncr.30855>. PMID: 28708933. **Exclusion reason:** Ineligible study design
857. Lindau ST, Basu A, Leitsch SA. Health literacy as a predictor of follow-up after an abnormal Pap smear: A prospective study. *J Gen Intern Med*. 2006 Aug;21(8):829-34. doi: 10.1111/j.1525-1497.2006.00534.x. PMID: 16881942. **Exclusion reason:** Ineligible population
858. Ling BS, Schoen RE, Trauth JM, et al. Physicians encouraging colorectal screening: a randomized controlled trial of enhanced office and patient management on compliance with colorectal cancer screening. *Arch Intern Med*. 2009 Jan 12;169(1):47-55. doi: 10.1001/archinternmed.2008.519. PMID: 19139323. **Exclusion reason:** Ineligible population
859. Lipkus IM, Green LG, Marcus A. Manipulating perceptions of colorectal cancer threat: implications for screening intentions and behaviors. *J Health Commun*. 2003 May-Jun;8(3):213-28. PMID: 12857652. **Exclusion reason:** Ineligible population
860. Lipkus IM, Lyna PR, Rimer BK. Using tailored interventions to enhance smoking cessation among African-Americans at a community health center. *Nicotine Tob Res*. 1999 Mar;1(1):77-85. PMID: 11072391. **Exclusion reason:** Ineligible outcome
861. Liu F. Effect of Medicaid coverage of tobacco-dependence treatments on smoking cessation. *Int J Environ Res Public Health*. 2009 12;6(12):3143-55. doi: 10.3390/ijerph6123143. PMID: 20049252. **Exclusion reason:** Ineligible study design
862. Liu MJ, Hawk H, Gershman ST, et al. The effects of a National Breast and Cervical Cancer Early Detection Program on social disparities in breast cancer diagnosis and treatment in Massachusetts. *Cancer Causes Control*. 2005 Feb;16(1):27-33. PMID: 15750855. **Exclusion reason:** Ineligible outcome
863. Livaudais JC, Kaplan CP, Haas JS, et al. Lifestyle behavior counseling for women patients among a sample of California physicians. *J Womens Health (Larchmt)*. 2005 Jul-Aug;14(6):485-95. doi: 10.1089/jwh.2005.14.485. PMID: 16115002. **Exclusion reason:** Ineligible study design
864. LoConte NK, Weeth-Feinstein L, Conlon A, et al. Engaging health systems to increase colorectal cancer screening: community-clinical outreach in underserved areas of Wisconsin. *Prev Chronic Dis*. 2013 Nov 21;10:E192. doi: 10.5888/pcd10.130180. PMID: 24262024. **Exclusion reason:** Ineligible outcome
865. Loerzel VW, Bushy A. Interventions that address cancer health disparities in women. *Fam Community Health*. 2005 Jan-Mar;28(1):79-89. PMID: 15625508. **Exclusion reason:** Ineligible publication type
866. Lofters AK, Mark A, Taljaard M, et al. Cancer screening inequities in a time of primary care reform: a population-based longitudinal study in Ontario, Canada. *BMC Fam Pract*. 2018 08 29;19(1):147. doi: 10.1186/s12875-018-0827-1. PMID: 30157772. **Exclusion reason:** Ineligible outcome
867. Lopez MS, Baker ES, Milbourne AM, et al. Project ECHO: A telementoring program for cervical cancer prevention and treatment in low-resource settings. *J Glob Oncol*. 2017 Oct;3(5):658-65. doi: 10.1200/JGO.2016.005504. PMID: 29094102. **Exclusion reason:** Ineligible publication type

868. Lorig KR, Ritter PL, Gonzalez VM. Hispanic chronic disease self-management: A randomized community-based outcome trial. *Nurs Res.* 2003 Nov-Dec;52(6):361-9. doi: 10.1097/00006199-200311000-00003. PMID: 14639082. **Exclusion reason:** Ineligible population
869. Lucas T, Manning M, Hayman LW, et al. Targeting and tailoring message-framing: The moderating effect of racial identity on receptivity to colorectal cancer screening among African-Americans. *J Behav Med.* 2018 Dec;41(6):747-56. doi: 10.1007/s10865-018-9933-8. PMID: 29882172. **Exclusion reason:** Ineligible outcome
870. Luckett R, Pena N, Vitonis A, et al. Effect of patient navigator program on no-show rates at an academic referral colposcopy clinic. *J Womens Health.* 2015 Jul;24(7):608-15. doi: 10.1089/jwh.2014.5111. PMID: 26173000. **Exclusion reason:** Ineligible outcome
871. Lukin DJ, Jandorf LH, Dhulkifl RJ, et al. Effect of comorbid conditions on adherence to colorectal cancer screening. *J Cancer Educ.* 2012 Jun;27(2):269-76. doi: 10.1007/s13187-011-0303-2. PMID: 22351374. **Exclusion reason:** Ineligible outcome
872. Lutfey KE, Gerstenberger E, McKinlay JB. Physician styles of patient management as a potential source of disparities: Cluster analysis from a factorial experiment. *Health Serv Res.* 2013 Jun;48(3):1116-34. doi: 10.1111/1475-6773.12005. PMID: 23088446. **Exclusion reason:** Ineligible outcome
873. Lutfey KE, Ketcham JD. Patient and provider assessments of adherence and the sources of disparities: Evidence from diabetes care. *Health Serv Res.* 2005 Dec;40(6,part1):1803-17. doi: 10.1111/j.1475-6773.2005.00433.x. PMID: 16336549. **Exclusion reason:** Ineligible population
874. Lutfey KE, Link CL, Grant RW, et al. Is certainty more important than diagnosis for understanding race and gender disparities? An experiment using coronary heart disease and depression case vignettes. *Health Policy.* 2009 Mar;89(3):279-87. doi: 10.1016/j.healthpol.2008.06.007. PMID: 18701185. **Exclusion reason:** Ineligible outcome
875. Lyles CR, Karter AJ, Young BA, et al. Provider factors and patient-reported healthcare discrimination in the diabetes study of California (DISTANCE). *Patient Educ Couns.* 2011 Dec;85(3) Background16-Background4. doi: 10.1016/j.pec.2011.04.031. PMID: 21605956. **Exclusion reason:** Ineligible intervention
876. Ma J, Xiao L, Yank V. Variations between obese Latinos and whites in weight-related counseling during preventive clinical visits in the United States. *Obesity (Silver Spring).* 2013 Aug;21(8):1734-41. doi: 10.1002/oby.20285. PMID: 23696497. **Exclusion reason:** Ineligible study design
877. Maciejewski ML, Yancy WS, Jr., Olsen M, et al. Demand for weight loss counseling after copayment elimination. *Prev Chronic Dis.* 2013 Apr 04;10:E49. doi: 10.5888/pcd10.120163. PMID: 23557640. **Exclusion reason:** Ineligible population
878. Maglione M, Larson C, Giannotti T, et al. Use of Medicare summary notice inserts to generate interest in the Medicare stop smoking program. *Am J Health Promot.* 2007 May-Jun;21(5):422-5. PMID: 17515006. **Exclusion reason:** Ineligible population
879. Main C, Thomas S, Ogilvie D, et al. Population tobacco control interventions and their effects on social inequalities in smoking: placing an equity lens on existing systematic reviews. *BMC Public Health.* 2008 May 27;8:178. doi: 10.1186/1471-2458-8-178. PMID: 18505545. **Exclusion reason:** Systematic review used to identify primary studies

880. Maina IW, Belton TD, Ginzberg S, et al. A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test. *Soc Sci Med*. 2018 Feb;199:219-29. doi: 10.1016/j.socscimed.2017.05.009. PMID: 28532892. **Exclusion reason:** Ineligible publication type
881. Malarcher AM, Casper ML, Matson Koffman DM, et al. Women and cardiovascular disease: addressing disparities through prevention research and a national comprehensive state-based program. *J Womens Health Gend Based Med*. 2001 Oct;10(8):717-24. PMID: 11703882. **Exclusion reason:** Ineligible publication type
882. Malhotra J, Rotter D, Tsui J, et al. Impact of Patient-Provider Race, Ethnicity, and Gender Concordance on Cancer Screening: Findings from Medical Expenditure Panel Survey. *Cancer Epidemiol Biomarkers Prev*. 2017 Dec;26(12):1804-11. doi: 10.1158/1055-9965.Epi-17-0660. PMID: 29021217. **Exclusion reason:** Background information only
883. Malone J, Sngun S, Dean LT, et al. Breast Cancer Screening and Care Among Black Sexual Minority Women: A Scoping Review of the Literature from 1990 to 2017. *J Womens Health*. 2019 Mar 18;18:18. doi: <https://dx.doi.org/10.1089/jwh.2018.7127>. PMID: 30882262. **Exclusion reason:** Ineligible outcome
884. Man LC, DiCarlo M, Lambert E, et al. A learning community approach to identifying interventions in health systems to reduce colorectal cancer screening disparities. *Preventive Medicine Reports*. 2018 Dec;12:227-32. doi: <https://dx.doi.org/10.1016/j.pmedr.2018.10.009>. PMID: 30370210. **Exclusion reason:** Ineligible publication type
885. Mandelblatt JS, Yabroff KR. Effectiveness of interventions designed to increase mammography use: a meta-analysis of provider-targeted strategies. *Cancer Epidemiol Biomarkers Prev*. 1999 Sep;8(9):759-67. PMID: 10498394. **Exclusion reason:** Background information only
886. Manfredi C, Crittenden KS, Cho YI, et al. Long-term effects (up to 18 months) of a smoking cessation program among women smokers in public health clinics. *Prev Med*. 2004 Jan;38(1):10-9. PMID: 14672637. **Exclusion reason:** Ineligible population
887. Manfredi C, Czaja R, Freels S, et al. Prescribe for health. Improving cancer screening in physician practices serving low-income and minority populations. *Arch Fam Med*. 1998 Jul-Aug;7(4):329-37. PMID: 9682686. **Exclusion reason:** Ineligible intervention
888. Mao AY, Chen C, Magana C, et al. A mobile phone-based health coaching intervention for weight loss and blood pressure reduction in a national payer population: A retrospective study. *JMIR MHealth and UHealth*. 2017 Jun 08;5(6):e80. doi: 10.2196/mhealth.7591. PMID: 28596147. **Exclusion reason:** Ineligible population
889. Marcus BH, Lewis BA, Williams DM, et al. A comparison of Internet and print-based physical activity interventions. *Arch Intern Med*. 2007 May 14;167(9):944-9. doi: 10.1001/archinte.167.9.944. PMID: 17502536. **Exclusion reason:** Ineligible setting
890. Margolies L, Brown CG. Current State of Knowledge About Cancer in Lesbians, Gay, Bisexual, and Transgender (LGBT) People. *Semin Oncol Nurs*. 2018 02;34(1):3-11. doi: <https://dx.doi.org/10.1016/j.soncn.2017.11.003>. PMID: 29284587. **Exclusion reason:** Ineligible publication type
891. Margolius D, Wong J, Goldman ML, et al. Delegating responsibility from clinicians to nonprofessional personnel: the example of hypertension control. *J Am Board Fam Med*. 2012 Mar-Apr;25(2):209-15. doi: 10.3122/jabfm.2012.02.100279. PMID: 22403202. **Exclusion reason:** Ineligible comparison
892. Marino M, Bailey SR, Gold R, et al. Receipt of preventive services after Oregon's randomized Medicaid experiment. *Am J Prev Med*. 2016 Feb;50(2):161-70. doi: 10.1016/j.amepre.2015.07.032. PMID: 26497264. **Exclusion reason:** Ineligible setting

893. Markossian TW, Calhoun EA. Are breast cancer navigation programs cost-effective? Evidence from the Chicago Cancer Navigation Project. *Health Policy*. 2011 Jan;99(1):52-9. doi: 10.1016/j.healthpol.2010.07.008. PMID: 20685001. **Exclusion reason:** Ineligible outcome
894. Markovitz AR, Alexander JA, Lantz PM, et al. Patient-centered medical home implementation and use of preventive services: the role of practice socioeconomic context. *JAMA Internal Medicine*. 2015 Apr;175(4):598-606. doi: 10.1001/jamainternmed.2014.8263. PMID: 25686468. **Exclusion reason:** Ineligible study design
895. Marquez B, Leahey TM, Wing RR. Overweight and obesity in Rhode Island: developing programs to combat the obesity epidemic. *Med Health R I*. 2009 Feb;92(2):45-7. PMID: 19288683. **Exclusion reason:** Ineligible publication type
896. Marshall B, Floyd S, Forrest R. Clinical outcomes and patients' perceptions of nurse-led healthy lifestyle clinics. *J Prim Health Care*. 2011 Mar 01;3(1):48-52. PMID: 21359261. **Exclusion reason:** Ineligible population
897. Marshall B, Gonzales G, Kernan W. Evaluating por nuestra salud: A feasibility study. *Health Promotion Practice*. 2016 Jan;17(1):137-45. doi: 10.1177/1524839915609058. PMID: 26463170. **Exclusion reason:** Ineligible outcome
898. Marshall J, Weaver DC, Splaine K, et al. Employee health benefit redesign at the academic health center: a case study. *Acad Med*. 2013 Mar;88(3):328-34. doi: 10.1097/ACM.0b013e318281a71c. PMID: 23348094. **Exclusion reason:** Ineligible publication type
899. Martin AN, Kozower BD, Camacho F, et al. Disparities in Lung Cancer Screening Availability: Lessons from Southwest, Virginia. *Ann Thorac Surg*. 2019 Apr 02;02:02. doi: <https://dx.doi.org/10.1016/j.athoracsur.2019.03.003>. PMID: 30951691. **Exclusion reason:** Ineligible outcome
900. Martin MY. Community health advisors effectively promote cancer screening. *Ethn Dis*. 2005;15(2 Suppl 2):S14-6. PMID: 15822831. **Exclusion reason:** Ineligible publication type
901. Martin RL, Tully M, Kos A, et al. Increasing colorectal cancer screening at an urban FQHC using iFOBT and patient navigation. *Health Promotion Practice*. 2017 Sep;18(5):741-50. doi: 10.1177/1524839917705127. PMID: 28812930. **Exclusion reason:** Ineligible comparison
902. Martinez DJ, Turner MM, Pratt-Chapman M, et al. The effect of changes in health beliefs among African-American and rural White church congregants enrolled in an obesity intervention: A qualitative evaluation. *J Community Health*. 2016 Jun;41(3):518-25. doi: 10.1007/s10900-015-0125-y. PMID: 26601845. **Exclusion reason:** Ineligible outcome
903. Martinez JL, Duncan LR, Rivers SE, et al. Healthy Eating for Life English as a second language curriculum: applying the RE-AIM framework to evaluate a nutrition education intervention targeting cancer risk reduction. *Transl Behav Med*. 2017 12;7(4):657-66. doi: 10.1007/s13142-017-0479-z. PMID: 28275976. **Exclusion reason:** Ineligible outcome
904. Maserejian NN, Link CL, Lutfey KL, et al. Disparities in physicians' interpretations of heart disease symptoms by patient gender: Results of a video vignette factorial experiment. *J Womens Health*. 2009 Oct;18(10):1661-7. doi: 10.1089/jwh.2008.1007. PMID: 19785567. **Exclusion reason:** Ineligible outcome
905. Masi CM, Blackman DJ, Peek ME. Interventions to enhance breast cancer screening, diagnosis, and treatment among racial and ethnic minority women. *Med Care Res Rev*. 2007 Oct;64(5 Suppl):195S-242S. PMID: 17881627. **Exclusion reason:** Systematic review used to identify primary studies

906. Mason TB, Lewis RJ. Reducing obesity among lesbian women: Recommendations for culturally tailored interventions. *Psychology of Sexual Orientation and Gender Diversity*. 2014 Dec;1(4):361-76. doi: 10.1037/sgd0000074. **Exclusion reason:** Ineligible publication type
907. Mata HJ. Development and evaluation of a personalized normative feedback intervention for Hispanic youth at high risk of smoking. *Dissertation abstracts international*. 2012;73(4-A):1295. **Exclusion reason:** Ineligible publication type
908. Mathieu RA, Powell-Wiley TM, Ayers CR, et al. Physical activity participation, health perceptions, and cardiovascular disease mortality in a multiethnic population: the Dallas Heart Study. *Am Heart J*. 2012 Jun;163(6):1037-40. doi: 10.1016/j.ahj.2012.03.005. PMID: 22709758. **Exclusion reason:** Ineligible study design
909. Matthews AK, Li CC, Kuhns LM, et al. Results from a community-based smoking cessation treatment program for LGBT smokers. *J Environ Public Health*. 2013;2013:984508. doi: 10.1155/2013/984508. PMID: 23840237. **Exclusion reason:** Ineligible comparison
910. Matthews V, Burgess CP, Connors C, et al. Integrated clinical decision support systems promote absolute cardiovascular risk assessment: An important primary prevention measure in Aboriginal and Torres Strait Islander primary health care. *Front Public Health*. 2017;5:233. doi: 10.3389/fpubh.2017.00233. PMID: 28929097. **Exclusion reason:** Ineligible study design
911. Mau MK, Keawe'aimoku Kaholokula J, West MR, et al. Translating diabetes prevention into native Hawaiian and Pacific Islander communities: the PILI 'Ohana Pilot project. *Progress in Community Health Partnerships*. 2010;4(1):7-16. doi: 10.1353/cpr.0.0111. PMID: 20364073. **Exclusion reason:** Ineligible population
912. Maxwell AE, Bastani R, Crespi CM, et al. Behavioral mediators of colorectal cancer screening in a randomized controlled intervention trial. *Prev Med*. 2011 Feb;52(2):167-73. doi: 10.1016/j.ypmed.2010.11.007. PMID: 21111754. **Exclusion reason:** Ineligible outcome
913. Maxwell AE, Crespi CM. Trends in colorectal cancer screening utilization among ethnic groups in California: are we closing the gap? *Cancer Epidemiol Biomarkers Prev*. 2009 Mar;18(3):752-9. doi: 10.1158/1055-9965.EPI-08-0608. PMID: 19273482. **Exclusion reason:** Ineligible outcome
914. Maxwell AE, Crespi CM, Antonio CM, et al. Explaining disparities in colorectal cancer screening among five Asian ethnic groups: a population-based study in California. *BMC Cancer*. 2010 May 19;10:214. doi: 10.1186/1471-2407-10-214. PMID: 20482868. **Exclusion reason:** Ineligible study design
915. Maxwell AE, Yancey AK, AuYoung M, et al. A midpoint process evaluation of the Los Angeles Basin Racial and Ethnic Approaches to Community Health Across the US (REACH US) Disparities Center, 2007-2009. *Prev Chronic Dis*. 2011 Sep;8(5):A115. PMID: 21843418. **Exclusion reason:** Ineligible publication type
916. May FP. Black-White disparities in colorectal cancer incidence, screening, and outcomes. *Dissertation abstracts international*. 2016;76(9-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
917. May FP, Almario CV, Ponce N, et al. Racial minorities are more likely than whites to report lack of provider recommendation for colon cancer screening. *Am J Gastroenterol*. 2015 Oct;110(10):1388-94. doi: 10.1038/ajg.2015.138. PMID: 25964227. **Exclusion reason:** Ineligible study design

918. May FP, Glenn BA, Crespi CM, et al. Decreasing Black-White disparities in colorectal cancer incidence and stage at presentation in the United States. *Cancer Epidemiol Biomarkers Prev.* 2017 May;26(5):762-8. doi: 10.1158/1055-9965.EPI-16-0834. PMID: 28035021. **Exclusion reason:** Ineligible outcome
919. Mayernik D, Resick LK, Skomo ML, et al. Parish nurse-initiated interdisciplinary mobile health care delivery project. *J Obstet Gynecol Neonatal Nurs.* 2010 Mar-Apr;39(2):227-34. doi: 10.1111/j.1552-6909.2010.01112.x. PMID: 20409125. **Exclusion reason:** Ineligible outcome
920. Mayfield-Johnson S, Fastring D, Fortune M, et al. Addressing Breast Cancer Health Disparities in the Mississippi Delta Through an Innovative Partnership for Education, Detection, and Screening. *J Community Health.* 2016 Jun;41(3):494-501. doi: 10.1007/s10900-015-0121-2. PMID: 26578349. **Exclusion reason:** Background information only
921. Mayo R, Scott DB, Williams DG. The Upstate Witness Project: addressing breast and cervical cancer disparities in African American churches. *J S C Med Assoc.* 2009 Dec;105(7):290-6. PMID: 20108721. **Exclusion reason:** Ineligible outcome
922. Mayo RM, Erwin DO, Spitler HD. Implications for breast and cervical cancer control for Latinas in the rural South: a review of the literature. *Cancer Control.* 2003 Sep-Oct;10(5 Suppl):60-8. PMID: 14581906. **Exclusion reason:** Ineligible publication type
923. Mays VM, Ly L, Allen E, et al. Engaging student health organizations in reducing health disparities in underserved communities through volunteerism: developing a student health corps. *J Health Care Poor Underserved.* 2009 Aug;20(3):914-28. doi: 10.1353/hpu.0.0190. PMID: 19648716. **Exclusion reason:** Ineligible outcome
924. Mazor KM, Williams AE, Roblin DW, et al. Health literacy and pap testing in insured women. *J Cancer Educ.* 2014 Dec;29(4):698-701. doi: 10.1007/s13187-014-0629-7. PMID: 24633725. **Exclusion reason:** Background information only
925. McAlearney AS, Reeves KW, Tatum C, et al. Cost as a barrier to screening mammography among underserved women. *Ethn Health.* 2007 Apr;12(2):189-203. doi: 10.1080/13557850601002387. PMID: 17364901. **Exclusion reason:** Ineligible comparison
926. McBean AM, Yu X. The underuse of screening services among elderly women with diabetes. *Diabetes Care.* 2007 Jun;30(6):1466-72. PMID: 17351285. **Exclusion reason:** Ineligible population
927. McBride MR, Lewis ID. African American and Asian American elders: an ethnogeriatric perspective. *Annu Rev Nurs Res.* 2004;22:161-214. PMID: 15368772. **Exclusion reason:** Ineligible publication type
928. McCall-Hosenfeld JS, Weisman CS. Receipt of preventive counseling among reproductive-aged women in rural and urban communities. *Rural & Remote Health.* 2011;11(1):1617. PMID: 21280972. **Exclusion reason:** Background information only
929. McCall-Hosenfeld JS, Weisman CS, Camacho F, et al. Multilevel analysis of the determinants of receipt of clinical preventive services among reproductive-age women. *Womens Health Issues.* 2012 May-Jun;22(3) Background43-51. doi: 10.1016/j.whi.2011.11.005. PMID: 22269668. **Exclusion reason:** Background information only
930. McCarthy AM, Yamartino P, Yang J, et al. Racial differences in false-positive mammogram rates: results from the ACRIN Digital Mammographic Imaging Screening Trial (DMIST). *Med Care.* 2015 Aug;53(8):673-8. doi: 10.1097/MLR.0000000000000393. PMID: 26125419. **Exclusion reason:** Ineligible outcome
931. McClellan DA, Ojinnaka CO, Pope R, et al. Expanding Access to Colorectal Cancer Screening: Benchmarking Quality Indicators in a Primary Care Colonoscopy Program. *J Am Board Fam Med.* 2015 Nov-Dec;28(6):713-21. doi: 10.3122/jabfm.2015.06.140342. PMID: 26546646. **Exclusion reason:** Background information only

932. McCloskey J, Tollestrup K, Sanders M. A community integration approach to social determinants of health in New Mexico. *Fam Community Health*. 2011 Jan-Mar;34 Suppl 1:S79-91. doi: 10.1097/FCH.0b013e318202a852. PMID: 21160334. **Exclusion reason:** Ineligible population
933. McCracken JL, Friedman DB, Brandt HM, et al. Findings from the community health intervention program in South Carolina: Implications for reducing cancer-related health disparities. *J Cancer Educ*. 2013 Sep;28(3):412-9. doi: 10.1007/s13187-013-0479-8. PMID: 23645547. **Exclusion reason:** Ineligible outcome
934. McDonald CJ. The American Cancer Society addressing disparities and the disproportionate burden of cancer. *Cancer*. 2001 Jan 01;91(1 Suppl):195-8. PMID: 11148578. **Exclusion reason:** Ineligible publication type
935. McDonald EM, Frattaroli S, Kromm EE, et al. Improvements in health behaviors and health status among newly insured members of an innovative health access plan. *J Community Health*. 2013 Apr;38(2):301-9. doi: 10.1007/s10900-012-9615-3. PMID: 23014801. **Exclusion reason:** Ineligible outcome
936. McDonald YJ, Goldberg DW, Scarinci IC, et al. Health Service Accessibility and Risk in Cervical Cancer Prevention: Comparing Rural Versus Nonrural Residence in New Mexico. *J Rural Health*. 2017 Sep;33(4):382-92. doi: 10.1111/jrh.12202. PMID: 27557124. **Exclusion reason:** Background information only
937. McDonnell KK, Estrada RD, Dievendorf AC, et al. Lung cancer screening: Practice guidelines and insurance coverage are not enough. *J Am Assoc Nurse Pract*. 2019 Jan;31(1):33-45. doi: <https://dx.doi.org/10.1097/JXX.00000000000000096>. PMID: 30431549. **Exclusion reason:** Ineligible population
938. McDougall JA, Li CI. Trends in distant-stage breast, colorectal, and prostate cancer incidence rates from 1992 to 2004: potential influences of screening and hormonal factors. *Horm Cancer*. 2010 Feb;1(1):55-62. doi: <https://dx.doi.org/10.1007/s12672-009-0002-1>. PMID: 21761350. **Exclusion reason:** Ineligible outcome
939. McDowell M, Pardee DJ, Peitzmeier S, et al. Cervical cancer screening preferences among trans-masculine individuals: Patient-collected human papillomavirus vaginal swabs versus provider-administered Pap tests. *LGBT Health*. 2017 Aug;4(4):252-9. doi: 10.1089/lgbt.2016.0187. PMID: 28665783. **Exclusion reason:** Ineligible publication type
940. McElfish PA, Bridges MD, Hudson JS, et al. Family model of diabetes education With a Pacific Islander community. *Diabetes Educ*. 2015 Dec;41(6):706-15. doi: 10.1177/0145721715606806. PMID: 26363041. **Exclusion reason:** Ineligible population
941. McElfish PA, Goulden PA, Bursac Z, et al. Engagement practices that join scientific methods with community wisdom: Designing a patient-centered, randomized control trial with a Pacific Islander community. *Nurs Inq*. 2017 Apr;24(2):1-11. doi: 10.1111/nin.12141. PMID: 27325179. **Exclusion reason:** Ineligible publication type
942. McElfish PA, Kohler P, Smith C, et al. Community-Driven Research Agenda to Reduce Health Disparities. *Clin Transl Sci*. 2015 Dec;8(6):690-5. doi: 10.1111/cts.12350. PMID: 26573096. **Exclusion reason:** Ineligible publication type
943. McElfish PA, Long CR, Kaholokula JK, et al. Design of a comparative effectiveness randomized controlled trial testing a faith-based Diabetes Prevention Program (WORD DPP) vs. a Pacific culturally adapted Diabetes Prevention Program (PILI DPP) for Marshallese in the United States. *Medicine*. 2018 May;97(19):e0677. doi: 10.1097/MD.00000000000010677. PMID: 29742712. **Exclusion reason:** Ineligible publication type

944. McElroy JA, Brown MT. Chronic illnesses and conditions in gender and sexual minority individuals. *LGBT health: Meeting the needs of gender and sexual minorities*. New York, NY: Springer Publishing Co; US; 2018:83-102. **Exclusion reason:** Ineligible publication type
945. McGarvey EL, Clavet GJ, Johnson JB, 2nd, et al. Cancer screening practices and attitudes: comparison of low-income women in three ethnic groups. *Ethn Health*. 2003 Feb;8(1):71-82. doi: 10.1080/13557850303556. PMID: 12893586. **Exclusion reason:** Ineligible outcome
946. McGill R, Anwar E, Orton L, et al. Are interventions to promote healthy eating equally effective for all? Systematic review of socioeconomic inequalities in impact. *BMC Public Health*. 2015 May 02;15:457. doi: 10.1186/s12889-015-1781-7. PMID: 25934496. **Exclusion reason:** Systematic review used to identify primary studies
947. McGinnis K, Montiel-Ishino FA, Standifer MK, et al. Photonovels: an innovative approach to address health disparities and sustainability. *J Cancer Educ*. 2014 Sep;29(3):441-8. doi: 10.1007/s13187-014-0607-0. PMID: 24500606. **Exclusion reason:** Ineligible outcome
948. McGlynn EA. The effect of managed care on primary care services for women. *Womens Health Issues*. 1998 Jan-Feb;8(1):1-14; discussion 25-31. PMID: 9504035. **Exclusion reason:** Ineligible publication type
949. McKee BJ, McKee AB, Flacke S, et al. Initial experience with a free, high-volume, low-dose CT lung cancer screening program. *J Am Coll Radiol*. 2013 Aug;10(8):586-92. doi: 10.1016/j.jacr.2013.02.015. PMID: 23623708. **Exclusion reason:** Ineligible comparison
950. McKeever C, Koroloff N, Faddis C. The African American wellness village in Portland, Ore. *Prev Chronic Dis*. 2006 Jul;3(3):A104. PMID: 16776865. **Exclusion reason:** Ineligible publication type
951. McKenzie R, Bushy A. Rural minority and multicultural preventive care, primary care, and mental health issues: challenges and opportunities. *J Rural Health*. 2004;20(3):191-2. PMID: 15298092. **Exclusion reason:** Ineligible publication type
952. McKibben RA, Al Rifai M, Mathews LM, et al. Primary prevention of atherosclerotic cardiovascular disease in women. *Curr Cardiovasc Risk Rep*. 2016 Jan;10doi: 10.1007/s12170-015-0480-3. PMID: 28149430. **Exclusion reason:** Ineligible publication type
953. McKinlay J, Link C, Arber S, et al. How do doctors in different countries manage the same patient? results of a factorial experiment. *Health Serv Res*. 2006 Dec;41(6):2182-200. doi: 10.1111/j.1475-6773.2006.00595.x. PMID: 17116115. **Exclusion reason:** Ineligible outcome
954. McKinlay J, Piccolo R, Marceau L. An additional cause of health care disparities: The variable clinical decisions of primary care doctors. *J Eval Clin Pract*. 2013 Aug;19(4):664-73. doi: 10.1111/jep.12015. PMID: 23216876. **Exclusion reason:** Ineligible outcome
955. McKinlay JB, Marceau LD, Piccolo RJ. Do doctors contribute to the social patterning of disease: The case of race/ethnic disparities in diabetes mellitus. *Med Care Res Rev*. 2012 Apr;69(2):176-93. doi: 10.1177/1077558711429010. PMID: 22156837. **Exclusion reason:** Ineligible outcome
956. McKinney M. Extreme disparities: access to care, health literacy blamed for gaps. *Mod Healthc*. 2012 May 21;42(21):17. PMID: 22741480. **Exclusion reason:** Ineligible publication type
957. McLellan DL, Kaufman NJ. Examining the effects of tobacco control policy on low socioeconomic status women and girls: an initiative of the Tobacco Research Network on Disparities (TREND). *J Epidemiol Community Health*. 2006 Sep;60 Suppl 2:5-6. PMID: 17708004. **Exclusion reason:** Ineligible publication type

958. McMahon LF, Jr., Wolfe RA, Huang S, et al. Racial and gender variation in use of diagnostic colonic procedures in the Michigan Medicare population. *Med Care*. 1999 Jul;37(7):712-7. PMID: 10424642. **Exclusion reason:** Ineligible study design
959. McMillan LR, Smith-Hendricks C, Gore T. A volunteer citizen-servant pilot program using tailored messages to empower Alabamians to live healthier lives. *Public Health Nurs*. 2010 Nov-Dec;27(6):513-9. doi: 10.1111/j.1525-1446.2010.00886.x. PMID: 21087304. **Exclusion reason:** Ineligible outcome
960. McMorrow S, Kenney GM, Goin D. Determinants of receipt of recommended preventive services: implications for the Affordable Care Act. *Am J Public Health*. 2014 Dec;104(12):2392-9. doi: 10.2105/AJPH.2013.301569. PMID: 24432932. **Exclusion reason:** Background information only
961. McMullin JM, De Alba I, Chavez LR, et al. Influence of beliefs about cervical cancer etiology on Pap smear use among Latina immigrants. *Ethn Health*. 2005 Feb;10(1):3-18. doi: 10.1080/1355785052000323001. PMID: 15841584. **Exclusion reason:** Ineligible comparison
962. McNamara KP, O'Reilly SL, George J, et al. Intervention fidelity for a complex behaviour change intervention in community pharmacy addressing cardiovascular disease risk. *Health Educ Res*. 2015 Dec;30(6):897-909. doi: 10.1093/her/cyv050. PMID: 26471920. **Exclusion reason:** Ineligible population
963. McNeill LH, Coeling M, Puleo E, et al. Colorectal cancer prevention for low-income, sociodemographically-diverse adults in public housing: baseline findings of a randomized controlled trial. *BMC Public Health*. 2009 Sep 18;9:353. doi: 10.1186/1471-2458-9-353. PMID: 19765309. **Exclusion reason:** Background information only
964. McNeill LH, Reitzel LR, Escoto KH, et al. Engaging Black Churches to Address Cancer Health Disparities: Project CHURCH. *Frontiers in Public Health*. 2018;6:191. doi: <https://dx.doi.org/10.3389/fpubh.2018.00191>. PMID: 30073158. **Exclusion reason:** Ineligible publication type
965. McNutt MD. Examining weight gain in treatment-seeking African American smokers: A biopsychosocial approach. *Dissertation abstracts international*. 2017;78(3-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
966. McPheeters ML, Kripalani S, Peterson NB, et al. Closing the quality gap: revisiting the state of the science (vol. 3: quality improvement interventions to address health disparities). *Evidence Report/Technology Assessment*. 2012 Aug(208.3):1-475. PMID: 24422952. **Exclusion reason:** Systematic review used to identify primary studies
967. McSweeney JC, Pettey CM, Souder E, et al. Disparities in women's cardiovascular health. *J Obstet Gynecol Neonatal Nurs*. 2011 May-Jun;40(3):362-71. doi: 10.1111/j.1552-6909.2011.01239.x. PMID: 21477222. **Exclusion reason:** Ineligible publication type
968. Mead H, Ramos C, Grantham SC. Drivers of racial and ethnic disparities in cardiac rehabilitation use: Patient and provider perspectives. *Med Care Res Rev*. 2016 Jun;73(3):251-82. doi: 10.1177/1077558715606261. PMID: 26400868. **Exclusion reason:** Ineligible outcome
969. Meade CD, Menard JM, Luque JS, et al. Creating community-academic partnerships for cancer disparities research and health promotion. *Health Promotion Practice*. 2011 May;12(3):456-62. doi: 10.1177/1524839909341035. PMID: 19822724. **Exclusion reason:** Ineligible publication type

970. Mehta PP, Santiago-Torres JE, Wisely CE, et al. Primary care continuity improves diabetic health outcomes: From free clinics to Federally Qualified Health Centers. *J Am Board Fam Med*. 2016 May-Jun;29(3):318-24. doi: 10.3122/jabfm.2016.03.150256. PMID: 27170789. **Exclusion reason:** Ineligible population
971. Mehta S, Dimsdale J, Nagle B, et al. Worksite interventions: improving lifestyle habits among Latin American adults. *Am J Prev Med*. 2013 May;44(5):538-42. doi: 10.1016/j.amepre.2013.01.015. PMID: 23597820. **Exclusion reason:** Ineligible setting
972. Mehta SJ, Feingold J, Vandertuyn M, et al. Active choice and financial incentives to increase rates of screening colonoscopy-a randomized controlled trial. *Gastroenterology*. 2017 Nov;153(5):1227-9.Background. doi: 10.1053/j.gastro.2017.07.015. PMID: 28734830. **Exclusion reason:** Ineligible population
973. Mehta SJ, Khan T, Guerra C, et al. A randomized controlled trial of opt-in versus opt-out colorectal cancer screening outreach. *Am J Gastroenterol*. 2018 Jun 21doi: 10.1038/s41395-018-0151-3. PMID: 29925915. **Exclusion reason:** Ineligible population
974. Meissner HI, Breen N, Taubman ML, et al. Which women aren't getting mammograms and why? (United States). *Cancer Causes Control*. 2007 Feb;18(1):61-70. PMID: 17186422. **Exclusion reason:** Background information only
975. Meissner HI, Breen N, Yabroff KR. Whatever happened to clinical breast examinations? *Am J Prev Med*. 2003 Oct;25(3):259-63. PMID: 14507535. **Exclusion reason:** Ineligible outcome
976. Meissner HI, Tiro JA, Yabroff KR, et al. Too much of a good thing? Physician practices and patient willingness for less frequent pap test screening intervals. *Med Care*. 2010 Mar;48(3):249-59. doi: 10.1097/MLR.0b013e3181ca4015. PMID: 20182268. **Exclusion reason:** Ineligible outcome
977. Melzer AC, Feemster LC, Collins MP, et al. Predictors of pharmacotherapy for tobacco use among veterans admitted for COPD: The role of disparities and tobacco control processes. *J Gen Intern Med*. 2016 Jun;31(6):623-9. doi: 10.1007/s11606-016-3623-4. PMID: 26902236. **Exclusion reason:** Ineligible outcome
978. Mendez D, Warner KE. Setting a challenging yet realistic smoking prevalence target for Healthy People 2020: learning from the California experience. *Am J Public Health*. 2008 Mar;98(3):556-9. PMID: 17901429. **Exclusion reason:** Ineligible outcome
979. Menon U, Champion V, Monahan PO, et al. Health belief model variables as predictors of progression in stage of mammography adoption. *Am J Health Promot*. 2007 Mar-Apr;21(4):255-61. PMID: 17375491. **Exclusion reason:** Ineligible intervention
980. Mensah GA, Keenan NL, Giles WH. Public health addresses racial and ethnic disparities in coronary heart disease in women: perspectives from the Centers for Disease Control and Prevention. *Womens Health Issues*. 2002 Sep-Oct;12(5):272-83. PMID: 12225689. **Exclusion reason:** Ineligible publication type
981. Meredith LS, Griffith-Forge N. The road to eliminating disparities in health care. *Med Care*. 2002 Sep;40(9):729-31. PMID: 12218763. **Exclusion reason:** Ineligible publication type
982. Merzel C, D'Afflitti J. Reconsidering community-based health promotion: promise, performance, and potential. *Am J Public Health*. 2003 Apr;93(4):557-74. PMID: 12660197. **Exclusion reason:** Ineligible outcome
983. Messina CR, Lane DS, Colson RC. Colorectal cancer screening among users of county health centers and users of private physician practices. *Public Health Rep*. 2009 Jul-Aug;124(4):568-78. PMID: 19618794. **Exclusion reason:** Ineligible study design

984. Messina CR, Lane DS, Grimson R. Effectiveness of women's telephone counseling and physician education to improve mammography screening among women who underuse mammography. *Ann Behav Med.* 2002 Fall;24(4):279-89. doi: 10.1207/s15324796abm2404_04. PMID: 12434939. **Exclusion reason:** Ineligible population
985. Metcalfe D, Rios Diaz AJ, Olufajo OA, et al. Impact of public release of performance data on the behaviour of healthcare consumers and providers. *Cochrane Database Syst Rev.* 2018 09 06;9:CD004538. doi: <https://dx.doi.org/10.1002/14651858.CD004538.pub3>. PMID: 30188566. **Exclusion reason:** Systematic review used to identify primary studies
986. Metzler M, Amuyunzu-Nyamongo M, Mukhopadhyay A, et al. Community interventions on social determinants of health: Focusing the evidence. *Global perspectives on health promotion effectiveness.* New York, NY: Springer Science + Business Media; US; 2007:225-45. **Exclusion reason:** Ineligible publication type
987. Meyer CP, Allard CB, Sammon JD, et al. The impact of Medicare eligibility on cancer screening behaviors. *Prev Med.* 2016 Apr;85:47-52. doi: 10.1016/j.ypmed.2015.12.019. PMID: 26763164. **Exclusion reason:** Background information only
988. Michalowski KM, Gold JA, Morse DL, et al. Reducing disparities in lipid testing for African-Americans with diabetes: interim report. *J Health Hum Serv Adm.* 2003;26(3):363-81. PMID: 15704639. **Exclusion reason:** Ineligible population
989. Michie S, Jochelson K, Markham WA, et al. Low-income groups and behaviour change interventions: a review of intervention content, effectiveness and theoretical frameworks. *J Epidemiol Community Health.* 2009 Aug;63(8):610-22. doi: 10.1136/jech.2008.078725. PMID: 19386612. **Exclusion reason:** Systematic review used to identify primary studies
990. Mier N, Tanguma J, Millard AV, et al. A pilot walking program for Mexican-American women living in colonias at the border. *Am J Health Promot.* 2011 Jan-Feb;25(3):172-5. doi: 10.4278/ajhp.090325-ARB-115. PMID: 21192746. **Exclusion reason:** Sample size <20
991. Miesfeldt S, Hayden C, Apedoe N, et al. Colorectal cancer screening pilot program for underserved women in Cumberland County, Maine. *J Community Health.* 2010 Apr;35(2):109-14. doi: 10.1007/s10900-009-9204-2. PMID: 20033837. **Exclusion reason:** Ineligible outcome
992. Miles-Richardson S, Blumenthal D, Alema-Mensah E. A comparison of breast and cervical cancer legislation and screening in Georgia, North Carolina, and South Carolina. *J Health Care Poor Underserved.* 2012 May;23(2 Suppl):98-108. doi: 10.1353/hpu.2012.0074. PMID: 22643558. **Exclusion reason:** Ineligible outcome
993. Miller AM, Champion VL. Attitudes about breast cancer and mammography: racial, income, and educational differences. *Women Health.* 1997;26(1):41-63. PMID: 9311099. **Exclusion reason:** Ineligible outcome
994. Miller CL, Sedivy V. Using a quitline plus low-cost nicotine replacement therapy to help disadvantaged smokers to quit. *Tob Control.* 2009 Apr;18(2):144-9. doi: 10.1136/tc.2008.026492. PMID: 19131454. **Exclusion reason:** Ineligible setting
995. Miller ER, III, Cooper LA, Carson KA, et al. A dietary intervention in urban African Americans: Results of the "five plus nuts and beans" randomized trial. *Am J Prev Med.* 2016 Jan;50(1):87-95. doi: 10.1016/j.amepre.2015.06.010. PMID: 26321012. **Exclusion reason:** Ineligible population
996. Miller JW, Plescia M, Ekwueme DU. Public health national approach to reducing breast and cervical cancer disparities. *Cancer.* 2014 Aug 15;120 Suppl 16:2537-9. doi: 10.1002/cncr.28818. PMID: 25099895. **Exclusion reason:** Ineligible publication type

997. Miller NA, Kirk A, Alston B, et al. Effects of gender, disability, and age in the receipt of preventive services. *Gerontologist*. 2014 Jun;54(3):473-87. doi: 10.1093/geront/gnt012. PMID: 23480893. **Exclusion reason:** Ineligible publication type
998. Miller WD, Pollack CE, Williams DR. Healthy homes and communities: putting the pieces together. *Am J Prev Med*. 2011 Jan;40(1 Suppl 1):S48-57. doi: 10.1016/j.amepre.2010.09.024. PMID: 21146779. **Exclusion reason:** Ineligible publication type
999. Miner JW, White A, Lubenow AE, et al. Geocoding and social marketing in Alabama's cancer prevention programs. *Prev Chronic Dis*. 2005 Nov;2 Spec no:A17. PMID: 16263050. **Exclusion reason:** Ineligible publication type
1000. Minich L. Quality of diabetes care: Linking processes to outcomes. Dissertation abstracts international. 2011;72(3-B):1801. **Exclusion reason:** Ineligible publication type
1001. Minor DS, Wofford MR, Jones DW. Racial and ethnic differences in hypertension. *Current Atherosclerosis Reports*. 2008 Apr;10(2):121-7. PMID: 18417066. **Exclusion reason:** Ineligible publication type
1002. Miranda PY, Johnson-Jennings M, Tarraf W, et al. Using colorectal trends in the U.S. to identify unmet primary care needs of vulnerable populations. *Prev Med*. 2012 Aug;55(2):131-6. doi: 10.1016/j.ypmed.2012.05.016. PMID: 22659226. **Exclusion reason:** Ineligible study design
1003. Miranda PY, Tarraf W, Gonzalez HM. Breast cancer screening and ethnicity in the United States: implications for health disparities research. *Breast Cancer Res Treat*. 2011 Jul;128(2):535-42. doi: 10.1007/s10549-011-1367-8. PMID: 21298477. **Exclusion reason:** Background information only
1004. Miranda PY, Yao N, Snipes SA, et al. Citizenship, length of stay, and screening for breast, cervical, and colorectal cancer in women, 2000-2010. *Cancer Causes Control*. 2017 Jun;28(6):589-98. doi: 10.1007/s10552-017-0887-x. PMID: 28364196. **Exclusion reason:** Ineligible study design
1005. Miser WF. The management of type 2 diabetes mellitus focus on quality. *Primary Care; Clinics in Office Practice*. 2007 Mar;34(1):1-38. PMID: 17481983. **Exclusion reason:** Ineligible outcome
1006. Mishra SI, Bastani R, Crespi CM, et al. Results of a randomized trial to increase mammogram usage among Samoan women. *Cancer Epidemiol Biomarkers Prev*. 2007 Dec;16(12):2594-604. doi: 10.1158/1055-9965.Epi-07-0148. PMID: 18086763. **Exclusion reason:** Ineligible setting
1007. Mishra SI, Luce PH, Hubbell FA. Breast cancer screening among American Samoan women. *Prev Med*. 2001 Jul;33(1):9-17. PMID: 11482991. **Exclusion reason:** Ineligible outcome
1008. Mishuris RG, Linder JA. Racial differences in cancer screening with electronic health records and electronic preventive care reminders. *J Am Med Inform Assoc*. 2014 Oct;21(Background) Background64-9. doi: 10.1136/amiajnl-2013-002439. PMID: 24637955. **Exclusion reason:** Ineligible study design
1009. Misra R, Menon U, Vadaparampil ST, et al. Age- and sex-specific cancer prevention and screening practices among asian Indian immigrants in the United States. *J Investig Med*. 2011 Jun;59(5):787-92. doi: 10.2310/JIM.0b013e3182160d5d. PMID: 21441831. **Exclusion reason:** Ineligible study design
1010. Misra-Hebert AD. Cervical cancer in African American women: Optimizing prevention to reduce disparities. *Cleve Clin J Med*. 2017 Oct;84(10):795-6. doi: 10.3949/ccjm.84a.17041. PMID: 28985169. **Exclusion reason:** Ineligible publication type

1011. Mizuguchi S, Barkley L, Rai S, et al. Mobile mammography, race, and insurance: Use trends over a decade at a comprehensive urban cancer center. *J Oncol Pract*. 2015 01;11(1):e75-80. doi: 10.1200/JOP.2014.001477. PMID: 25371543. **Exclusion reason:** Ineligible outcome
1012. Mobley L, Kuo TM, Urato M, et al. Predictors of endoscopic colorectal cancer screening over time in 11 states. *Cancer Causes Control*. 2010 Mar;21(3):445-61. doi: 10.1007/s10552-009-9476-y. PMID: 19946738. **Exclusion reason:** Ineligible outcome
1013. Mobley LR, Kuo TM, Traczynski J, et al. Macro-level factors impacting geographic disparities in cancer screening. *Health Economics Review*. 2014 Dec;4(1):13. doi: 10.1186/s13561-014-0013-7. PMID: 26054402. **Exclusion reason:** Ineligible outcome
1014. Mobley LR, Kuo TM, Zhou M, et al. What Happened to Disparities in CRC Screening Among FFS Medicare Enrollees Following Medicare Modernization? *J Racial Ethn Health Disparities*. 2019 Apr;6(2):273-91. doi: <https://dx.doi.org/10.1007/s40615-018-0522-x>. PMID: 30232793. **Exclusion reason:** Ineligible outcome
1015. Mobley LR, Subramanian S, Tangka FK, et al. Breast Cancer Screening Among Women with Medicaid, 2006-2008: a Multilevel Analysis. *J Racial Ethn Health Disparities*. 2017 Jun;4(3):446-54. doi: 10.1007/s40615-016-0245-9. PMID: 27287274. **Exclusion reason:** Ineligible study design
1016. Mock J, McPhee SJ, Nguyen T, et al. Effective lay health worker outreach and media-based education for promoting cervical cancer screening among Vietnamese American women. *Am J Public Health*. 2007 Sep;97(9):1693-700. doi: 10.2105/ajph.2006.086470. PMID: 17329652. **Exclusion reason:** Ineligible setting
1017. Mohamad Baba Z. Examining disparities in breast cancer screening rates in a program designed to provide free care to women in the state of Pennsylvania. Dissertation abstracts international. 2017;78(5-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1018. Mojica CM, Flores B, Ketchum NS, et al. Health Care Access, Utilization, and Cancer Screening Among Low-Income Latina Women. *Hisp Health Care Int*. 2017 12;15(4):160-5. doi: <https://dx.doi.org/10.1177/1540415317735343>. PMID: 29164922. **Exclusion reason:** Ineligible outcome
1019. Mojica CM, Morales-Campos DY, Carmona CM, et al. Breast, Cervical, and Colorectal Cancer Education and Navigation: Results of a Community Health Worker Intervention. *Health Promot Pract*. 2016 May;17(3):353-63. doi: 10.1177/1524839915603362. PMID: 26384925. **Exclusion reason:** Ineligible outcome
1020. Mojica CM, Parra-Medina D, Vernon S. Interventions Promoting Colorectal Cancer Screening Among Latino Men: A Systematic Review. *Prev Chronic Dis*. 2018 03 08;15:E31. doi: <https://dx.doi.org/10.5888/pcd15.170218>. PMID: 29522700. **Exclusion reason:** Systematic review used to identify primary studies
1021. Mold F, Forbes A. Patients' and professionals' experiences and perspectives of obesity in health-care settings: a synthesis of current research. *Health Expect*. 2013 Jun;16(2):119-42. doi: 10.1111/j.1369-7625.2011.00699.x. PMID: 21645186. **Exclusion reason:** Ineligible outcome
1022. Molokwu JC, Penaranda E, Dwivedi A, et al. Effect of Educational Intervention on Self-Sampling Acceptability and Follow-Up Paps in Border Dwelling Hispanic Females. *J Low Genit Tract Dis*. 2018 Oct;22(4):295-301. doi: <https://dx.doi.org/10.1097/LGT.0000000000000424>. PMID: 30138152. **Exclusion reason:** Ineligible intervention

1023. Mols RE, Sand NP, Jensen JM, et al. Social factors and coping status in asymptomatic middle-aged Danes: Association to coronary artery calcification. *Scand J Public Health*. 2013 Nov;41(7):737-43. doi: 10.1177/1403494813492032. PMID: 23740863. **Exclusion reason:** Ineligible outcome
1024. Momin B, Neri A, McCausland K, et al. Traditional and innovative promotional strategies of tobacco cessation services: a review of the literature. *J Community Health*. 2014 Aug;39(4):800-9. doi: 10.1007/s10900-014-9825-y. PMID: 24515948. **Exclusion reason:** Ineligible publication type
1025. Monnat SM. Race/ethnicity and socioeconomic status gradient in women's cancer screening utilization: A case of diminishing returns? *J Health Care Poor Underserved*. 2014 Feb;25(1):332-56. doi: 10.1353/hpu.2014.0050. PMID: 24509030. **Exclusion reason:** Ineligible outcome
1026. Monticciolo DL, Caplan LS. The American College of Radiology's BI-RADS 3 Classification in a Nationwide Screening Program: current assessment and comparison with earlier use. *Breast J*. 2004 Mar-Apr;10(2):106-10. PMID: 15009036. **Exclusion reason:** Ineligible outcome
1027. Montminy EM, Karlitz JJ, Landreneau SW. Progress of colorectal cancer screening in United States: Past achievements and future challenges. *Prev Med*. 2019 Mar;120:78-84. doi: <https://dx.doi.org/10.1016/j.ypmed.2018.12.004>. PMID: 30579938. **Exclusion reason:** Ineligible publication type
1028. Moore-Monroy M, Wilkinson-Lee AM, Verdugo L, et al. Addressing the information gap: developing and implementing a cervical cancer prevention education campaign grounded in principles of community-based participatory action. *Health Promotion Practice*. 2013 Mar;14(2):274-83. doi: 10.1177/1524839912454141. PMID: 22982702. **Exclusion reason:** Ineligible outcome
1029. Moralez EA, Rao SP, Livaudais JC, et al. Improving knowledge and screening for colorectal cancer among Hispanics: overcoming barriers through a PROMOTORA-led home-based educational intervention. *J Cancer Educ*. 2012 Jun;27(3):533-9. doi: 10.1007/s13187-012-0357-9. PMID: 22488199. **Exclusion reason:** Ineligible outcome
1030. Morgan PD, Fogel J, Tyler ID, et al. Culturally targeted educational intervention to increase colorectal health awareness among African Americans. *J Health Care Poor Underserved*. 2010 Aug;21(3 Suppl):132-47. doi: 10.1353/hpu.0.0357. PMID: 20675951. **Exclusion reason:** Ineligible setting
1031. Morris AM. Medicare policy and colorectal cancer screening: will changing access change outcomes? *JAMA*. 2006 Dec 20;296(23):2855-6. PMID: 17179464. **Exclusion reason:** Ineligible publication type
1032. Morris GJ, Mitchell EP. Higher incidence of aggressive breast cancers in African-American women: a review. *J Natl Med Assoc*. 2008 Jun;100(6):698-702. PMID: 18595572. **Exclusion reason:** Ineligible publication type
1033. Morrison TB, Flynn PM, Weaver AL, et al. Cervical cancer screening adherence among Somali immigrants and refugees to the United States. *Health Care Women Int*. 2013;34(11):980-8. doi: 10.1080/07399332.2013.770002. PMID: 23659268. **Exclusion reason:** Background information only
1034. Morritt Taub LF. Concordance of provider recommendations with American Diabetes Association's Guidelines. *J Am Acad Nurse Pract*. 2006 Mar;18(3):124-33. PMID: 16499745. **Exclusion reason:** Ineligible population
1035. Morrow JB, Dallo FJ, Julka M. Community-based colorectal cancer screening trials with multi-ethnic groups: a systematic review. *J Community Health*. 2010 Dec;35(6):592-601. doi: 10.1007/s10900-010-9247-4. PMID: 20224864. **Exclusion reason:** Systematic review used to identify primary studies

1036. Mosavel M, Ports KA. Upward communication about cancer screening: adolescent daughter to mother. *J Health Commun.* 2015;20(6):680-6. doi: 10.1080/10810730.2015.1012245. PMID: 25848895. **Exclusion reason:** Ineligible outcome
1037. Mosdol A, Lidal IB, Straumann GH, et al. Targeted mass media interventions promoting healthy behaviours to reduce risk of non-communicable diseases in adult, ethnic minorities. *Cochrane Database Syst Rev.* 2017 02 17;2:CD011683. doi: 10.1002/14651858.CD011683.pub2. PMID: 28211056. **Exclusion reason:** Ineligible intervention
1038. Moser K, Patnick J, Beral V. Inequalities in reported use of breast and cervical screening in Great Britain: analysis of cross sectional survey data. *BMJ.* 2009 Jun 16;338:b2025. doi: 10.1136/bmj.b2025. PMID: 19531549. **Exclusion reason:** Ineligible study design
1039. Moshkovich O, Lebrun-Harris L, Makaroff L, et al. Challenges and Opportunities to Improve Cervical Cancer Screening Rates in US Health Centers through Patient-Centered Medical Home Transformation. *Adv Prev Med.* 2015;2015:182073. doi: 10.1155/2015/182073. PMID: 25685561. **Exclusion reason:** Ineligible outcome
1040. Moss M. Spotlight on the Safety Net: The Mobile Area Health Clinic: Addressing Community Needs Through a Wellness Model. *N C Med J.* 2018 Jul-Aug;79(4):263-4. doi: <https://dx.doi.org/10.18043/ncm.79.4.263>. PMID: 29991624. **Exclusion reason:** Ineligible publication type
1041. Moultrie LH, 2nd, Smith JH. Prostate cancer disparities in South Carolina: two generations talking from a male community perspective. *J S C Med Assoc.* 2006 Aug;102(7):250-2. PMID: 17319239. **Exclusion reason:** Ineligible publication type
1042. Movva S, Noone A-M, Banerjee M, et al. Racial differences in cervical cancer survival in the Detroit Metropolitan Area. *Cancer.* 2008 Mar;112(6):1264-71. doi: 10.1002/cncr.23310. PMID: 18257090. **Exclusion reason:** Ineligible population
1043. Mueller M, Purnell TS, Mensah GA, et al. Reducing racial and ethnic disparities in hypertension prevention and control: what will it take to translate research into practice and policy? *Am J Hypertens.* 2015 Jun;28(6):699-716. doi: 10.1093/ajh/hpu233. PMID: 25498998. **Exclusion reason:** Ineligible outcome
1044. Mukherjea A, Modayil MV. Culturally specific tobacco use and South Asians in the United States: a review of the literature and promising strategies for intervention. *Health Promotion Practice.* 2013 Sep;14(5 Suppl):48S-60S. doi: 10.1177/1524839913485585. PMID: 23690257. **Exclusion reason:** Ineligible outcome
1045. Muller D, Logan J, Dorr D, et al. The effectiveness of a secure email reminder system for colorectal cancer screening. *AMIA Annu Symp Proc.* 2009;2009:457-61. PMID: 20351899. **Exclusion reason:** Ineligible population
1046. Munoz RF, Mendelson T. Toward evidence-based interventions for diverse populations: The San Francisco General Hospital prevention and treatment manuals. *J Consult Clin Psychol.* 2005 Oct;73(5):790-9. PMID: 16287379. **Exclusion reason:** Ineligible publication type
1047. Murasko JE. Gender differences in the management of risk factors for cardiovascular disease: the importance of insurance status. *Soc Sci Med.* 2006 Oct;63(7):1745-56. PMID: 16762471. **Exclusion reason:** Ineligible outcome
1048. Murff HJ, Peterson NB, Greevy RA, et al. Early initiation of colorectal cancer screening in individuals with affected first-degree relatives. *J Gen Intern Med.* 2007 Jan;22(1):121-6. PMID: 17351851. **Exclusion reason:** Ineligible study design
1049. Murphy MP, Coke L, Staffileno BA, et al. Improving cardiovascular health of underserved populations in the community with Life's Simple 7. *J Am Assoc Nurse Pract.* 2015 Nov;27(11):615-23. doi: 10.1002/2327-6924.12231. PMID: 25776437. **Exclusion reason:** Ineligible study design

1050. Murphy ST, Frank LB, Chatterjee JS, et al. Comparing the Relative Efficacy of Narrative vs Nonnarrative Health Messages in Reducing Health Disparities Using a Randomized Trial. *Am J Public Health*. 2015 Oct;105(10):2117-23. doi: 10.2105/AJPH.2014.302332. PMID: 25905845. **Exclusion reason:** Ineligible setting
1051. Murray-Garcia JL, Selby JV, Schmittiel J, et al. Racial and ethnic differences in a patient survey: patients' values, ratings, and reports regarding physician primary care performance in a large health maintenance organization. *Med Care*. 2000 Mar;38(3):300-10. PMID: 10718355. **Exclusion reason:** Ineligible outcome
1052. Murthy VS, Garza MA, Almario DA, et al. Using a family history intervention to improve cancer risk perception in a Black community. *J Genet Couns*. 2011 Dec;20(6):639-49. doi: 10.1007/s10897-011-9389-2. PMID: 21773879. **Exclusion reason:** Ineligible outcome
1053. Murugan H, Spigner C, McKinney CM, et al. Primary care provider approaches to preventive health delivery: a qualitative study. *Prim Health Care Res Dev*. 2018 Sep;19(5):464-74. doi: 10.1017/s1463423617000858. PMID: 29307319. **Exclusion reason:** Ineligible outcome
1054. Musa D, Schulz R, Harris R, et al. Trust in the health care system and the use of preventive health services by older black and white adults. *Am J Public Health*. 2009 Jul;99(7):1293-9. doi: 10.2105/AJPH.2007.123927. PMID: 18923129. **Exclusion reason:** Background information only
1055. Mussulman L, Ellerbeck EF, Cupertino AP, et al. Design and participant characteristics of a randomized-controlled trial of telemedicine for smoking cessation among rural smokers. *Contemp Clin Trials*. 2014 Jul;38(2):173-81. doi: 10.1016/j.cct.2014.04.008. PMID: 24768940. **Exclusion reason:** Ineligible publication type
1056. Myers RE, Bittner-Fagan H, Daskalakis C, et al. A randomized controlled trial of a tailored navigation and a standard intervention in colorectal cancer screening. *Cancer Epidemiol Biomarkers Prev*. 2013 Jan;22(1):109-17. doi: 10.1158/1055-9965.Epi-12-0701. PMID: 23118143. **Exclusion reason:** Ineligible population
1057. Myers RE, Sifri R, Hyslop T, et al. A randomized controlled trial of the impact of targeted and tailored interventions on colorectal cancer screening. *Cancer*. 2007 Nov 01;110(9):2083-91. PMID: 17893869. **Exclusion reason:** Ineligible population
1058. Mynatt CS. The message is in the word-H.O.P.E.: A spiritually-based cardiovascular disease intervention program. Dissertation abstracts international. 2015;76(4-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1059. Nacapoy AH, Kaholokula JK, West MR, et al. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project. *Hawaii Med J*. 2008 Sep;67(9):237-41. PMID: 18853898. **Exclusion reason:** Ineligible publication type
1060. Nadeau M, Walaszek A, Perdue DG, et al. Influences and practices in colorectal cancer screening among health care providers serving Northern Plains American Indians, 2011-2012. *Prev Chronic Dis*. 2016 12 15;13:E167. doi: 10.5888/pcd13.160267. PMID: 27978410. **Exclusion reason:** Ineligible outcome
1061. Naik Y, Baker P, Walker I, et al. The macro-economic determinants of health and health inequalities-umbrella review protocol. *Systematic Reviews*. 2017 Nov 03;6(1):222. doi: 10.1186/s13643-017-0616-2. PMID: 29100497. **Exclusion reason:** Ineligible publication type
1062. Nam S, Janson SL, Stotts NA, et al. Effect of culturally tailored diabetes education in ethnic minorities with type 2 diabetes: a meta-analysis. *J Cardiovasc Nurs*. 2012 Nov-Dec;27(6):505-18. doi: 10.1097/JCN.0b013e31822375a5. PMID: 21747287. **Exclusion reason:** Ineligible population

1063. Napoles-Springer A, Perez-Stable EJ, Washington E. Risk factors for invasive cervical cancer in Latino women. *J Med Syst.* 1996 Oct;20(5):277-93. PMID: 9001995. **Exclusion reason:** Ineligible outcome
1064. Nash D, Chan C, Horowitz D, et al. Barriers and missed opportunities in breast and cervical cancer screening among women aged 50 and over, New York City, 2002. *J Womens Health.* 2007 Jan-Feb;16(1):46-56. PMID: 17324096. **Exclusion reason:** Ineligible outcome
1065. Nazione S, Silk KJ. Patient race and perceived illness responsibility: Effects on provider helping and bias. *Med Educ.* 2013 Aug;47(8):780-9. doi: 10.1111/medu.12203. PMID: 23837424. **Exclusion reason:** Background information only
1066. Neal CD, Weaver DT, Raphel TJ, et al. Patient Navigation to Improve Cancer Screening in Underserved Populations: Reported Experiences, Opportunities, and Challenges. *J Am Coll Radiol.* 2018 Nov;15(11):1565-72. doi: <https://dx.doi.org/10.1016/j.jacr.2018.03.001>. PMID: 29685346. **Exclusion reason:** Ineligible publication type
1067. Neal D, Magwood G, Jenkins C, et al. Racial disparity in the diagnosis of obesity among people with diabetes. *J Health Care Poor Underserved.* 2006 May;17(2 Suppl):106-15. PMID: 16809878. **Exclusion reason:** Ineligible population
1068. Neill KS, Powell L. Mobile interprofessional wellness care of rural older adults. *J Gerontol Nurs.* 2009 Jul;35(7):46-52. doi: 10.3928/00989134-20090527-01. PMID: 19650623. **Exclusion reason:** Ineligible outcome
1069. Nelson KM, Chapko MK, Reiber G, et al. The association between health insurance coverage and diabetes care; data from the 2000 Behavioral Risk Factor Surveillance System. *Health Serv Res.* 2005 Apr;40(2):361-72. PMID: 15762896. **Exclusion reason:** Ineligible population
1070. Netto G, Bhopal R, Lederle N, et al. How can health promotion interventions be adapted for minority ethnic communities? Five principles for guiding the development of behavioural interventions. *Health Promot Int.* 2010 Jun;25(2):248-57. doi: 10.1093/heapro/daq012. PMID: 20299500. **Exclusion reason:** Systematic review used to identify primary studies
1071. Neugut AI, Lebwohl B. Screening for colorectal cancer: the glass is half full. *Am J Public Health.* 2009 Apr;99(4):592-4. doi: 10.2105/AJPH.2008.153858. PMID: 19150895. **Exclusion reason:** Ineligible publication type
1072. Neuhauser L, Sparks L, Villagran MM, et al. The power of community-based health communication interventions to promote cancer prevention and control for at-risk populations. *Patient Educ Couns.* 2008 Jun;71(3):315-8. doi: 10.1016/j.pec.2008.03.015. PMID: 18406096. **Exclusion reason:** Ineligible publication type
1073. Nevid JS, Javier RA. Preliminary investigation of a culturally specific smoking cessation intervention for Hispanic smokers. *Am J Health Promot.* 1997 Jan-Feb;11(3):198-207. doi: 10.4278/0890-1171-11.3.198. PMID: 10165099. **Exclusion reason:** Ineligible comparison
1074. New C, Xiao L, Ma J. Acculturation and overweight-related attitudes and behavior among obese Hispanic adults in the United States. *Obesity.* 2013 Nov;21(11):2396-404. doi: 10.1002/oby.20146. PMID: 23687100. **Exclusion reason:** Ineligible study design
1075. Newman LA, Carolin K, Simon M, et al. Impact of breast carcinoma on African-American women: the Detroit experience. *Cancer.* 2001 May 01;91(9):1834-43. PMID: 11335911. **Exclusion reason:** Ineligible outcome
1076. Newmann SJ, Garner EO. Social inequities along the cervical cancer continuum: a structured review. *Cancer Causes Control.* 2005 Feb;16(1):63-70. PMID: 15750859. **Exclusion reason:** Ineligible publication type

1077. Newransky C. Investigation of disparities in cervical cancer prevention in the United States: HPV vaccination and PAP screening in 18--30 year old women. Dissertation abstracts international. 2014;74(10-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1078. Ngo-Metzger Q, Sorkin DH, Billimek J, et al. The effects of financial pressures on adherence and glucose control among racial/ethnically diverse patients with diabetes. *J Gen Intern Med.* 2012 Apr;27(4):432-7. doi: 10.1007/s11606-011-1910-7. PMID: 22005941. **Exclusion reason:** Ineligible population
1079. Nguyen AB, Belgrave FZ, Sholley BK. Development of a breast and cervical cancer screening intervention for Vietnamese American women: a community-based participatory approach. *Health Promotion Practice.* 2011 Nov;12(6):876-86. doi: 10.1177/1524839909355518. PMID: 20530637. **Exclusion reason:** Ineligible study design
1080. Nguyen BH, McPhee SJ, Stewart SL, et al. Colorectal cancer screening in Vietnamese Americans. *J Cancer Educ.* 2008 Jan-Mar;23(1):37-45. doi: 10.1080/08858190701849395. PMID: 18444045. **Exclusion reason:** Ineligible study design
1081. Nguyen T, Vo PH, McPhee SJ, et al. Promoting early detection of breast cancer among Vietnamese-American women. Results of a controlled trial. *Cancer.* 2001 Jan 1;91(1 Suppl):267-73. PMID: 11148592. **Exclusion reason:** Ineligible setting
1082. Nguyen TT, Le G, Nguyen T, et al. Breast cancer screening among Vietnamese Americans: a randomized controlled trial of lay health worker outreach. *Am J Prev Med.* 2009 Oct;37(4):306-13. doi: 10.1016/j.amepre.2009.06.009. PMID: 19765502. **Exclusion reason:** Ineligible setting
1083. Nguyen TT, McPhee SJ, Bui-Tong N, et al. Community-based participatory research increases cervical cancer screening among Vietnamese-Americans. *J Health Care Poor Underserved.* 2006 May;17(2 Suppl):31-54. PMID: 16809874. **Exclusion reason:** Ineligible outcome
1084. Nguyen TT, McPhee SJ, Gildengorin G, et al. Papanicolaou testing among Vietnamese Americans: results of a multifaceted intervention. *Am J Prev Med.* 2006 Jul;31(1):1-9. doi: 10.1016/j.amepre.2006.03.005. PMID: 16777536. **Exclusion reason:** Ineligible study design
1085. Nguyen TT, McPhee SJ, Nguyen T, et al. Predictors of cervical Pap smear screening awareness, intention, and receipt among Vietnamese-American women. *Am J Prev Med.* 2002 Oct;23(3):207-14. PMID: 12350454. **Exclusion reason:** Ineligible outcome
1086. Nguyen TT, Tsoh JY, Woo K, et al. Colorectal Cancer Screening and Chinese Americans: Efficacy of Lay Health Worker Outreach and Print Materials. *Am J Prev Med.* 2017 Mar;52(3):e67-e76. doi: 10.1016/j.amepre.2016.10.003. PMID: 27986352. **Exclusion reason:** Ineligible setting
1087. Nguyen-Huynh MN, Hills NK, Sidney S, et al. Race-ethnicity on blood pressure control after ischemic stroke: a prospective cohort study. *J Am Soc Hypertens.* 2017 Jan;11(1):38-44. doi: 10.1016/j.jash.2016.11.002. PMID: 27988356. **Exclusion reason:** Ineligible population
1088. Nguyen-Pham S, Leung J, McLaughlin D. Disparities in breast cancer stage at diagnosis in urban and rural adult women: a systematic review and meta-analysis. *Ann Epidemiol.* 2014 Mar;24(3):228-35. doi: 10.1016/j.annepidem.2013.12.002. PMID: 24462273. **Exclusion reason:** Ineligible outcome
1089. Nicholson LM, Browning CR. Racial and ethnic disparities in obesity during the transition to adulthood: the contingent and nonlinear impact of neighborhood disadvantage. *J Youth Adolesc.* 2012 Jan;41(1):53-66. doi: 10.1007/s10964-011-9685-z. PMID: 21706260. **Exclusion reason:** Ineligible population

1090. Nickel JT, Salsberry PJ, Polivka BJ, et al. Preventive health counseling reported by uninsured women with limited access to care. *J Health Care Poor Underserved*. 1998 Aug;9(3):293-308. PMID: 10073210. **Exclusion reason:** Ineligible outcome
1091. Niederdeppe J, Roh S, Shapiro MA, et al. Effects of messages emphasizing environmental determinants of obesity on intentions to engage in diet and exercise behaviors. *Prev Chronic Dis*. 2013 Dec 12;10:BACKGROUND09. doi: 10.5888/pcd10.130163. PMID: 24331282. **Exclusion reason:** Ineligible outcome
1092. Nikpay SS. Federal support for family planning clinics associated with dramatic gains in cervical cancer screening. *Womens Health Issues*. 2016 Mar-Apr;26(2):176-82. doi: 10.1016/j.whi.2015.11.006. PMID: 26781749. **Exclusion reason:** Ineligible outcome
1093. Nitta M, Navasca D, Tareg A, et al. Cancer risk reduction in the US Affiliated Pacific Islands: Utilizing a novel policy, systems, and environmental (PSE) approach. *Cancer Epidemiol*. 2017 10;50(Pt B):278-82. doi: 10.1016/j.canep.2017.08.008. PMID: 29120837. **Exclusion reason:** Ineligible publication type
1094. Nonzee NJ, Ragas DM, Ha Luu T, et al. Delays in Cancer Care Among Low-Income Minorities Despite Access. *J Womens Health*. 2015 Jun;24(6):506-14. doi: 10.1089/jwh.2014.4998. PMID: 26070037. **Exclusion reason:** Ineligible outcome
1095. Norman N, Bennett C, Cowart S, et al. Boot camp translation: a method for building a community of solution. *J Am Board Fam Med*. 2013 May-Jun;26(3):254-63. doi: 10.3122/jabfm.2013.03.120253. PMID: 23657693. **Exclusion reason:** Ineligible publication type
1096. Northington L, Martin T, Walker JT, et al. Integrated community education model: breast health awareness to impact late-stage breast cancer. *Clin J Oncol Nurs*. 2011 Aug;15(4):387-92. doi: 10.1188/11.CJON.387-392. PMID: 21810571. **Exclusion reason:** Ineligible comparison
1097. Northrup KL, Cottrell LA, Wittberg RA. L.I.F.E.: a school-based heart-health screening and intervention program. *J Sch Nurs*. 2008 Feb;24(1):28-35. doi: 10.1622/1059-8405(2008)024[0028:LASHSA]2.0.CO;2. PMID: 18220453. **Exclusion reason:** Ineligible population
1098. Nothwehr F. Attitudes and behaviors related to weight control in two diverse populations. *J Prev Med*. 2004 Oct;39(4):674-80. doi: 10.1016/j.ypmed.2004.02.034. PMID: 15351532. **Exclusion reason:** Ineligible outcome
1099. Novotny R, Chen C, Williams AE, et al. US acculturation is associated with health behaviors and obesity, but not their change, with a hotel-based intervention among Asian-Pacific Islanders. *J Acad Nutr Diet*. 2012 May;112(5):649-56. doi: 10.1016/j.jand.2012.02.002. PMID: 22709769. **Exclusion reason:** Ineligible setting
1100. Nundy S, Razi RR, Dick JJ, et al. A text messaging intervention to improve heart failure self-management after hospital discharge in a largely African-American population: Before-after study. *J Med Internet Res*. 2013 Mar;15(3):122-31. doi: 10.2196/jmir.2317. PMID: 23478028. **Exclusion reason:** Ineligible outcome
1101. Nuno T, Martinez ME, Harris R, et al. A Promotora-administered group education intervention to promote breast and cervical cancer screening in a rural community along the U.S.-Mexico border: a randomized controlled trial. *Cancer Causes Control*. 2011 Mar;22(3):367-74. doi: 10.1007/s10552-010-9705-4. PMID: 21184267. **Exclusion reason:** Ineligible setting
1102. Obisesan O. An examination of the uptake of the Pap smear test among African women immigrants in the United States: A secondary data analysis of the National Health Interview Survey. Dissertation abstracts international. 2017;77(10-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type

1103. O'Brien J, Salmon AM, Penman A. What has fairness got to do with it? Tackling tobacco among Australia's disadvantaged. *Drug and Alcohol Review*. 2012 Jul;31(5):723-6. doi: 10.1111/j.1465-3362.2012.00460.x. PMID: 22524309. **Exclusion reason:** Ineligible publication type
1104. O'Brien MJ, Halbert CH, Bixby R, et al. Community health worker intervention to decrease cervical cancer disparities in Hispanic women. *J Gen Intern Med*. 2010 Nov;25(11):1186-92. doi: 10.1007/s11606-010-1434-6. PMID: 20607434. **Exclusion reason:** Ineligible setting
1105. O'Brien MJ, Perez A, Alos VA, et al. The feasibility, acceptability, and preliminary effectiveness of a Promotora-Led Diabetes Prevention Program (PL-DPP) in Latinas: a pilot study. *Diabetes Educ*. 2015 Aug;41(4):485-94. doi: 10.1177/0145721715586576. PMID: 26023095. **Exclusion reason:** Ineligible population
1106. Ochoa CY, Murphy ST, Frank LB, et al. Using a Culturally Tailored Narrative to Increase Cervical Cancer Detection Among Spanish-Speaking Mexican-American Women. *J Cancer Educ*. 2019 Apr 24;24:24. doi: <https://dx.doi.org/10.1007/s13187-019-01521-6>. PMID: 31020621. **Exclusion reason:** Ineligible comparison
1107. Ockene IS, Tellez TL, Rosal MC, et al. Outcomes of a Latino community-based intervention for the prevention of diabetes: the Lawrence Latino Diabetes Prevention Project. *Am J Public Health*. 2012 Feb;102(2):336-42. doi: 10.2105/ajph.2011.300357. PMID: 22390448. **Exclusion reason:** Ineligible setting
1108. Odedosu T, Schoenthaler A, Vieira DL, et al. Overcoming barriers to hypertension control in African Americans. *Cleve Clin J Med*. 2012 Jan;79(1):46-56. doi: 10.3949/ccjm.79a.11068. PMID: 22219234. **Exclusion reason:** Ineligible publication type
1109. Ofili E, Igbo-Pemu P, Bransford T. The prevention of cardiovascular disease in blacks. *Curr Opin Cardiol*. 1999 Mar;14(2):169-75. PMID: 10191977. **Exclusion reason:** Ineligible publication type
1110. Ofili E, Pemu PI, Gulaya V, et al. Targeting healthcare disparities: an integrated model to improve treatment rates of dyslipidemia in African American patients.[Erratum appears in *Curr Atheroscler Rep*. 2006 May;8(3):iii Note: Bula, Rigobert Lapu [corrected to Lapu-Bula, Rigobert]]. *Current Atherosclerosis Reports*. 2005 Jul;7(4):249-50. PMID: 15975316. **Exclusion reason:** Ineligible population
1111. Ogedegbe G, Schoenthaler A, Fernandez S. Perspectives on mechanisms of racial disparities in hypertension. Toward equity in health: A new global approach to health disparities. New York, NY: Springer Publishing Co; US; 2008:129-40. **Exclusion reason:** Ineligible publication type
1112. Ogedegbe GO, Boutin-Foster C, Wells MT, et al. A randomized controlled trial of positive-affect intervention and medication adherence in hypertensive African Americans. *Arch Intern Med*. 2012 Feb 27;172(4):322-6. doi: 10.1001/archinternmed.2011.1307. PMID: 22269592. **Exclusion reason:** Ineligible population
1113. Ogilvie D, Petticrew M. Reducing social inequalities in smoking: can evidence inform policy? A pilot study. *Tob Control*. 2004 Jun;13(2):129-31. PMID: 15175527. **Exclusion reason:** Ineligible publication type
1114. Oh KM, Zhou Q, Kreps GL, et al. Breast cancer screening practices among Asian Americans and Pacific Islanders. *Am J Health Behav*. 2012 Sep;36(5):711-22. doi: 10.5993/AJHB.36.5.13. PMID: 22584098. **Exclusion reason:** Ineligible study design
1115. Ojinnaka CO. Rural-urban disparities in stage at diagnosis and treatment of breast cancer and the influence of geographical level characteristics. Dissertation abstracts international. 2018;78(9-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type

1116. O'Keefe EB, Meltzer JP, Bethea TN. Health disparities and cancer: racial disparities in cancer mortality in the United States, 2000-2010. *Frontiers in Public Health*. 2015;3:51. doi: 10.3389/fpubh.2015.00051. PMID: 25932459. **Exclusion reason:** Ineligible publication type
1117. Oldroyd J, Burns C, Lucas P, et al. The effectiveness of nutrition interventions on dietary outcomes by relative social disadvantage: a systematic review. *J Epidemiol Community Health*. 2008 Jul;62(7):573-9. doi: 10.1136/jech.2007.066357. PMID: 18559438. **Exclusion reason:** Systematic review used to identify primary studies
1118. O'Loughlin JL, Paradis G, Gray-Donald K, et al. The impact of a community-based heart disease prevention program in a low-income, inner-city neighborhood. *Am J Public Health*. 1999 Dec;89(12):1819-26. PMID: 10589309. **Exclusion reason:** Ineligible outcome
1119. Olsen JM, Nesbitt BJ. Health coaching to improve healthy lifestyle behaviors: an integrative review. *Am J Health Promot*. 2010 Sep-Oct;25(1):e1-e12. doi: 10.4278/ajhp.090313-LIT-101. PMID: 20809820. **Exclusion reason:** Ineligible population
1120. Olshansky E, Sacco D, Braxter B, et al. Participatory action research to understand and reduce health disparities. *Nurs Outlook*. 2005 May-Jun;53(3):121-6. PMID: 15988448. **Exclusion reason:** Ineligible publication type
1121. Olsho LE, Payne GH, Walker DK, et al. Impacts of a farmers' market incentive programme on fruit and vegetable access, purchase and consumption. *Public Health Nutr*. 2015 Oct;18(15):2712-21. doi: 10.1017/S1368980015001056. PMID: 25919225. **Exclusion reason:** Ineligible study design
1122. Olson RA, Nichol A, Caron NR, et al. Effect of community population size on breast cancer screening, stage distribution, treatment use and outcomes. *Can J Public Health*. 2012 Jan-Feb;103(1):46-52. PMID: 22338328. **Exclusion reason:** Ineligible outcome
1123. Oluwole SF, Ali AO, Adu A, et al. Impact of a cancer screening program on breast cancer stage at diagnosis in a medically underserved urban community. *J Am Coll Surg*. 2003 Feb;196(2):180-8. PMID: 12595043. **Exclusion reason:** Ineligible population
1124. Oosterveen E, Tzelepis F, Ashton L, et al. A systematic review of eHealth behavioral interventions targeting smoking, nutrition, alcohol, physical activity and/or obesity for young adults. *Prev Med*. 2017 Jun;99:197-206. doi: 10.1016/j.ypmed.2017.01.009. PMID: 28130046. **Exclusion reason:** Systematic review used to identify primary studies
1125. Orsi JM, Margellos-Anast H, Whitman S. Black-White health disparities in the United States and Chicago: a 15-year progress analysis. *Am J Public Health*. 2010 Feb;100(2):349-56. doi: 10.2105/AJPH.2009.165407. PMID: 20019299. **Exclusion reason:** Ineligible outcome
1126. Ortega AN, Albert SL, Sharif MZ, et al. Proyecto MercadoFRESCO: a multi-level, community-engaged corner store intervention in East Los Angeles and Boyle Heights. *J Community Health*. 2015 Apr;40(2):347-56. doi: 10.1007/s10900-014-9941-8. PMID: 25209600. **Exclusion reason:** Ineligible publication type
1127. Orth-Gomer K, Schneiderman N, Vaccarino V, et al. Psychosocial stress and cardiovascular disease in women: Concepts, findings, future perspectives. (2015) *Psychosocial stress and cardiovascular disease in women: Concepts, findings, future perspectives* xvi, 305 pp Cham, Switzerland: Springer International Publishing; Switzerland. 2015. **Exclusion reason:** Ineligible publication type
1128. Ortiz L, Arizmendi L, Cornelius LJ. Access to health care among Latinos of Mexican descent in colonias in two Texas counties. *J Rural Health*. 2004;20(3):246-52. PMID: 15298099. **Exclusion reason:** Ineligible study design

1129. Osborne K. Preventive health services for women aged 50 years and older. *J Midwifery Womens Health*. 2013 May-Jun;58(3):333-8. doi: 10.1111/jmwh.12063. PMID: 23758721. **Exclusion reason:** Ineligible publication type
1130. Osei-Assibey G, Kyrou I, Adi Y, et al. Dietary and lifestyle interventions for weight management in adults from minority ethnic/non-White groups: a systematic review. *Obes Rev*. 2010 Nov;11(11):769-76. doi: 10.1111/j.1467-789X.2009.00695.x. PMID: 20059708. **Exclusion reason:** Systematic review used to identify primary studies
1131. Otero-Sabogal R, Owens D, Canchola J, et al. Mammography rescreening among women of diverse ethnicities: patient, provider, and health care system factors. *J Health Care Poor Underserved*. 2004 Aug;15(3):390-412. PMID: 15453177. **Exclusion reason:** Ineligible study design
1132. Otero-Sabogal R, Owens D, Canchola J, et al. Improving rescreening in community clinics: does a system approach work? *J Community Health*. 2006 Dec;31(6):497-519. PMID: 17186643. **Exclusion reason:** Ineligible comparison
1133. Ozakinci G, Wells M, Williams B, et al. Cancer diagnosis: An opportune time to help patients and their families stop smoking? *Public Health*. 2010 Aug;124(8):479-82. doi: 10.1016/j.puhe.2010.04.006. PMID: 20630548. **Exclusion reason:** Ineligible publication type
1134. Padamsee TJ, Meadows R, Hils M. Layers of information: interacting constraints on breast cancer risk-management by high-risk African American women. *Ethn Health*. 2018 Dec 27:1-24. doi: <https://dx.doi.org/10.1080/13557858.2018.1562053>. PMID: 30589360. **Exclusion reason:** Ineligible intervention
1135. Padela AI, Malik S, Din H, et al. Changing Mammography-Related Beliefs Among American Muslim Women: Findings from a Religiously-Tailored Mosque-Based Intervention. *J Immigr Minor Health*. 2019 Jan 02;02:02. doi: <https://dx.doi.org/10.1007/s10903-018-00851-9>. PMID: 30603838. **Exclusion reason:** Ineligible outcome
1136. Paek MS, Lim JW. Factors associated with health care access and outcome. *Soc Work Health Care*. 2012;51(6):506-30. doi: 10.1080/00981389.2012.671244. PMID: 22780701. **Exclusion reason:** Ineligible study design
1137. Page-Reeves J, Moffett ML, Steimel L, et al. The evolution of an innovative community-engaged health navigator program to address social determinants of health. *Prog Community Health Partnersh*. 2016;10(4):603-10. doi: 10.1353/cpr.2016.0069. PMID: 28569686. **Exclusion reason:** Ineligible publication type
1138. Palmer PH, Lee C, Sablan-Santos L, et al. Eliminating tobacco disparities among native Hawaiian Pacific Islanders through policy change: the role of community-based organizations. *Health Promotion Practice*. 2013 Sep;14(5 Suppl):36S-9S. doi: 10.1177/1524839913486150. PMID: 23667058. **Exclusion reason:** Ineligible publication type
1139. Palmer RC, Chhabra D, McKinney S. Colorectal cancer screening adherence in African-American men and women 50 years of age and older living in Maryland. *J Community Health*. 2011 Aug;36(4):517-24. doi: 10.1007/s10900-010-9336-4. PMID: 21107892. **Exclusion reason:** Ineligible study design
1140. Palmer RC, Schneider EC. Social disparities across the continuum of colorectal cancer: a systematic review. *Cancer Causes Control*. 2005 Feb;16(1):55-61. PMID: 15750858. **Exclusion reason:** Systematic review used to identify primary studies
1141. Parikh P, Simon EP, Fei K, et al. Results of a pilot diabetes prevention intervention in East Harlem, New York City: Project HEED. *Am J Public Health*. 2010 Apr 1;100 Suppl 1:S232-9. doi: 10.2105/ajph.2009.170910. PMID: 20147680. **Exclusion reason:** Ineligible population
1142. Park IU, Taylor AL. Race and ethnicity in trials of antihypertensive therapy to prevent cardiovascular outcomes: a systematic review. *Ann Fam Med*. 2007 Sep-Oct;5(5):444-52. PMID: 17893387. **Exclusion reason:** Ineligible intervention

1143. Park YM, Steck SE, Fung TT, et al. Mediterranean diet and mortality risk in metabolically healthy obese and metabolically unhealthy obese phenotypes. *Int J Obes*. 2016 Oct;40(10):1541-9. doi: 10.1038/ijo.2016.114. PMID: 27339604. **Exclusion reason:** Ineligible outcome
1144. Parker JG, Haldane SL, Keltner BR, et al. National Alaska Native American Indian Nurses Association: reducing health disparities within American Indian and Alaska native populations. *Nurs Outlook*. 2002 Jan-Feb;50(1):16-23. PMID: 11973576. **Exclusion reason:** Ineligible publication type
1145. Parra-Medina D, Messias DK, Fore E, et al. The partnership for cancer prevention: addressing access to cervical cancer screening among Latinas in South Carolina. *J S C Med Assoc*. 2009 Dec;105(7):297-305. PMID: 20108722. **Exclusion reason:** Ineligible comparison
1146. Partin MR, Burgess DJ. Reducing health disparities or improving minority health? The end determines the means. *J Gen Intern Med*. 2012 Aug;27(8):887-9. doi: 10.1007/s11606-012-2108-3. PMID: 22592356. **Exclusion reason:** Ineligible publication type
1147. Paskett ED, Katz ML, Post DM, et al. The Ohio Patient Navigation Research Program: does the American Cancer Society patient navigation model improve time to resolution in patients with abnormal screening tests? *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1620-8. doi: 10.1158/1055-9965.Epi-12-0523. PMID: 23045536. **Exclusion reason:** Ineligible population
1148. Paskett ED, Rushing J, D'Agostino R, Jr., et al. Cancer screening behaviors of low-income women: the impact of race. *Womens Health*. 1997 Fall-Winter;3(3-4):203-26. PMID: 9426494. **Exclusion reason:** Ineligible study design
1149. Paskett ED, Tatum C, Rushing J, et al. Racial differences in knowledge, attitudes, and cancer screening practices among a triracial rural population. *Cancer*. 2004 Dec 01;101(11):2650-9. PMID: 15505784. **Exclusion reason:** Ineligible study design
1150. Paskett ED, Tatum CM, D'Agostino R, Jr., et al. Community-based interventions to improve breast and cervical cancer screening: results of the Forsyth County Cancer Screening (FoCaS) Project. *Cancer Epidemiol Biomarkers Prev*. 1999 May;8(5):453-9. PMID: 10350442. **Exclusion reason:** Ineligible study design
1151. Patrizzi B. Screening for cervical cancer in low-resource settings in 2011. *Arch Pathol Lab Med*. 2014 Feb;138(2):156. doi: 10.5858/arpa.2013-0438-LE. PMID: 24476514. **Exclusion reason:** Ineligible publication type
1152. Peake MD. Should we be pursuing the earlier diagnosis of lung cancer in symptomatic patients? *Thorax*. 2012 May;67(5):379-80. doi: 10.1136/thoraxjnl-2011-201449. PMID: 22426900. **Exclusion reason:** Ineligible publication type
1153. Pearcy JN, Keppel KG. A summary measure of health disparity. *Public Health Rep*. 2002 May-Jun;117(3):273-80. PMID: 12432138. **Exclusion reason:** Ineligible outcome
1154. Peek ME, Cargill A, Huang ES. Diabetes health disparities: A systematic review of health care interventions. *Med Care Res Rev*. 2007 Oct;64(5, Suppl):101S-56S. doi: 10.1177/1077558707305409. PMID: 17881626. **Exclusion reason:** Ineligible outcome
1155. Peek ME, Han J. Mobile mammography: assessment of self-referral in reaching medically underserved women. *J Natl Med Assoc*. 2007 Apr;99(4):398-403. PMID: 17444429. **Exclusion reason:** Ineligible comparison
1156. Peek ME, Han JH. Disparities in screening mammography. Current status, interventions and implications. *J Gen Intern Med*. 2004 Feb;19(2):184-94. PMID: 15009798. **Exclusion reason:** Ineligible publication type
1157. Peek ME, Han JH. Compliance and self-reported barriers to follow-up of abnormal screening mammograms among women utilizing a county mobile mammography van. *Health Care Women Int*. 2009 Oct;30(10):857-70. doi: 10.1080/07399330903066350. PMID: 19742361. **Exclusion reason:** Ineligible outcome

1158. Peercy M, Gray J, Thurman PJ, et al. Community readiness: an effective model for tribal engagement in prevention of cardiovascular disease. *Fam Community Health*. 2010 Jul-Sep;33(3):238-47. doi: 10.1097/FCH.0b013e3181e4bca9. PMID: 20531104. **Exclusion reason:** Ineligible outcome
1159. Peeters A, Backholer K. Reducing socioeconomic inequalities in obesity: the role of population prevention. *The Lancet Diabetes & Endocrinology*. 2015 Nov;3(11):838-40. doi: 10.1016/S2213-8587(15)00373-3. PMID: 26466771. **Exclusion reason:** Ineligible publication type
1160. Pekmezi D, Ainsworth C, Joseph R, et al. Rationale, design, and baseline findings from HIPP: A randomized controlled trial testing a home-based, individually-tailored physical activity print intervention for African American women in the Deep South. *Contemp Clin Trials*. 2016 Mar;47:340-8. doi: 10.1016/j.cct.2016.02.009. PMID: 26944022. **Exclusion reason:** Ineligible publication type
1161. Pekmezi D, Dunsiger S, Gans K, et al. Rationale, design, and baseline findings from Seamos Saludables: a randomized controlled trial testing the efficacy of a culturally and linguistically adapted, computer- tailored physical activity intervention for Latinas. *Contemp Clin Trials*. 2012 Nov;33(6):1261-71. doi: 10.1016/j.cct.2012.07.005. PMID: 22789455. **Exclusion reason:** Ineligible publication type
1162. Pekmezi D, Marcus B, Meneses K, et al. Developing an intervention to address physical activity barriers for African-American women in the deep south (USA). *Womens Health*. 2013 May;9(3):301-12. doi: 10.2217/whe.13.20. PMID: 23638785. **Exclusion reason:** Sample size <20
1163. Pekmezi DW, Williams DM, Dunsiger S, et al. Feasibility of using computer-tailored and internet-based interventions to promote physical activity in underserved populations. *Telemed J E Health*. 2010 May;16(4):498-503. doi: 10.1089/tmj.2009.0135. PMID: 20507203. **Exclusion reason:** Ineligible comparison
1164. Peltier AE. Addressing cervical cancer disparities among American Indian women: Implementing an educational module for healthcare providers. *Dissertation abstracts international*. 2016;76(8-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1165. Pelto DJ, Sly JR, Winkel G, et al. Predicting colonoscopy completion among African American and Latino/a participants in a patient navigation program. *J Racial Ethn Health Disparities*. 2015 Mar;2(1):101-11. doi: 10.1007/s40615-014-0053-z. PMID: 25893157. **Exclusion reason:** Ineligible intervention
1166. Penman-Aguilar A, Bouye K, Liburd L. Background and Rationale. *MMWR: Morbidity & Mortality Weekly Report - Supplement*. 2016 Feb 12;65(1):2-3. doi: 10.15585/mmwr.su6501a2. PMID: 26916567. **Exclusion reason:** Ineligible publication type
1167. Percac-Lima S, Ashburner JM, Bond B, et al. Decreasing disparities in breast cancer screening in refugee women using culturally tailored patient navigation. *J Gen Intern Med*. 2013 Nov;28(11):1463-8. doi: 10.1007/s11606-013-2491-4. PMID: 23686510. **Exclusion reason:** Ineligible comparison
1168. Percac-Lima S, Ashburner JM, Grant R, et al. The impact of patient navigation on decreasing disparities in cancer screening in a large primary care network. *J Gen Intern Med*. 2010;25(3):S406-S7. **Exclusion reason:** Ineligible study design
1169. Percac-Lima S, Ashburner JM, McCarthy AM, et al. Patient navigation to improve follow-up of abnormal mammograms among disadvantaged women. *J Womens Health (Larchmt)*. 2015 Feb 1;24(2):138-43. doi: 10.1089/jwh.2014.4954. PMID: 25522246. **Exclusion reason:** Ineligible study design

1170. Percac-Lima S, Ashburner JM, Zai AH, et al. Patient navigation for comprehensive cancer screening in high-risk patients using a population-based health information technology system: A randomized clinical trial. *JAMA Internal Medicine*. 2016 Jul 01;176(7):930-7. doi: 10.1001/jamainternmed.2016.0841. PMID: 27273602. **Exclusion reason:** Ineligible population
1171. Perez-Escamilla R, Hromi-Fiedler A, Vega-Lopez S, et al. Impact of peer nutrition education on dietary behaviors and health outcomes among Latinos: a systematic literature review. *J Nutr Educ Behav*. 2008 Jul-Aug;40(4):208-25. doi: 10.1016/j.jneb.2008.03.011. PMID: 18565462. **Exclusion reason:** Ineligible intervention
1172. Petereit DG, Guadagnolo BA, Wong R, et al. Addressing cancer disparities among American Indians through innovative technologies and patient navigation: the walking forward experience. *Front Oncol*. 2011;1:11. doi: 10.3389/fonc.2011.00011. PMID: 22649752. **Exclusion reason:** Ineligible publication type
1173. Peterson E, Yancy CW. Eliminating racial and ethnic disparities in cardiac care. *N Engl J Med*. 2009 Mar 19;360(12):1172-4. doi: 10.1056/NEJMp0810121. PMID: 19297569. **Exclusion reason:** Ineligible publication type
1174. Peterson K, McCleery E, Waldrip K. VA Evidence-based Synthesis Program Reports. Evidence Brief: Update on Prevalence of and Interventions to Reduce Racial and Ethnic Disparities within the VA. VA Evidence-based Synthesis Program Evidence Briefs. Washington (DC): Department of Veterans Affairs (US); 2011. **Exclusion reason:** Systematic review used to identify primary studies
1175. Phelan S, Hagobian T, Brannen A, et al. Effect of an Internet-Based Program on Weight Loss for Low-Income Postpartum Women: A Randomized Clinical Trial. *JAMA*. 2017 Jun 20;317(23):2381-91. doi: 10.1001/jama.2017.7119. PMID: 28632867. **Exclusion reason:** Ineligible setting
1176. Phillips JM, Cohen MZ, Moses G. Breast cancer screening and African American women: fear, fatalism, and silence. *Oncol Nurs Forum*. 1999 Apr;26(3):561-71. PMID: 10214597. **Exclusion reason:** Ineligible comparison
1177. Phillips-Angeles E, Song L, Hannon PA, et al. Fostering partnerships and program success. *Cancer*. 2013 Aug 01;119 Suppl 15:2884-93. doi: 10.1002/cncr.28157. PMID: 23868483. **Exclusion reason:** Ineligible outcome
1178. Pipe A. Smoking cessation: primacy in cardiovascular disease prevention. *Curr Opin Cardiol*. 2008 Sep;23(5):462-4. doi: 10.1097/HCO.0b013e32830bfa75. PMID: 18670257. **Exclusion reason:** Ineligible publication type
1179. Piper ME, Cook JW, Schlam TR, et al. Gender, race, and education differences in abstinence rates among participants in two randomized smoking cessation trials. *Nicotine & Tobacco Research*. 2010 Jun;12(6):647-57. doi: 10.1093/ntr/ntq067. PMID: 20439385. **Exclusion reason:** Ineligible outcome
1180. Plescia M, Herrick H, Chavis L. Improving health behaviors in an African American community: the Charlotte racial and ethnic approaches to community health project. *Am J Public Health*. 2008 Sep;98(9):1678-84. doi: 10.2105/AJPH.2007.125062. PMID: 18633087. **Exclusion reason:** Ineligible setting
1181. Plescia M, White MC. The National Prevention Strategy and breast cancer screening: scientific evidence for public health action. *Am J Public Health*. 2013 Sep;103(9):1545-8. doi: 10.2105/AJPH.2013.301305. PMID: 23865665. **Exclusion reason:** Ineligible publication type
1182. Plourde N, Brown HK, Vigod S, et al. Contextual factors associated with uptake of breast and cervical cancer screening: A systematic review of the literature. *Women Health*. 2016 Nov-Dec;56(8):906-25. doi: 10.1080/03630242.2016.1145169. PMID: 26812962. **Exclusion reason:** Systematic review used to identify primary studies

1183. Pollack AE, Tsu VD. Preventing cervical cancer in low-resource settings: building a case for the possible. *Int J Gynaecol Obstet*. 2005 May;89 Suppl 2:S1-3. PMID: 15823261. **Exclusion reason:** Ineligible publication type
1184. Pollak KI, Yarnall KS, Rimer BK, et al. Factors associated with patient-recalled smoking cessation advice in a low-income clinic. *J Natl Med Assoc*. 2002 May;94(5):354-63. PMID: 12069216. **Exclusion reason:** Ineligible outcome
1185. Pomeranz JL, Yang YT. The affordable care act and state coverage of clinical preventive health services for working-age adults. *J Public Health Manag Pract*. 2015 Jan-Feb;21(1):87-95. doi: 10.1097/PHH.0000000000000102. PMID: 24787498. **Exclusion reason:** Ineligible publication type
1186. Poston WS, 2nd, Haddock CK, Olvera NE, et al. Evaluation of a culturally appropriate intervention to increase physical activity. *Am J Health Behav*. 2001 Jul-Aug;25(4):396-406. PMID: 11488550. **Exclusion reason:** Ineligible population
1187. Potera C. Delaware eliminates racial disparities in colorectal cancer. *Am J Nurs*. 2013 Jul;113(7):16. doi: 10.1097/01.NAJ.0000431904.27355.62. PMID: 23803918. **Exclusion reason:** Ineligible publication type
1188. Potter MB, Ackerson LM, Gomez V, et al. Effectiveness and reach of the FLU-FIT program in an integrated health care system: a multisite randomized trial. *Am J Public Health*. 2013 Jun;103(6):1128-33. doi: 10.2105/ajph.2012.300998. PMID: 23597357. **Exclusion reason:** Ineligible population
1189. Potter MB, Walsh JM, Yu TM, et al. The effectiveness of the FLU-FOBT program in primary care a randomized trial. *Am J Prev Med*. 2011 Jul;41(1):9-16. doi: 10.1016/j.amepre.2011.03.011. PMID: 21665058. **Exclusion reason:** Ineligible study design
1190. Potter SJ, Mauldin PD, Hill HA. Access to and participation in breast cancer screening: a review of recent literature. *Clin Perform Qual Health Care*. 1996 Apr-Jun;4(2):74-85. PMID: 10156946. **Exclusion reason:** Ineligible publication type
1191. Powers BJ, King JL, Ali R, et al. The Cholesterol, Hypertension, and Glucose Education (CHANGE) study for African Americans with diabetes: study design and methodology. *Am Heart J*. 2009 Sep;158(3):342-8. doi: 10.1016/j.ahj.2009.06.026. PMID: 19699855. **Exclusion reason:** Ineligible outcome
1192. Preston MA, Glover-Collins K, Ross L, et al. Colorectal cancer screening in rural and poor-resourced communities. *Am J Surg*. 2018 08;216(2):245-50. doi: <https://dx.doi.org/10.1016/j.amjsurg.2017.08.004>. PMID: 28842164. **Exclusion reason:** Ineligible setting
1193. Price-Haywood EG, Harden-Barrios J, Cooper LA. Comparative effectiveness of audit-feedback versus additional physician communication training to improve cancer screening for patients with limited health literacy. *J Gen Intern Med*. 2014 Aug;29(8):1113-21. doi: 10.1007/s11606-014-2782-4. PMID: 24590734. **Exclusion reason:** Ineligible comparison
1194. Pullen E, Perry B, Oser C. African American women's preventative care usage: the role of social support and racial experiences and attitudes. *Sociol Health Illn*. 2014 Sep;36(7):1037-53. doi: 10.1111/1467-9566.12141. PMID: 24749849. **Exclusion reason:** Ineligible study design
1195. Quinn ME, Guion WK. A faith-based and cultural approach to promoting self-efficacy and regular exercise in older African American women. *Gerontol Geriatr Educ*. 2010;31(1):1-18. doi: 10.1080/02701960903578311. PMID: 20390624. **Exclusion reason:** Ineligible outcome
1196. Quiñones AR, O'Neil M, Saha S, et al. Interventions to Reduce Racial and Ethnic Disparities. VA-ESP Project #05-225; 2011. **Exclusion reason:** Background information only

1197. Quiñones AR, O'Neil M, Saha S, et al. VA Evidence-based Synthesis Program Reports. Interventions to Improve Minority Health Care and Reduce Racial and Ethnic Disparities. Washington (DC): Department of Veterans Affairs (US); 2011. **Exclusion reason:** Background information only
1198. Quintiliani LM, Russinova ZL, Bloch PP, et al. Patient navigation and financial incentives to promote smoking cessation in an underserved primary care population: A randomized controlled trial protocol. *Contemp Clin Trials*. 2015 Nov;45(Pt B):449-57. doi: 10.1016/j.cct.2015.09.005. PMID: 26362691. **Exclusion reason:** Ineligible publication type
1199. Rabius V, Wiatrek D, McAlister AL. African American participation and success in telephone counseling for smoking cessation. *Nicotine & Tobacco Research*. 2012 Feb;14(2):240-2. doi: 10.1093/ntr/ntr129. PMID: 21778152. **Exclusion reason:** Ineligible setting
1200. Rafie C, Ayers A, Cadet D, et al. Reaching hard to reach populations with hard to communicate messages: Efficacy of a breast health research champion training program. *J Cancer Educ*. 2015 Sep;30(3):599-606. doi: 10.1007/s13187-014-0720-0. PMID: 25171905. **Exclusion reason:** Ineligible outcome
1201. Raich PC, Whitley EM, Thorland W, et al. Patient navigation improves cancer diagnostic resolution: an individually randomized clinical trial in an underserved population. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1629-38. doi: 10.1158/1055-9965.Epi-12-0513. PMID: 23045537. **Exclusion reason:** Ineligible outcome
1202. Rajjo T, Mohammed K, Rho J, et al. On-the-farm cardiovascular risk screening among migrant agricultural workers in Southeast Minnesota: a pilot prospective study. *BMJ Open*. 2018 Jul 30;8(7):e019547. doi: <https://dx.doi.org/10.1136/bmjopen-2017-019547>. PMID: 30061429. **Exclusion reason:** Ineligible outcome
1203. Ramachandran A, Freund KM, Bak SM, et al. Multiple barriers delay care among women with abnormal cancer screening despite patient navigation. *J Womens Health*. 2015 Jan;24(1):30-6. doi: 10.1089/jwh.2014.4869. PMID: 25513858. **Exclusion reason:** Ineligible population
1204. Ramondetta LM, Meyer LA, Schmeler KM, et al. Avoidable tragedies: Disparities in healthcare access among medically underserved women diagnosed with cervical cancer. *Gynecol Oncol*. 2015 Dec;139(3):500-5. doi: 10.1016/j.ygyno.2015.10.017. PMID: 26498912. **Exclusion reason:** Ineligible population
1205. Ranney L, Melvin C, Lux L, et al. Systematic review: smoking cessation intervention strategies for adults and adults in special populations. *Ann Intern Med*. 2006 Dec 5;145(11):845-56. PMID: 16954352. **Exclusion reason:** Systematic review used to identify primary studies
1206. Rapkin BD, Weiss E, Lounsbury D, et al. Reducing disparities in cancer screening and prevention through community-based participatory research partnerships with local libraries: A comprehensive dynamic trial. *Am J Community Psychol*. 2017 Sep;60(1-2):145-59. doi: 10.1002/ajcp.12161. PMID: 28913882. **Exclusion reason:** Ineligible outcome
1207. Ravenell J, Thompson H, Cole H, et al. A novel community-based study to address disparities in hypertension and colorectal cancer: a study protocol for a randomized control trial. *Trials [Electronic Resource]*. 2013 Sep 08;14:287. doi: 10.1186/1745-6215-14-287. PMID: 24011142. **Exclusion reason:** Ineligible publication type
1208. Rawaf MM, Kressin NR. Exploring racial and sociodemographic trends in physician behavior, physician trust and their association with blood pressure control. *J Natl Med Assoc*. 2007 Nov;99(11):1248-54. PMID: 18020100. **Exclusion reason:** Ineligible intervention

1209. Raymond D. United States of harm reduction. The politics, the money, the health care, the future. Posit Aware. 2005 Jul-Aug;16(4):22-4. PMID: 16110540. **Exclusion reason:** Ineligible publication type
1210. Recio-Boiles A, Karass M, Galeas JN, et al. Implementation of a Low-Cost Quality Improvement Intervention Increases Adherence to Cancer Screening Guidelines and Reduces Healthcare Costs at a University Medical Center. J Cancer Educ. 2019 May 15;15:15. doi: <https://dx.doi.org/10.1007/s13187-019-01544-z>. PMID: 31093906. **Exclusion reason:** Ineligible population
1211. Reding DJ, Lappe KA, Krueger M, et al. Cancer screening and prevention in rural Wisconsin: the Greater Marshfield Experience. Wis Med J. 1997 Aug;96(8):32-7. PMID: 9283263. **Exclusion reason:** Ineligible publication type
1212. Redwood D, Holman L, Zandman-Zeman S, et al. Collaboration to increase colorectal cancer screening among low-income uninsured patients. Prev Chronic Dis. 2011 May;8(3):A69. PMID: 21477509. **Exclusion reason:** Ineligible intervention
1213. Redwood D, Provost E, Perdue D, et al. The last frontier: innovative efforts to reduce colorectal cancer disparities among the remote Alaska Native population. Gastrointest Endosc. 2012 Mar;75(3):474-80. doi: 10.1016/j.gie.2011.12.031. PMID: 22341095. **Exclusion reason:** Ineligible publication type
1214. Rees CA. Patient and provider factors, patient-reported racial/ethnic discrimination in the healthcare setting, and quality of care in the diabetes study of Northern California (distance). Dissertation abstracts international. 2011;71(10-B):6074. **Exclusion reason:** Ineligible publication type
1215. Rees I, Jones D, Chen H, et al. Interventions to improve the uptake of cervical cancer screening among lower socioeconomic groups: A systematic review. Prev Med. 2018 06;111:323-35. doi: <https://dx.doi.org/10.1016/j.ypmed.2017.11.019>. PMID: 29203349. **Exclusion reason:** Systematic review used to identify primary studies
1216. Reichard A, Saunders MD, Saunders RR, et al. A comparison of two weight management programs for adults with mobility impairments. Disabil Health J. 2015 Jan;8(1):61-9. doi: 10.1016/j.dhjo.2014.08.002. PMID: 25242059. **Exclusion reason:** Ineligible population
1217. Reinschmidt KM, Teufel-Shone NI, Bradford G, et al. Taking a broad approach to public health program adaptation: adapting a family-based diabetes education program. J Prim Prev. 2010 Apr;31(1-2):69-83. doi: 10.1007/s10935-010-0208-6. PMID: 20140646. **Exclusion reason:** Ineligible publication type
1218. Reschovsky JD, Boukus ER. Modest and uneven: physician efforts to reduce racial and ethnic disparities. Issue Brief/Center for Studying Health System Change. 2010 Feb(130):1-6. PMID: 20201157. **Exclusion reason:** Ineligible publication type
1219. Resnick B, Shaughnessy M, Galik E, et al. Pilot testing of the PRAISED intervention among African American and low-income older adults. J Cardiovasc Nurs. 2009 Sep-Oct;24(5):352-61. doi: 10.1097/JCN.0b013e3181ac0301. PMID: 19652618. **Exclusion reason:** Ineligible population
1220. Reuben DB, Bassett LW, Hirsch SH, et al. A randomized clinical trial to assess the benefit of offering on-site mobile mammography in addition to health education for older women. AJR Am J Roentgenol. 2002 Dec;179(6):1509-14. doi: 10.2214/ajr.179.6.1791509. PMID: 12438046. **Exclusion reason:** Ineligible setting

1221. Rhee MK, Ziemer DC, Caudle J, et al. Use of a uniform treatment algorithm abolishes racial disparities in glycemic control. *The Diabetes Educator*. 2008 Jul-Aug;34(4):655-63. doi: 10.1177/0145721708320903. PMID: 18669807. **Exclusion reason:** Ineligible population
1222. Ricci-Cabello I, Olry de Labry-Lima A, Bolivar-Munoz J, et al. Effectiveness of two interventions based on improving patient-practitioner communication on diabetes self-management in patients with low educational level: study protocol of a clustered randomized trial in primary care. *BMC Health Serv Res*. 2013 Oct 23;13:433. doi: 10.1186/1472-6963-13-433. PMID: 24153053. **Exclusion reason:** Ineligible publication type
1223. Rice K, Gressard L, DeGroff A, et al. Increasing colonoscopy screening in disparate populations: Results from an evaluation of patient navigation in the New Hampshire Colorectal Cancer Screening Program. *Cancer*. 2017 Sep 01;123(17):3356-66. doi: 10.1002/cncr.30761. PMID: 28464213. **Exclusion reason:** Ineligible study design
1224. Richards CA, Kerker BD, Thorpe L, et al. Increased screening colonoscopy rates and reduced racial disparities in the New York Citywide campaign: an urban model. *Am J Gastroenterol*. 2011 Nov;106(11):1880-6. doi: 10.1038/ajg.2011.191. PMID: 22056567. **Exclusion reason:** Ineligible setting
1225. Rick R. Marketplace clinics complementing community-based diabetes care for urban residing American Indians. *Dissertation abstracts international*. 2016;76(11-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1226. Rick R, Hoyer RE, Thron RW, et al. Marketplace clinics complementing diabetes care for urban residing American Indians. *J Prim Care Community Health*. 2017 Oct;8(4):198-205. doi: 10.1177/2150131917720556. PMID: 28707507. **Exclusion reason:** Ineligible population
1227. Rickel KA. Response of African-American and Caucasian women in a rural setting to a lifestyle intervention for obesity. *Dissertation abstracts international*. 2010;70(12-B):7862. **Exclusion reason:** Ineligible publication type
1228. Riehman KS, Fisher-Borne M, Martinez JM, et al. A Community Health Advisor Program to Reduce Cancer Screening Disparities in the Deep South and Appalachia: The American Cancer Society's CHA Collaborative. *Health Promotion Practice*. 2017 Sep;18(5):734-40. doi: 10.1177/1524839917696712. PMID: 28812927. **Exclusion reason:** Ineligible outcome
1229. Rimer BK, Conaway M, Lyna P, et al. The impact of tailored interventions on a community health center population. *Patient Educ Couns*. 1999 Jun;37(2):125-40. PMID: 14528540. **Exclusion reason:** Ineligible outcome
1230. Rimmer JH, Hsieh K, Graham BC, et al. Barrier removal in increasing physical activity levels in obese African American women with disabilities. *J Womens Health*. 2010 Oct;19(10):1869-76. doi: 10.1089/jwh.2010.1941. PMID: 20815739. **Exclusion reason:** Ineligible population
1231. Robinson CD, Muench C, Brede E, et al. Effect of attentional retraining on cognition, craving, and smoking in African American smokers. *Psychol Addict Behav*. 2017 Aug;31(5):636-46. doi: 10.1037/adb0000286. PMID: 28627913. **Exclusion reason:** Ineligible setting
1232. Rodriguez KL, Appelt CJ, Young AJ, et al. African American veterans' experiences with mobile geriatric care. *J Health Care Poor Underserved*. 2007 Feb;18(1):44-53. PMID: 17337796. **Exclusion reason:** Sample size <20
1233. Rodriguez VM, Conway TL, Woodruff SI, et al. Pilot test of an assessment instrument for Latina community health advisors conducting an ETS intervention. *J Immigr Health*. 2003 Jul;5(3):129-37. PMID: 14512767. **Exclusion reason:** Ineligible outcome

1234. Rogers CR, Goodson P, Foster MJ. Factors Associated with Colorectal Cancer Screening among Younger African American Men: A Systematic Review. *J Health Dispar Res Pract.* 2015;8(3):133-56. PMID: 26435888. **Exclusion reason:** Ineligible study design
1235. Rogers CR, Robinson CD, Arroyo C, et al. Colorectal Cancer Screening Uptake's Association With Psychosocial and Sociodemographic Factors Among Homeless Blacks and Whites. *Health Educ Behav.* 2017 12;44(6):928-36. doi: <https://dx.doi.org/10.1177/1090198117734284>. PMID: 28978252. **Exclusion reason:** Ineligible study design
1236. Roland KB, Milliken EL, Rohan EA, et al. Use of community health workers and patient navigators to improve cancer outcomes among patients served by federally qualified health centers: a systematic literature review. *Health Equity.* 2017;1(1):61-76. doi: <https://dx.doi.org/10.1089/heq.2017.0001>. PMID: 28905047. **Exclusion reason:** Systematic review used to identify primary studies
1237. Roman L, Meghea C, Ford S, et al. Individual, provider, and system risk factors for breast and cervical cancer screening among underserved Black, Latina, and Arab women. *J Womens Health.* 2014 Jan;23(1):57-64. doi: 10.1089/jwh.2013.4397. PMID: 24283674. **Exclusion reason:** Ineligible study design
1238. Rosamond WD, Ammerman AS, Holliday JL, et al. Cardiovascular disease risk factor intervention in low-income women: the North Carolina WISEWOMAN project. *Prev Med.* 2000 Oct;31(4):370-9. doi: 10.1006/pmed.2000.0726. PMID: 11006062. **Exclusion reason:** Ineligible population
1239. Roubidoux MA, Shih-Pei Wu P, Nolte ELR, et al. Availability of prior mammograms affects incomplete report rates in mobile screening mammography. *Breast Cancer Res Treat.* 2018 Oct;171(3):667-73. doi: <https://dx.doi.org/10.1007/s10549-018-4861-4>. PMID: 29951970. **Exclusion reason:** Ineligible outcome
1240. Ruffin MTt, Gorenflo DW. Interventions fail to increase cancer screening rates in community-based primary care practices. *Prev Med.* 2004 Sep;39(3):435-40. doi: 10.1016/j.ypmed.2004.04.055. PMID: 15313081. **Exclusion reason:** Ineligible population
1241. Ruggieri DG, Bass SB, Rovito MJ, et al. Perceived colonoscopy barriers and facilitators among urban African American patients and their medical residents. *J Health Commun.* 2013;18(4):372-90. doi: 10.1080/10810730.2012.727961. PMID: 23343400. **Exclusion reason:** Ineligible study design
1242. Russo ET, Reid M, Taher R, et al. Referral Strategies to a Tobacco Quitline and Racial and/or Ethnic Differences in Participation. *Pediatrics.* 2018 01;141(Suppl 1):S30-S9. doi: <https://dx.doi.org/10.1542/peds.2017-1026G>. PMID: 29292304. **Exclusion reason:** Ineligible outcome
1243. Rutledge W, Gibson R, Siegel E, et al. Arkansas Special Populations Access Network perception versus reality--cancer screening in primary care clinics. *Cancer.* 2006 Oct 15;107(8 Suppl):2052-60. PMID: 16977601. **Exclusion reason:** Ineligible outcome
1244. Sabado P, Jo A, Kagawa-Singer M, et al. Community collaborative for colorectal cancer screening in Los Angeles Koreatown. *J Health Care Poor Underserved.* 2015 May;26(2 Suppl):164-70. doi: 10.1353/hpu.2015.0053. PMID: 25981096. **Exclusion reason:** Ineligible publication type
1245. Sabatino SA, Lawrence B, Elder R, et al. Effectiveness of interventions to increase screening for breast, cervical, and colorectal cancers: nine updated systematic reviews for the guide to community preventive services. *Am J Prev Med.* 2012 Jul;43(1):97-118. doi: 10.1016/j.amepre.2012.04.009. PMID: 22704754. **Exclusion reason:** Systematic review used to identify primary studies

1246. Sabik LM, Bradley CJ. The impact of near-universal insurance coverage on breast and cervical cancer screening: Evidence from Massachusetts. *Health Econ.* 2016 Apr;25(4):391-407. doi: 10.1002/hec.3159. PMID: 25693869. **Exclusion reason:** Background information only
1247. Saha S. The relevance of cultural distance between patients and physicians to racial disparities in health care. *J Gen Intern Med.* 2006 Feb;21(2):203-5. doi: 10.1111/j.1525-1497.2006.0345.x. PMID: 16606385. **Exclusion reason:** Ineligible publication type
1248. Saha S, Fernandez A, Perez-Stable E. Reducing language barriers and racial/ethnic disparities in health care: an investment in our future. *J Gen Intern Med.* 2007 Nov;22 Suppl 2:371-2. doi: 10.1007/s11606-007-0372-4. PMID: 17896164. **Exclusion reason:** Ineligible publication type
1249. Saha S, Freeman M, Toure J, et al. Racial and ethnic disparities in the VA health care system: a systematic review. *J Gen Intern Med.* 2008 May;23(5):654-71. doi: 10.1007/s11606-008-0521-4. PMID: 18301951. **Exclusion reason:** Background information only
1250. Salihu HM, Adegoke KK, Das R, et al. Community-based fortified dietary intervention improved health outcomes among low-income African-American women. *Nutr Res.* 2016 Aug;36(8):771-9. doi: 10.1016/j.nutres.2016.04.006. PMID: 27440531. **Exclusion reason:** Ineligible outcome
1251. Samuel PS, Pringle JP, James NWt, et al. Breast, cervical, and colorectal cancer screening rates amongst female Cambodian, Somali, and Vietnamese immigrants in the USA. *Int J Equity Health.* 2009 Aug 14;8:30. doi: 10.1186/1475-9276-8-30. PMID: 19682356. **Exclusion reason:** Ineligible outcome
1252. Sanders J, Guse C, Onuoha BC. Pilot study of a new model for managing hypertension in an uninsured population. *J Prim Care Community Health.* 2013 Jan;4(1):44-9. doi: 10.1177/2150131912451742. PMID: 23799689. **Exclusion reason:** Ineligible population
1253. Sanders Thompson VL, Drake B, James AS, et al. A Community Coalition to Address Cancer Disparities: Transitions, Successes and Challenges. *J Cancer Educ.* 2015 Dec;30(4):616-22. doi: 10.1007/s13187-014-0746-3. PMID: 25351452. **Exclusion reason:** Ineligible publication type
1254. Sarfaty M, Feng S. Uptake of colorectal cancer screening in an uninsured population. *Prev Med.* 2005 Sep-Oct;41(3-4):703-6. PMID: 16126268. **Exclusion reason:** Ineligible outcome
1255. Sarfaty M, Feng S. Choice of screening modality in a colorectal cancer education and screening program for the uninsured. *J Cancer Educ.* 2006 Spr;21(1):43-9. doi: 10.1207/s15430154jcBackground101_14. PMID: 16918290. **Exclusion reason:** Ineligible outcome
1256. Sauaia A, Min SJ, Lack D, et al. Church-based breast cancer screening education: impact of two approaches on Latinas enrolled in public and private health insurance plans. *Prev Chronic Dis.* 2007 Oct;4(4):A99. PMID: 17875274. **Exclusion reason:** Ineligible study design
1257. Saunders DR, Holt CL, Whitehead TL, et al. Development of the men's prostate awareness church training: church-based workshops for African American men. *Fam Community Health.* 2013 Jul-Sep;36(3):224-35. doi: 10.1097/FCH.0b013e318292eb40. PMID: 23718958. **Exclusion reason:** Ineligible intervention
1258. Scheel JR, Tillack AA, Mercer L, et al. Mobile Versus Fixed Facility: Latinas' Attitudes and Preferences for Obtaining a Mammogram. *J Am Coll Radiol.* 2018 01;15(1 Pt A):19-28. doi: <https://dx.doi.org/10.1016/j.jacr.2017.08.030>. PMID: 29055611. **Exclusion reason:** Ineligible outcome

1259. Schulz AJ, Israel BA, Mentz GB, et al. Effectiveness of a walking group intervention to promote physical activity and cardiovascular health in predominantly non-Hispanic black and Hispanic urban neighborhoods: findings from the walk your heart to health intervention. *Health Educ Behav.* 2015 Jun;42(3):380-92. doi: 10.1177/1090198114560015. PMID: 25819980. **Exclusion reason:** Ineligible setting
1260. Scott S, D'Silva J, Hernandez C, et al. The Tribal Tobacco Education and Policy Initiative: Findings From a Collaborative, Participatory Evaluation. *Health Promotion Practice.* 2017 07;18(4):545-53. doi: 10.1177/1524839916672632. PMID: 27744374. **Exclusion reason:** Ineligible outcome
1261. Selby K, Baumgartner C, Levin TR, et al. Interventions to Improve Follow-up of Positive Results on Fecal Blood Tests: A Systematic Review. *Ann Intern Med.* 2017 Oct 17;167(8):565-75. doi: 10.7326/m17-1361. PMID: 29049756. **Exclusion reason:** Systematic review used to identify primary studies
1262. Seo DC. Lessons learned from a black and minority health fair's 15-month follow-up counseling. *J Natl Med Assoc.* 2011 Sep-Oct;103(9-10):897-906. PMID: 22364058. **Exclusion reason:** Ineligible outcome
1263. Sheffer CE, Bickel WK, Franck CT, et al. Improving tobacco dependence treatment outcomes for smokers of lower socioeconomic status: A randomized clinical trial. *Drug Alcohol Depend.* 2017 Dec;181:177-85. doi: 10.1016/j.drugalcdep.2017.09.015. PMID: 29065390. **Exclusion reason:** Ineligible comparison
1264. Shelley D, Nguyen N, Peng CH, et al. Increasing access to evidence-based smoking cessation treatment: effectiveness of a free nicotine patch program among Chinese immigrants. *J Immigr Minor Health.* 2010 Apr;12(2):198-205. doi: 10.1007/s10903-008-9194-7. PMID: 18825498. **Exclusion reason:** Ineligible outcome
1265. Shenson D, Cassarino L, DiMartino D, et al. Improving access to mammograms through community-based influenza clinics. A quasi-experimental study. *Am J Prev Med.* 2001 Feb;20(2):97-102. PMID: 11165449. **Exclusion reason:** Ineligible population
1266. Shike M, Schattner M, Genao A, et al. Expanding colorectal cancer screening among minority women. *Cancer.* 2011 Jan;117(1):70-6. doi: 10.1002/cncr.25566. PMID: 21170901. **Exclusion reason:** Ineligible outcome
1267. Shirazi M, Shirazi A, Bloom J. Developing a culturally competent faith-based framework to promote breast cancer screening among Afghan immigrant women. *J Relig Health.* 2015 Feb;54(1):153-9. doi: 10.1007/s10943-013-9793-z. PMID: 24198047. **Exclusion reason:** Ineligible outcome
1268. Shokar NK, Carlson CA, Weller SC. Factors associated with racial/ethnic differences in colorectal cancer screening. *J Am Board Fam Med.* 2008 Sep-Oct;21(5):414-26. doi: 10.3122/jabfm.2008.05.070266. PMID: 18772296. **Exclusion reason:** Ineligible study design
1269. Shusted CS, Barta JA, Lake M, et al. The Case for Patient Navigation in Lung Cancer Screening in Vulnerable Populations: A Systematic Review. *Population Health Management.* 2018 Nov 08;08:08. doi: <https://dx.doi.org/10.1089/pop.2018.0128>. PMID: 30407102. **Exclusion reason:** Systematic review used to identify primary studies
1270. Siba Y, Culpepper-Morgan J, Schechter M, et al. A decade of improved access to screening is associated with fewer colorectal cancer deaths in African Americans: a single-center retrospective study. *Annals of Gastroenterology.* 2017;30(5):518-25. doi: 10.20524/aog.2017.0155. PMID: 28845107. **Exclusion reason:** Ineligible study design
1271. Siddaiah R, Roberts JE, Graham L, et al. Community health screenings can complement public health outreach to minority immigrant communities. *Progress in Community Health Partnerships.* 2014;8(4):433-9. doi: 10.1353/cpr.2014.0070. PMID: 25727975. **Exclusion reason:** Ineligible intervention

1272. Siegel RL, Jemal A, Wender RC, et al. An assessment of progress in cancer control. *CA Cancer J Clin*. 2018 09;68(5):329-39. doi: <https://dx.doi.org/10.3322/caac.21460>. PMID: 30191964. **Exclusion reason:** Ineligible publication type
1273. Silva A, Molina Y, Hunt B, et al. Potential impact of the Affordable Care Act's preventive services provision on breast cancer stage: A preliminary assessment. *Cancer Epidemiol*. 2017 08;49:108-11. doi: 10.1016/j.canep.2017.05.015. PMID: 28601783. **Exclusion reason:** Ineligible study design
1274. Simon K, Soni A, Cawley J. The Impact of Health Insurance on Preventive Care and Health Behaviors: Evidence from the First Two Years of the ACA Medicaid Expansions. *J Policy Anal Manage*. 2017;36(2):390-417. PMID: 28378959. **Exclusion reason:** Ineligible study design
1275. Sims M, Diez-Roux AV, Dudley A, et al. Perceived discrimination and hypertension among African Americans in the Jackson Heart Study. *Am J Public Health*. 2012 May;102(Suppl 2):S258-S65. doi: 10.2105/AJPH.2011.300523. PMID: 22401510. **Exclusion reason:** Ineligible outcome
1276. Slater JS, Henly GA, Ha CN, et al. Effect of direct mail as a population-based strategy to increase mammography use among low-income underinsured women ages 40 to 64 years. *Cancer Epidemiol Biomarkers Prev*. 2005 Oct;14(10):2346-52. PMID: 16214915. **Exclusion reason:** Ineligible outcome
1277. Sly JR, Edwards T, Shelton RC, et al. Identifying barriers to colonoscopy screening for nonadherent African American participants in a patient navigation intervention. *Health Educ Behav*. 2013 Aug;40(4):449-57. doi: 10.1177/1090198112459514. PMID: 23086556. **Exclusion reason:** Sample size <20
1278. Smith ED, Merritt SL, Patel MK. Church-based education: an outreach program for African Americans with hypertension. *Ethn Health*. 1997 Aug;2(3):243-53. doi: 10.1080/13557858.1997.9961832. PMID: 9426988. **Exclusion reason:** Ineligible population
1279. Smith JL, Wilson KM, Orians CE, et al. AMIGAS: building a cervical cancer screening intervention for public health practice. *J Womens Health*. 2013 Sep;22(9):718-23. doi: 10.1089/jwh.2013.4467. PMID: 23930983. **Exclusion reason:** Ineligible publication type
1280. Solomon LJ, Marcy TW, Howe KD, et al. Does extended proactive telephone support increase smoking cessation among low-income women using nicotine patches? *Prev Med*. 2005 Mar;40(3):306-13. doi: 10.1016/j.ypmed.2004.06.005. PMID: 15533544. **Exclusion reason:** Ineligible setting
1281. Solomon LJ, Scharoun GM, Flynn BS, et al. Free nicotine patches plus proactive telephone peer support to help low-income women stop smoking. *Prev Med*. 2000 Jul;31(1):68-74. doi: 10.1006/pmed.2000.0683. PMID: 10896845. **Exclusion reason:** Ineligible setting
1282. Sommers BD, Blendon RJ, Orav EJ, et al. Changes in utilization and health among low-income adults after Medicaid expansion or expanded private insurance. *JAMA Internal Medicine*. 2016 Oct 01;176(10):1501-9. doi: 10.1001/jamainternmed.2016.4419. PMID: 27532694. **Exclusion reason:** Ineligible population
1283. Son P, Lane DS, Messina CR, et al. Impact of project SCOPE on racial/ethnic disparities in screening colonoscopies. *J Racial Ethn Health Disparities*. 2014 Jun;1(2):110-9. doi: 10.1007/s40615-014-0016-4. **Exclusion reason:** Ineligible study design

1284. Spanos D, Hankey C, Boyle S, et al. Comparing the effectiveness of a multi-component weight loss intervention in adults with and without intellectual disabilities. *J Hum Nutr Diet*. 2014 Feb;27(1):22-9. doi: 10.1111/jhn.12051. PMID: 23531190. **Exclusion reason:** Ineligible population
1285. Spruill TM, Williams O, Teresi JA, et al. Comparative effectiveness of home blood pressure telemonitoring (HBPTM) plus nurse case management versus HBPTM alone among Black and Hispanic stroke survivors: study protocol for a randomized controlled trial. *Trials [Electronic Resource]*. 2015 Mar 15;16:97. doi: 10.1186/s13063-015-0605-5. PMID: 25873044. **Exclusion reason:** Ineligible publication type
1286. Sros L. Travel distance, rurality and area socioeconomic position as predictors of screening colonoscopy use among patients who get access to primary care practitioners. *Dissertation abstracts international*. 2010;71(5-B):3009. **Exclusion reason:** Ineligible publication type
1287. Staffileno BA, Tangney CC, Fogg L. Favorable Outcomes Using an eHealth Approach to Promote Physical Activity and Nutrition Among Young African American Women. *J Cardiovasc Nurs*. 2018 Jan/Feb;33(1):62-71. doi: <https://dx.doi.org/10.1097/JCN.0000000000000409>. PMID: 28481823. **Exclusion reason:** Ineligible comparison
1288. Steinberg DM, Levine EL, Askew S, et al. Daily text messaging for weight control among racial and ethnic minority women: randomized controlled pilot study. *J Med Internet Res*. 2013 Nov 18;15(11) Background44. doi: 10.2196/jmir.2844. PMID: 24246427. **Exclusion reason:** Ineligible setting
1289. Stewart AL, Grossman M, Bera N, et al. Multilevel perspectives on diffusing a physical activity promotion program to reach diverse older adults. *J Aging Phys Act*. 2006 Jul;14(3):270-87. PMID: 17090805. **Exclusion reason:** Ineligible outcome
1290. Stewart DL. The Baltimore Alliance for the Prevention and Control of Hypertension and Diabetes: a model for developing a colorectal cancer community outreach program. *J Assoc Acad Minor Phys*. 1999;10(3):77-9. PMID: 10826013. **Exclusion reason:** Ineligible publication type
1291. Stewart JM, Sanson-Fisher R, Eades S, et al. Aboriginal health: agreement between general practitioners and patients on their health risk status and screening history. *Aust N Z J Public Health*. 2014 Dec;38(6):563-6. doi: 10.1111/1753-6405.12289. PMID: 25377317. **Exclusion reason:** Ineligible outcome
1292. Stewart MK, Redford R, Poe K, et al. The Arkansas River Valley Rural Health Cooperative: building a three-pronged approach to improved health and health care. *J Rural Health*. 2003;19 Suppl:384-90. PMID: 14526522. **Exclusion reason:** Ineligible publication type
1293. Stichler JF, Noonan MD, Jones ML, et al. Thinking strategically about women's health. *AWHONN Lifelines*. 2001 Dec-2002 Jan;5(6):42-8. PMID: 11778464. **Exclusion reason:** Ineligible publication type
1294. Stillwater B. The Alaska Native women's wellness project. *Health Care Women Int*. 1999 Sep-Oct;20(5):487-92. PMID: 10776117. **Exclusion reason:** Ineligible publication type
1295. Stimpson JP, Pagan JA, Chen LW. Reducing racial and ethnic disparities in colorectal cancer screening is likely to require more than access to care. *Health Aff (Millwood)*. 2012 Dec;31(12):2747-54. doi: 10.1377/hlthaff.2011.1290. PMID: 23213159. **Exclusion reason:** Ineligible publication type
1296. Stimpson JP, Wilson FA, Murillo R, et al. Persistent disparities in cholesterol screening among immigrants to the United States. *Int J Equity Health*. 2012 Apr 30;11:22. doi: 10.1186/1475-9276-11-22. PMID: 22545672. **Exclusion reason:** Ineligible outcome

1297. St-Jacques S, Philibert MD, Langlois A, et al. Geographic access to mammography screening centre and participation of women in the Quebec Breast Cancer Screening Programme. *J Epidemiol Community Health*. 2013 Oct;67(10):861-7. doi: 10.1136/jech-2013-202614. PMID: 23851149. **Exclusion reason:** Ineligible study design
1298. Stojadinovic A, Summers TA, Eberhardt J, et al. Consensus recommendations for advancing breast cancer: risk identification and screening in ethnically diverse younger women. *J Cancer*. 2011 Apr 20;2:210-27. PMID: 21509152. **Exclusion reason:** Ineligible publication type
1299. Stoll CR, Roberts S, Cheng MR, et al. Barriers to mammography among inadequately screened women. *Health Educ Behav*. 2015 Feb;42(1):8-15. doi: 10.1177/1090198114529589. PMID: 24722216. **Exclusion reason:** Ineligible study design
1300. Stolley MR, Fitzgibbon ML, Schiffer L, et al. Obesity reduction black intervention trial (ORBIT): six-month results. *Obesity (Silver Spring)*. 2009 Jan;17(1):100-6. doi: 10.1038/oby.2008.488. PMID: 18997671. **Exclusion reason:** Ineligible setting
1301. Stolp H, Fox J. Increasing Receipt of Women's Preventive Services. *J Womens Health*. 2015 Nov;24(11):875-81. doi: 10.1089/jwh.2015.5552. PMID: 26447836. **Exclusion reason:** Ineligible publication type
1302. Stoltz RA, Connors K, Blum J, et al. Integrating bright futures into medical education and training. *Pediatr Ann*. 2008 Apr;37(4):244-51. PMID: 18488982. **Exclusion reason:** Ineligible publication type
1303. Stoneham L. Health versus money. *Tex Med*. 2001 Oct;97(10):34-8. PMID: 11605595. **Exclusion reason:** Ineligible publication type
1304. Stoneham L. Diabetes on a rampage. *Tex Med*. 2001 Nov;97(11):42-8. PMID: 11762088. **Exclusion reason:** Ineligible publication type
1305. Stotz S, Lee JS, Rong H, et al. The feasibility of an eLearning nutrition education program for low-income individuals. *Health Promotion Practice*. 2017 Jan;18(1):150-7. doi: 10.1177/1524839916661717. PMID: 27507265. **Exclusion reason:** Ineligible population
1306. Stranne SK. An oncology perspective on preventive services in the context of U.S. healthcare reform. *Oncology (Williston Park)*. 2011 Nov 15;25(12):1119, 22, 28 passim. PMID: 22229203. **Exclusion reason:** Ineligible publication type
1307. Stratis T. Breast cancer screening disparities in Japanese-American women. *Dissertation abstracts international*. 2009;69(7-B):4447. **Exclusion reason:** Ineligible publication type
1308. Strickland J, Strickland DL. Barriers to preventive health services for minority households in the rural south. *J Rural Health*. 1996;12(3):206-17. PMID: 10162852. **Exclusion reason:** Ineligible publication type
1309. Strumpf EC. Racial/ethnic disparities in primary care: the role of physician-patient concordance. *Med Care*. 2011 May;49(5):496-503. doi: 10.1097/MLR.0b013e31820fbee4. PMID: 21430577. **Exclusion reason:** Ineligible study design
1310. Strzelczyk JJ, Dignan MB. Disparities in adherence to recommended followup on screening mammography: interaction of sociodemographic factors. *Ethn Dis*. 2002;12(1):77-86. PMID: 11913611. **Exclusion reason:** Ineligible outcome
1311. Stuart-Shor EM, Nannini A, Ostrem M, et al. The prevalence of blood pressure and cholesterol monitoring in Boston among non-Hispanic blacks, Hispanics, and non-Hispanic whites. *Ethn Dis*. 2006;16(2):375-83. PMID: 17682238. **Exclusion reason:** Ineligible study design

1312. Stuhlmiller CM, Tolchard B. Population health outcomes of a student-led free health clinic for an underserved population: A naturalistic study. *J Community Health*. 2018 Feb;43(1):193-200. doi: 10.1007/s10900-017-0402-z. PMID: 28681281. **Exclusion reason:** Ineligible outcome
1313. Su X, Ma GX, Seals B, et al. Breast cancer early detection among Chinese women in the Philadelphia area. *J Womens Health*. 2006 Jun;15(5):507-19. PMID: 16796478. **Exclusion reason:** Ineligible study design
1314. Suarez ZE, Siefert K. Latinas and sexually transmitted diseases: implications of recent research for prevention. *Soc Work Health Care*. 1998;28(1):1-19. PMID: 9711683. **Exclusion reason:** Ineligible publication type
1315. Suba EJ, Geisinger KR, Zarka MA, et al. Prevention of cervical cancer in low-resource settings. *JAMA*. 2006 Mar 15;295(11):1248-9; author reply 9. PMID: 16537731. **Exclusion reason:** Ineligible publication type
1316. Subica AM, Agarwal N, Sullivan J, et al. Obesity and associated health disparities among understudied multiracial, Pacific Islander, and American Indian adults. *Obesity*. 2017 Dec;25(12):2128-36. doi: 10.1002/oby.21954. PMID: 29071803. **Exclusion reason:** Ineligible outcome
1317. Subrahmanian K, Petereit DG, Kanekar S, et al. Community-based participatory development, implementation, and evaluation of a cancer screening educational intervention among American Indians in the Northern Plains. *J Cancer Educ*. 2011 Sep;26(3):530-9. doi: 10.1007/s13187-011-0211-5. PMID: 21431984. **Exclusion reason:** Ineligible outcome
1318. Sudarsan NR, Jandorf L, Erwin DO. Multi-site implementation of health education programs for Latinas. *J Community Health*. 2011 Apr;36(2):193-203. doi: 10.1007/s10900-010-9297-7. PMID: 20652382. **Exclusion reason:** Ineligible setting
1319. Suh M, Choi KS, Lee HY, et al. Socioeconomic disparities in colorectal cancer screening in Korea: A nationwide cross-sectional study. *Medicine*. 2015 Sep;94(39):e1368. doi: 10.1097/MD.0000000000001368. PMID: 26426605. **Exclusion reason:** Ineligible population
1320. Sulik GA, Cameron C, Chamberlain RM. The future of the cancer prevention workforce: why health literacy, advocacy, and stakeholder collaborations matter. *J Cancer Educ*. 2012 May;27(2 Suppl):S165-72. doi: 10.1007/s13187-012-0337-0. PMID: 22311694. **Exclusion reason:** Ineligible publication type
1321. Sullivan-Marx EM, Cuesta CL, Ratcliffe SJ. Exercise among urban-dwelling older adults at risk for health disparities. *Res Gerontol Nurs*. 2008 Jan;1(1):33-41. doi: 10.3928/19404921-20080101-07. PMID: 20078016. **Exclusion reason:** Ineligible outcome
1322. Sultan-Khan LP. African American women's online evaluation of the breast cancer awareness and prevention portal of the www.DIVAhealth.org website: Using personal-level data and website ratings to tailor and improve the portal. Dissertation abstracts international. 2011;71(10-A):3546. **Exclusion reason:** Ineligible publication type
1323. Sun Y, Sarma EA, Moyer A, et al. Promoting mammography screening among Chinese American women using a message-framing intervention. *Patient Educ Couns*. 2015 Jul;98(7):878-83. doi: 10.1016/j.pec.2015.03.021. PMID: 25858632. **Exclusion reason:** Background information only
1324. Sung JF, Alema-Mensah E, Blumenthal DS. Inner-city African American women who failed to receive cancer screening following a culturally-appropriate intervention: the role of health insurance. *Cancer Detect Prev*. 2002;26(1):28-32. PMID: 12088200. **Exclusion reason:** Ineligible study design

1325. Sung JF, Blumenthal DS, Coates RJ, et al. Effect of a cancer screening intervention conducted by lay health workers among inner-city women. *Am J Prev Med.* 1997 Jan-Feb;13(1):51-7. PMID: 9037342. **Exclusion reason:** Ineligible setting
1326. Suther S, Battle AM, Battle-Jones F, et al. Utilizing health ambassadors to improve type 2 diabetes and cardiovascular disease outcomes in Gadsden County, Florida. *Eval Program Plann.* 2016 Apr;55:17-26. doi: 10.1016/j.evalprogplan.2015.11.001. PMID: 26702881. **Exclusion reason:** Ineligible population
1327. Swain SM. Building bridges to conquer cancer. *J Clin Oncol.* 2013 Oct 20;31(30):3731-6. doi: 10.1200/JCO.2013.52.6202. PMID: 24043734. **Exclusion reason:** Ineligible publication type
1328. Swan J, Breen N, Coates RJ, et al. Progress in cancer screening practices in the United States: results from the 2000 National Health Interview Survey. *Cancer.* 2003 Mar 15;97(6):1528-40. PMID: 12627518. **Exclusion reason:** Ineligible outcome
1329. Swanoski MT, Lutfiyya MN, Amaro ML, et al. Knowledge of heart attack and stroke symptomology: a cross-sectional comparison of rural and non-rural US adults. *BMC Public Health.* 2012 Jun 01;12:283. doi: 10.1186/1471-2458-12-283. PMID: 22490185. **Exclusion reason:** Ineligible outcome
1330. Swanson GM. Cancer prevention and control: a science-based public health agenda. *J Public Health Manag Pract.* 1996;2(2):1-8. PMID: 10186664. **Exclusion reason:** Ineligible publication type
1331. Swartzendruber A, Zenilman JM. A national strategy to improve sexual health. *JAMA.* 2010 Sep 01;304(9):1005-6. doi: 10.1001/jama.2010.1252. PMID: 20810379. **Exclusion reason:** Ineligible publication type
1332. Sweeney PM. Global health and national health disparities. *Health Care Law Mon.* 2001 Nov:7-16. PMID: 11794014. **Exclusion reason:** Ineligible publication type
1333. Swider SM. Outcome effectiveness of community health workers: an integrative literature review. *Public Health Nurs.* 2002 Jan-Feb;19(1):11-20. PMID: 11841678. **Exclusion reason:** Ineligible publication type
1334. Swider SM, Berkowitz B, Valentine-Maher S, et al. Engaging communities in creating health: Leveraging community benefit. *Nurs Outlook.* 2017 Sep - Oct;65(5):657-60. doi: 10.1016/j.outlook.2017.08.002. PMID: 29061253. **Exclusion reason:** Ineligible publication type
1335. Swinburn BA. Commentary: Closing the disparity gaps in obesity. *Int J Epidemiol.* 2009 Apr;38(2):509-11. doi: 10.1093/ije/dyn352. PMID: 19339260. **Exclusion reason:** Ineligible publication type
1336. Swinford PL. Advancing the health of students: a rationale for college health programs. *J Am Coll Health.* 2002 May;50(6):309-12. PMID: 12701657. **Exclusion reason:** Ineligible publication type
1337. Sy AU, Heckert KA, Jamison C, et al. Pacific CEED legacy projects and local projects: Culturally tailored promising practices to prevent breast and cervical cancer in the US affiliated Pacific Island jurisdictions. Building community capacity: Skills and principles. Hauppauge, NY: Nova Science Publishers; US; 2012:129-44. **Exclusion reason:** Ineligible publication type
1338. Sy AU, Heckert KA, Jamison C, et al. Pacific CEED legacy projects and local projects: Culturally tailored promising practices to prevent breast and cervical cancer in the US affiliated Pacific Island jurisdictions. *Public health yearbook 2013.* Hauppauge, NY: Nova Biomedical Books; US; 2014:99-114. **Exclusion reason:** Ineligible publication type
1339. Szalacha LA, Kue J, Menon U. Knowledge and Beliefs Regarding Breast and Cervical Cancer Screening Among Mexican-Heritage Latinas. *Cancer Nurs.* 2017 Sep/Oct;40(5):420-7. doi: 10.1097/NCC.0000000000000423. PMID: 27472190. **Exclusion reason:** Ineligible outcome

1340. Tabaac AR, Benotsch EG, Barnes AJ. Mediation Models of Perceived Medical Heterosexism, Provider-Patient Relationship Quality, and Cervical Cancer Screening in a Community Sample of Sexual Minority Women and Gender Nonbinary Adults. *Lgbt Health*. 2019 Feb/Mar;6(2):77-86. doi: <https://dx.doi.org/10.1089/lgbt.2018.0203>. PMID: 30720385. **Exclusion reason:** Ineligible outcome
1341. Tabak LA, Coulter RWS, Kenst KS, et al. National Institutes of Health efforts on sexual and gender minority health research. *Am J Public Health*. 2014;104(7):e7-e8. doi: 10.2105/AJPH.2014.301973. PMID: 24832419. **Exclusion reason:** Ineligible publication type
1342. Tabak RG, Morshed AB, Schwarz CD, et al. Impact of a Healthy Weight Intervention Embedded Within a National Home Visiting Program on the Home Food Environment. *Frontiers in Public Health*. 2018;6:178. doi: <https://dx.doi.org/10.3389/fpubh.2018.00178>. PMID: 29998092. **Exclusion reason:** Ineligible outcome
1343. Tabbarah M, Nowalk MP, Raymund M, et al. Barriers and facilitators of colon cancer screening among patients at faith-based neighborhood health centers. *J Community Health*. 2005 Feb;30(1):55-74. PMID: 15751599. **Exclusion reason:** Ineligible outcome
1344. Tabnak F, Muller HG, Wang JL, et al. Timeliness and follow-up patterns of cervical cancer detection in a cohort of medically underserved California women. *Cancer Causes Control*. 2010 Mar;21(3):411-20. doi: 10.1007/s10552-009-9473-1. PMID: 20043203. **Exclusion reason:** Ineligible outcome
1345. Taira DA, Gelber RP, Davis J, et al. Antihypertensive adherence and drug class among Asian Pacific Americans. *Ethn Health*. 2007 Jun;12(3):265-81. doi: 10.1080/13557850701234955. PMID: 17454100. **Exclusion reason:** Ineligible population
1346. Talaat N. Adherence and barriers to colorectal cancer screening varies among Arab Americans from different countries of origin. *Arab J Gastroenterol*. 2015 Sep-Dec;16(3-4):116-20. doi: 10.1016/j.ajg.2015.07.003. PMID: 26227207. **Exclusion reason:** Ineligible study design
1347. Talley CH, Yang L, Williams KP. Breast cancer screening paved with good intentions: Application of the information-motivation-behavioral skills model to racial/ethnic minority women. *J Immigr Minor Health*. 2017 Dec;19(6):1362-71. doi: 10.1007/s10903-016-0355-9. PMID: 26852236. **Exclusion reason:** Ineligible outcome
1348. Tambouret R, Roberts DJ. In reply. *Arch Pathol Lab Med*. 2014 Feb;138(2):156. doi: 10.5858/arpa.2013-0627-LE. PMID: 24476513. **Exclusion reason:** Ineligible publication type
1349. Tamer R, Voti L, Fleming LE, et al. A feasibility study of the evaluation of the Florida breast cancer early detection program using the statewide cancer registry. *Breast Cancer Res Treat*. 2003 Oct;81(3):187-94. PMID: 14620914. **Exclusion reason:** Ineligible study design
1350. Tang L, Mieskowski LM, Oliver JS, et al. Promoting cancer screening among rural African Americans: a social network approach. *J Cult Divers*. 2015;22(3):88-94. PMID: 26647487. **Exclusion reason:** Ineligible publication type
1351. Tangka FK, Dalaker J, Chattopadhyay SK, et al. Meeting the mammography screening needs of underserved women: the performance of the National Breast and Cervical Cancer Early Detection Program in 2002-2003 (United States). *Cancer Causes Control*. 2006 Nov;17(9):1145-54. PMID: 17006720. **Exclusion reason:** Ineligible study design

1352. Tangka FK, O'Hara B, Gardner JG, et al. Meeting the cervical cancer screening needs of underserved women: the National Breast and Cervical Cancer Early Detection Program, 2004-2006. *Cancer Causes Control*. 2010 Jul;21(7):1081-90. doi: 10.1007/s10552-010-9536-3. PMID: 20361353. **Exclusion reason:** Ineligible study design
1353. Tangka FK, Subramanian S, Mobley LR, et al. Racial and ethnic disparities among state Medicaid programs for breast cancer screening. *Prev Med*. 2017 Sep;102:59-64. doi: 10.1016/j.ypmed.2017.06.024. PMID: 28647544. **Exclusion reason:** Ineligible study design
1354. Tanjasiri SP, Sablan-Santos L, Merrill V, et al. Promoting breast cancer screening among Chamorro women in Southern California. *J Cancer Educ*. 2008 Jan-Mar;23(1):10-7. doi: 10.1080/08858190701821386. PMID: 18444041. **Exclusion reason:** Ineligible outcome
1355. Tanjasiri SP, Tran JH. Community capacity for cancer control collaboration: weaving an Islander Network for Cancer Awareness, Research and Training for Pacific Islanders in Southern California. *Cancer Detect Prev*. 2008;32 Suppl 1:S37-40. doi: 10.1016/j.cdp.2007.12.005. PMID: 18359580. **Exclusion reason:** Ineligible publication type
1356. Tanjasiri SP, Tran JH, Kagawa-Singer M, et al. Exploring access to cancer control services for Asian-American and Pacific Islander communities in Southern California. *Ethn Dis*. 2004;14(3 Suppl 1):S14-9. PMID: 15682767. **Exclusion reason:** Ineligible study design
1357. Tanner NT, Gebregziabher M, Hughes Halbert C, et al. Racial differences in outcomes within the National Lung Screening Trial. Implications for widespread implementation. *Am J Respir Crit Care Med*. 2015 Jul 15;192(2):200-8. doi: 10.1164/rccm.201502-0259OC. PMID: 25928649. **Exclusion reason:** Background information only
1358. Tao AK. Knowledge, perceived barriers and preventive behaviors associated with cardiovascular disease among Gallaudet University employees. Dissertation abstracts international. 2018;79(7-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible study design
1359. Taplin SH, Barlow WE, Ludman E, et al. Testing reminder and motivational telephone calls to increase screening mammography: a randomized study. *J Natl Cancer Inst*. 2000 Feb 2;92(3):233-42. PMID: 10655440. **Exclusion reason:** Ineligible population
1360. Tat J, Nguy M, Tong EK, et al. Disseminating tobacco control information to Asians and Pacific Islanders. *J Cancer Educ*. 2015 Mar;30(1):26-30. doi: 10.1007/s13187-014-0695-x. PMID: 24969319. **Exclusion reason:** Ineligible outcome
1361. Tate LM. Women and cardiovascular medicine. *J Cardiovasc Transl Res*. 2009 Sep;2(3):335-6. doi: 10.1007/s12265-009-9107-8. PMID: 19655022. **Exclusion reason:** Ineligible publication type
1362. Taylor A, Siddiqui F. Bringing Global Health Home: The Case of Global to Local in King County, Washington. *Annals of Global Health*. 2016 Nov - Dec;82(6):972-80. doi: 10.1016/j.aogh.2016.11.006. PMID: 28314499. **Exclusion reason:** Ineligible publication type
1363. Taylor SE, Holden KB. The health status of black women. *Health issues in the Black community*, 3rd ed. San Francisco, CA: Jossey-Bass; US; 2009:55-71. **Exclusion reason:** Ineligible publication type
1364. Taylor VM, Hislop TG, Jackson JC, et al. A randomized controlled trial of interventions to promote cervical cancer screening among Chinese women in North America. *J Natl Cancer Inst*. 2002 May 1;94(9):670-7. doi: 10.1093/jnci/94.9.670. PMID: 11983755. **Exclusion reason:** Ineligible setting
1365. Taylor VM, Jackson JC, Tu SP, et al. Cervical cancer screening among Chinese Americans. *Cancer Detect Prev*. 2002;26(2):139-45. PMID: 12102148. **Exclusion reason:** Ineligible study design

1366. Taylor VM, Schwartz SM, Yasui Y, et al. Pap testing among Vietnamese women: health care system and physician factors. *J Community Health*. 2004 Dec;29(6):437-50. PMID: 15587344. **Exclusion reason:** Ineligible study design
1367. Taylor VM, Yasui Y, Nguyen TT, et al. Pap smear receipt among Vietnamese immigrants: The importance of health care factors. *Ethn Health*. 2009 Dec;14(6):575-89. doi: 10.1080/13557850903111589. PMID: 19626504. **Exclusion reason:** Ineligible study design
1368. Taylor WC, Fischer LS. A healthy weight disparity index and reducing rates of obesity and overweight in the United States. *Obesity interventions in underserved communities: Evidence and directions*. Baltimore, MD: Johns Hopkins University Press; US; 2014:193-202. **Exclusion reason:** Ineligible publication type
1369. Taylor WC, Paxton RJ, Fischer LS, et al. The Healthy Weight Disparity Index: Why We Need It to Solve the Obesity Crisis. *J Health Care Poor Underserved*. 2015 Nov;26(4):1186-99. doi: 10.1353/hpu.2015.0132. PMID: 26548672. **Exclusion reason:** Ineligible study design
1370. Teichman P. Cervical cancer screening. *Am Fam Physician*. 2002 May 01;65(9):1747, 51. PMID: 12018800. **Exclusion reason:** Ineligible publication type
1371. Tejeda S, Darnell JS, Cho YI, et al. Patient barriers to follow-up care for breast and cervical cancer abnormalities. *J Womens Health*. 2013 Jun;22(6):507-17. doi: 10.1089/jwh.2012.3590. PMID: 23672296. **Exclusion reason:** Ineligible study design
1372. Tejeda S, Thompson B, Coronado GD, et al. Celebremos la Salud: a community-based intervention for Hispanic and non-Hispanic white women living in a rural area. *J Community Health*. 2009 Feb;34(1):47-55. doi: 10.1007/s10900-008-9127-3. PMID: 18821000. **Exclusion reason:** Ineligible outcome
1373. Terens N, Vecchi S, Bargagli AM, et al. Quality improvement strategies at primary care level to reduce inequalities in diabetes care: an equity-oriented systematic review. *BMC Endocr Disord*. 2018 May 29;18(1):31. doi: <https://dx.doi.org/10.1186/s12902-018-0260-4>. PMID: 29843692. **Exclusion reason:** Systematic review used to identify primary studies
1374. Terris M. A social policy for health. 1968. *Am J Public Health*. 2011 Feb;101(2):250-2. PMID: 21228288. **Exclusion reason:** Ineligible publication type
1375. Terry SF. A call for participatory oversight. *Genet Test Mol Biomarkers*. 2014 Feb;18(2):71-2. doi: 10.1089/gtmb.2014.1552. PMID: 24506510. **Exclusion reason:** Ineligible publication type
1376. Tessaro I, Mangone C, Parkar I, et al. Knowledge, barriers, and predictors of colorectal cancer screening in an Appalachian church population. *Prev Chronic Dis*. 2006 Oct;3(4):A123. PMID: 16978498. **Exclusion reason:** Ineligible study design
1377. Tettey N-S. An online evaluation of a new web-based source of information on eating healthy and being active designed for African American women: Exploring relationships among personal-level variables and website ratings. *Dissertation abstracts international*. 2011;71(10-A):3547. **Exclusion reason:** Ineligible publication type
1378. Teufel-Shone NI, Cordova-Marks F, Susanyatame G, et al. Documenting cancer information seeking behavior and risk perception in the Hualapai Indian community to inform a community health program. *J Community Health*. 2015 Oct;40(5):891-8. doi: 10.1007/s10900-015-0009-1. PMID: 25791877. **Exclusion reason:** Ineligible study design

1379. Teufel-Shone NI, Fitzgerald C, Teufel-Shone L, et al. Systematic review of physical activity interventions implemented with American Indian and Alaska Native populations in the United States and Canada. *Am J Health Promot.* 2009 Jul-Aug;23(6):S8-32. doi: 10.4278/ajhp.07053151. PMID: 19601485. **Exclusion reason:** Systematic review used to identify primary studies
1380. Teutsch SM, Baciú AB, Mays GP, et al. Wiser investment for a healthier future. *J Public Health Manag Pract.* 2012 Jul-Aug;18(4):295-8. doi: 10.1097/PHH.0b013e31825bdf09. PMID: 22635180. **Exclusion reason:** Ineligible publication type
1381. Teutsch SM, Fielding JE. Closing the gap in clinical preventive services. *Am J Prev Med.* 2010 Jun;38(6):684-5. doi: 10.1016/j.amepre.2010.02.014. PMID: 20494249. **Exclusion reason:** Ineligible publication type
1382. Teutsch SM, Fielding JE. Rediscovering the core of public health. *Annu Rev Public Health.* 2013;34:287-99. doi: 10.1146/annurev-publhealth-031912-114433. PMID: 23140523. **Exclusion reason:** Ineligible publication type
1383. Thackeray R, Brown KM. Social marketing's unique contributions to health promotion practice. *Health Promotion Practice.* 2005 Oct;6(4):365-8. PMID: 16247912. **Exclusion reason:** Ineligible publication type
1384. Thalacker KM. Hypertension and the Hmong community: Using the health belief model for health promotion. *Health Promotion Practice.* 2011 Jul;12(4):538-43. doi: 10.1177/1524839909353735. PMID: 21051326. **Exclusion reason:** Ineligible publication type
1385. Thamarasseril S, Bhuket T, Chan C, et al. The Need for an iIntegrated patient navigation pathway to improve access to colonoscopy after positive fecal immunochemical testing: a safety-net hospital experience. *J Community Health.* 2017 Jun;42(3):551-7. doi: 10.1007/s10900-016-0287-2. PMID: 27796633. **Exclusion reason:** Ineligible study design
1386. Thande NK, Hurstak EE, Sciacca RE, et al. Management of obesity: a challenge for medical training and practice. *Obesity.* 2009 Jan;17(1):107-13. doi: 10.1038/oby.2008.478. PMID: 19107125. **Exclusion reason:** Ineligible outcome
1387. Thebault JL, Ringa V, Bloy G, et al. Are primary-care physician practices related to health behaviors likely to reduce social inequalities in health? *Prev Med.* 2017 Jun;99:21-8. doi: 10.1016/j.ypmed.2017.01.023. PMID: 28189809. **Exclusion reason:** Ineligible study design
1388. Therien J. Establishing a mobile health and wellness program for rural veterans. *Nurs Clin North Am.* 2000 Jun;35(2):499-505. PMID: 10873262. **Exclusion reason:** Ineligible publication type
1389. Thiel de Bocanegra H, Trinh-Shevrin C, Herrera AP, et al. Mexican immigrant male knowledge and support toward breast and cervical cancer screening. *J Immigr Minor Health.* 2009 Aug;11(4):326-33. doi: 10.1007/s10903-008-9161-3. PMID: 18551367. **Exclusion reason:** Ineligible comparison
1390. Thobaben M. Strategies home health care providers can use to help decrease minority health disparities. *Home Health Care Management & Practice.* 2004;17(1):56-7. doi: 10.1177/1084822304268166. **Exclusion reason:** Ineligible publication type
1391. Thomas E, Usher L. One more hurdle to increasing mammography screening: pubescent, adolescent, and prior mammography screening experiences. *Womens Health Issues.* 2009 Nov-Dec;19(6):425-33. doi: 10.1016/j.whi.2009.07.002. PMID: 19713125. **Exclusion reason:** Ineligible outcome
1392. Thomas JL, An L, Luo X, et al. Abstinence and relapse rates following a college campus-based quit & win contest. *J Am Coll Health.* 2010 Jan-Feb;58(4):365-72. doi: 10.1080/07448480903380268. PMID: 20159760. **Exclusion reason:** Ineligible population

1393. Thomas KL, Al-Khatib SM, Kelsey RC, 2nd, et al. Racial disparity in the utilization of implantable-cardioverter defibrillators among patients with prior myocardial infarction and an ejection fraction of $\leq 35\%$. *Am J Cardiol*. 2007 Sep 15;100(6):924-9. PMID: 17826371. **Exclusion reason:** Ineligible intervention
1394. Thomas KL, Zimmer LO, Dai D, et al. Educational videos to reduce racial disparities in ICD therapy via innovative designs (VIVID): a randomized clinical trial. *Am Heart J*. 2013 Jul;166(1):157-63. doi: 10.1016/j.ahj.2013.03.031. PMID: 23816035. **Exclusion reason:** Ineligible intervention
1395. Thomas S, Fayter D, Misso K, et al. Population tobacco control interventions and their effects on social inequalities in smoking: systematic review. *Tob Control*. 2008 Aug;17(4):230-7. doi: 10.1136/tc.2007.023911. PMID: 18426867. **Exclusion reason:** Ineligible intervention
1396. Thomas SB. The Color Line: Race Matters in the Elimination of Health Disparities. *Am J Public Health*. 2001;91(7):1046-8. PMID: 11441728. **Exclusion reason:** Ineligible publication type
1397. Thomas SB, Benjamin GC, Almario D, et al. Historical and current policy efforts to eliminate racial and ethnic health disparities in the United States: future opportunities for public health education research. *Health Promotion Practice*. 2006 Jul;7(3):324-30. PMID: 16760236. **Exclusion reason:** Ineligible publication type
1398. Thomas SB, Fine MJ, Ibrahim SA. Health disparities: the importance of culture and health communication. *Am J Public Health*. 2004 Dec;94(12):2050. PMID: 15612166. **Exclusion reason:** Ineligible publication type
1399. Thompson B, Ondelacy S, Godina R, et al. A small grants program to involve communities in research. *J Community Health*. 2010 Jun;35(3):294-301. doi: 10.1007/s10900-010-9235-8. PMID: 20146091. **Exclusion reason:** Ineligible publication type
1400. Thompson B, Vilchis H, Moran C, et al. Increasing cervical cancer screening in the United States-Mexico border region. *J Rural Health*. 2014;30(2):196-205. doi: 10.1111/jrh.12044. PMID: 24689544. **Exclusion reason:** Ineligible comparison
1401. Thompson CA, Gomez SL, Chan A, et al. Patient and provider characteristics associated with colorectal, breast, and cervical cancer screening among Asian Americans. *Cancer Epidemiol Biomarkers Prev*. 2014 Nov;23(11):2208-17. doi: 10.1158/1055-9965.Epi-14-0487. PMID: 25368396. **Exclusion reason:** Ineligible study design
1402. Thompson E, Fields SA, Bors K. Appalachian women and heart health: current prevention strategies and future directions. *W V Med J*. 2013 Jul-Aug;109(4):76-80. PMID: 23930568. **Exclusion reason:** Ineligible publication type
1403. Thompson HS, Valdimarsdottir HB, Winkel G, et al. The Group-Based Medical Mistrust Scale: Psychometric properties and association with breast cancer screening. *Int J Prev Med*. 2004 Feb;38(2):209-18. doi: 10.1016/j.ypmed.2003.09.041. PMID: 14715214. **Exclusion reason:** Ineligible outcome
1404. Thompson SE, Smith BA, Bybee RF. Factors influencing participation in worksite wellness programs among minority and underserved populations. *Fam Community Health*. 2005 Jul-Sep;28(3):267-73. PMID: 15958884. **Exclusion reason:** Ineligible publication type
1405. Thompson T, Kreuter MW, Boyum S. Promoting health by addressing basic needs: Effect of problem resolution on contacting health referrals. *Health Educ Behav*. 2016 Apr;43(2):201-7. doi: 10.1177/1090198115599396. PMID: 26293458. **Exclusion reason:** Ineligible intervention
1406. Thompson V, Cavazos-Rehg P, Jupka K, et al. Evidential preferences: Cultural appropriateness strategies in health communications. *Health Educ Res*. 2008 Jun;23(3):549-59. doi: 10.1093/her/cym029. PMID: 17631608. **Exclusion reason:** Ineligible intervention

1407. Thompson VL, Cavazos-Rehg P, Tate KY, et al. Cancer information seeking among African Americans. *J Cancer Educ*. 2008;23(2):92-101. doi: 10.1080/08858190701849429. PMID: 18569244. **Exclusion reason:** Ineligible intervention
1408. Thompson VL, Kalesan B, Wells A, et al. Comparing the use of evidence and culture in targeted colorectal cancer communication for African Americans. *Patient Educ Couns*. 2010 Dec;81(Suppl 1):S22-S33. doi: 10.1016/j.pec.2010.07.019. PMID: 20702056. **Exclusion reason:** Ineligible intervention
1409. Thomsen CA, Ter Maat J. Evaluating the Cancer Information Service: a model for health communications. Part 1. *J Health Commun*. 1998;3 Suppl:1-13. PMID: 10977265. **Exclusion reason:** Ineligible intervention
1410. Thorburn S, Keon KL, Kue J. Sources of breast and cervical cancer information for Hmong women and men. *Women Health*. 2013 Jul;53(5):468-78. doi: 10.1080/03630242.2013.796305. PMID: 23879458. **Exclusion reason:** Ineligible outcome
1411. Thorpe JM, Kalinowski CT, Patterson ME, et al. Psychological distress as a barrier to preventive care in community-dwelling elderly in the United States. *Med Care*. 2006 Feb;44(2):187-91. PMID: 16434919. **Exclusion reason:** Ineligible study design
1412. Thorpe JM, Thorpe CT, Kennelty KA, et al. Depressive symptoms and reduced preventive care use in older adults: the mediating role of perceived access. *Med Care*. 2012 Apr;50(4):302-10. doi: 10.1097/MLR.0b013e31821a933f. PMID: 21577167. **Exclusion reason:** Ineligible population
1413. Thorpe KE. Response of Kenneth E. Thorpe, PhD to R. Austin Wallace, open letter to Kenneth E. Thorpe, PhD, July/August 2008 issue of the WV Medical Journal. *W V Med J*. 2008 Sep-Oct;104(5):8. PMID: 18846751. **Exclusion reason:** Ineligible publication type
1414. Thorpe RJ, Jr., Bowie JV, Wilson-Frederick SM, et al. Association between race, place, and preventive health screenings among men: findings from the exploring health disparities in integrated communities study. *Am J Mens Health*. 2013 May;7(3):220-7. doi: 10.1177/1557988312466910. PMID: 23184335. **Exclusion reason:** Ineligible study design
1415. Thorsteinsdottir B, Beck A, Tilburt JC. Grow a Spine, Have a Heart: Responding to Patient Requests for Marginally Beneficial Care. *AMA J Ethics*. 2015 Nov 01;17(11):1028-34. doi: 10.1001/journalofethics.2015.17.11.ecas2-1511. PMID: 26595243. **Exclusion reason:** Ineligible publication type
1416. Thunker T. DAKOTACARE walks the talk. *S D Med*. 2009 Aug;62(8):327. PMID: 19877391. **Exclusion reason:** Ineligible publication type
1417. Tiffen J, Mahon SM. Cervical cancer: what should we tell women about screening? *Clin J Oncol Nurs*. 2006 Aug;10(4):527-31. PMID: 16927906. **Exclusion reason:** Ineligible publication type
1418. Timmins F. Myocardial infarction: positive or negative experience. *Eur J Cardiovasc Nurs*. 2008 Mar;7(1):2. doi: 10.1016/j.ejcnurse.2008.01.108. PMID: 18267294. **Exclusion reason:** Ineligible publication type
1419. Timmons SM. African American church health programs: what works? *J Christ Nurs*. 2010 Apr-Jun;27(2):100-5. PMID: 20364523. **Exclusion reason:** Ineligible publication type
1420. Tobe SW, Maar M, Roy MA, et al. Preventing cardiovascular and renal disease in Canada's Aboriginal populations. *Can J Cardiol*. 2015 Sep;31(9):1124-9. doi: 10.1016/j.cjca.2015.05.024. PMID: 26321434. **Exclusion reason:** Ineligible publication type
1421. Tobin CT. Time to toot your horn. *Diabetes Educ*. 2000 Jan-Feb;26(1):15, 178. PMID: 10776094. **Exclusion reason:** Ineligible publication type

1422. Todd A, Stuijbergen A. Breast cancer screening barriers and disability.[Erratum appears in Rehabil Nurs. 2012 Sep-Oct;37(5):266]. Rehabil Nurs. 2012 Mar-Apr;37(2):74-9. doi: 10.1002/RNJ.00013. PMID: 22434617. **Exclusion reason:** Ineligible publication type
1423. Tomajan K. Oklahoma works for better breast cancer screening and treatment. Okla Nurse. 2005 Mar-May;50(1):11. PMID: 15786859. **Exclusion reason:** Ineligible publication type
1424. Tomlinson S. Evidence to support church-based health promotion programmes for African Canadians at risk for cardiovascular disease. J Immigr Health. 2011 Dec;13(6):1175-9. doi: 10.1007/s10903-011-9502-5. PMID: 21773881. **Exclusion reason:** Ineligible publication type
1425. Toney ED. Colorectal cancer screening: Racial/ethnic and gender disparities in a population-based cross-sectional analysis of the United States. Dissertation abstracts international. 2007;68(4-B):2303. **Exclusion reason:** Ineligible publication type
1426. Tong EK, Fagan P, Cooper L, et al. Working to eliminate cancer health disparities from tobacco: a review of the National Cancer Institute's Community Networks Program. Nicotine & Tobacco Research. 2015 Aug;17(8):908-23. doi: 10.1093/ntr/ntv069. PMID: 26180215. **Exclusion reason:** Systematic review used to identify primary studies
1427. Tong EK, Nguyen TT, Lo P, et al. Lay health educators increase colorectal cancer screening among Hmong Americans: A cluster randomized controlled trial. Cancer. 2017 Jan 01;123(1):98-106. doi: 10.1002/cncr.30265. PMID: 27564924. **Exclusion reason:** Ineligible setting
1428. Toomey S. Should you cancel your programs during the recession? Occup Health Saf. 2010 Jan;79(1):30-1. PMID: 20112784. **Exclusion reason:** Ineligible publication type
1429. Topol EJ. The consumer movement in health care. Pharos of Alpha Omega Alpha Honor Medical Society. 2010;73(2):34-5. PMID: 20455379. **Exclusion reason:** Ineligible publication type
1430. Torre LA, Islami F, Siegel RL, et al. Global cancer in women: Burden and trends. Cancer Epidemiol Biomarkers Prev. 2017 Apr;26(4):444-57. doi: 10.1158/1055-9965.EPI-16-0858. PMID: 28223433. **Exclusion reason:** Ineligible outcome
1431. Torre LA, Sauer AM, Chen MS, Jr., et al. Cancer statistics for Asian Americans, Native Hawaiians, and Pacific Islanders, 2016: Converging incidence in males and females. CA Cancer J Clin. 2016 05;66(3):182-202. doi: 10.3322/caac.21335. PMID: 26766789. **Exclusion reason:** Ineligible outcome
1432. Torres E, Erwin DO, Trevino M, et al. Understanding factors influencing Latina women's screening behavior: a qualitative approach. Health Educ Res. 2013 Oct;28(5):772-83. doi: 10.1093/her/cys106. PMID: 23131588. **Exclusion reason:** Ineligible outcome
1433. Torres JM, Waldinger R. Policy brief. J Health Soc Behav. 2015 Dec;56(4):437. doi: 10.1177/0022146515614818. **Exclusion reason:** Ineligible publication type
1434. Torres SE. The adaptation of a survivorship care plan for low-income colorectal cancer survivors. Dissertation abstracts international. 2015;75(9-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1435. Torres-Mejia G, Angeles-Llerenas A, Lazcano-Ponce E. [Breast cancer prevention and the need for a professional approach to its detection and control]. Salud Publica Mex. 2011 Sep-Oct;53(5):370-1. PMID: 22218790. **Exclusion reason:** Ineligible publication type
1436. Tovar A, Renzaho AM, Guerrero AD, et al. A systematic review of obesity prevention intervention studies among immigrant populations in the US. Current Obesity Reports. 2014;3:206-22. doi: 10.1007/s13679-014-0101-3. PMID: 24818072. **Exclusion reason:** Systematic review used to identify primary studies

1437. Towne SD, Jr., Smith ML, Ory MG. Geographic variations in access and utilization of cancer screening services: examining disparities among American Indian and Alaska Native Elders. *Int J Health Geogr*. 2014 Jun 09;13:18. doi: 10.1186/1476-072X-13-18. PMID: 24913150. **Exclusion reason:** Ineligible outcome
1438. Townsend CK, Miyamoto RE, Antonio M, et al. The PILI@Work Program: a translation of the diabetes prevention program to Native Hawaiian-serving worksites in Hawai'i. *Transl Behav Med*. 2016 06;6(2):190-201. doi: 10.1007/s13142-015-0383-3. PMID: 27356989. **Exclusion reason:** Ineligible setting
1439. Tracy JK. Understanding and reducing risks via infection in LBT women. *Cancer and the LGBT community: Unique perspectives from risk to survivorship*. Cham, Switzerland: Springer International Publishing; Switzerland; 2015. p. 23-35. **Exclusion reason:** Ineligible publication type
1440. Tran JH. Community-based participatory research for building community-based organizational capacity: A programmatic assessment. *Dissertation abstracts international*. 2014;74(7-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1441. Tran ST, Rosenberg KD, Carlson NE. Racial/ethnic disparities in the receipt of smoking cessation interventions during prenatal care. *Matern Child Health J*. 2010 Nov;14(6):901-9. doi: 10.1007/s10995-009-0522-x. PMID: 19795200. **Exclusion reason:** Ineligible population
1442. Travis CB, Compton JD. Feminism and health in the Decade of Behavior. *Psychol Women Q*. 2001 Dec;25(4):312-23. doi: 10.1111/1471-6402.00031. **Exclusion reason:** Ineligible publication type
1443. Traylor AH. Racial and ethnic differences in cardiovascular disease medication management for patients with diabetes. *Dissertation abstracts international*. 2011;72(5-B):2737. **Exclusion reason:** Ineligible publication type
1444. Traylor AH, Schmittiel JA, Uratsu CS, et al. Adherence to cardiovascular disease medications: Does patient-provider race/ethnicity and language concordance matter? *J Gen Intern Med*. 2010 Nov;25(11):1172-7. doi: 10.1007/s11606-010-1424-8. PMID: 20571929. **Exclusion reason:** Ineligible intervention
1445. Traylor AH, Subramanian U, Uratsu CS, et al. Patient race/ethnicity and patient-physician race/ethnicity concordance in the management of cardiovascular disease risk factors for patients with diabetes. *Diabetes Care*. 2010 Mar;33(3):520-5. doi: 10.2337/dc09-0760. PMID: 20009094. **Exclusion reason:** Ineligible intervention
1446. Treadwell H, Holden K, Hubbard R, et al. Addressing obesity and diabetes among African American men: examination of a community-based model of prevention. *J Natl Med Assoc*. 2010 Sep;102(9):794-802. PMID: 20922923. **Exclusion reason:** Ineligible setting
1447. Treadwell HM. The impact of invisibility: The way forward. *Social determinants of health among African-American men*. San Francisco, CA: Jossey-Bass; US; 2013:283-300. **Exclusion reason:** Ineligible publication type
1448. Treaster C, Hawley SR, Paschal AM, et al. Addressing health disparities in highly specialized minority populations: case study of Mexican Mennonite farmworkers. *J Community Health*. 2006 Apr;31(2):113-22. PMID: 16737172. **Exclusion reason:** Ineligible study design
1449. Trickett EJ, Beehler S. The Ecology of Multilevel Interventions to Reduce Social Inequalities in Health. *Am Behav Sci*. 2013;57(8):1227-46. doi: 10.1177/0002764213487342. **Exclusion reason:** Ineligible publication type
1450. Trinh L, Ikeda DM, Miyake KK, et al. Patient awareness of breast density and interest in supplemental screening tests: comparison of an academic facility and a county hospital. *J Am Coll Radiol*. 2015 Mar;12(3):249-55. doi: 10.1016/j.jacr.2014.10.027. PMID: 25743922. **Exclusion reason:** Ineligible intervention

1451. Trinh QD, Li H, Meyer CP, et al. Determinants of cancer screening in Asian-Americans. *Cancer Causes Control*. 2016 08;27(8):989-98. doi: 10.1007/s10552-016-0776-8. PMID: 27372292. **Exclusion reason:** Ineligible study design
1452. Trinh-Shevrin C, Islam NS, Nadkarni S, et al. Defining an integrative approach for health promotion and disease prevention: a population health equity framework. *J Health Care Poor Underserved*. 2015 May;26(2 Suppl):146-63. doi: 10.1353/hpu.2015.0067. PMID: 25981095. **Exclusion reason:** Ineligible publication type
1453. Trivedi AN, Ayanian JZ. Perceived discrimination and use of preventive health services. *J Gen Intern Med*. 2006 Jun;21(6):553-8. doi: 10.1111/j.1525-1497.2006.00413.x. PMID: 16808735. **Exclusion reason:** Ineligible study design
1454. Trivedi AN, Nsa W, Hausmann LR, et al. Quality and equity of care in U.S. hospitals. *N Engl J Med*. 2014 Dec;371(24):2298-308. doi: 10.1056/NEJMs1405003. PMID: 25494269. **Exclusion reason:** Ineligible intervention
1455. Trivedi AN, Zaslavsky AM, Schneider EC, et al. Trends in the quality of care and racial disparities in Medicare Managed Care. *N Engl J Med*. 2005 Aug;353(7):692-700. doi: 10.1056/NEJMs051207. PMID: 16107622. **Exclusion reason:** Ineligible study design
1456. Trivedi AN, Zaslavsky AM, Schneider EC, et al. Relationship between quality of care and racial disparities in medicare health plans. *JAMA*. 2006 Oct;296(16):1998-2004. doi: 10.1001/jama.296.16.1998. PMID: 17062863. **Exclusion reason:** Ineligible study design
1457. Trivers KF, Shaw KM, Sabatino SA, et al. Trends in colorectal cancer screening disparities in people aged 50-64 years, 2000-2005. *Am J Prev Med*. 2008 Sep;35(3):185-93. doi: 10.1016/j.amepre.2008.05.021. PMID: 18617355. **Exclusion reason:** Ineligible outcome
1458. Trossman S. Obesity on the rise. Leads to workplace challenges, patient concerns. *Am Nurse*. 2005 Jan-Feb;37(1):1, 4. PMID: 15789925. **Exclusion reason:** Ineligible publication type
1459. Trossman S. Without a home. Nurses offer care, hope to those in need. *Am Nurse*. 2016 Mar-Apr;48(2):1, 8-9. PMID: 27215062. **Exclusion reason:** Ineligible publication type
1460. Truog RD. Screening mammography and the "r" word. *N Engl J Med*. 2009 Dec 24;361(26):2501-3. doi: 10.1056/NEJMp0911447. PMID: 19940292. **Exclusion reason:** Ineligible publication type
1461. Truong K, Fernandes M, An R, et al. Measuring the physical food environment and its relationship with obesity: evidence from California. *Public Health*. 2010 Feb;124(2):115-8. doi: 10.1016/j.puhe.2009.12.004. PMID: 20167339. **Exclusion reason:** Ineligible outcome
1462. Tsai JH, Petrescu-Prahova M. Community Interagency Connections for Immigrant Worker Health Interventions, King County, Washington State, 2012-2013. *Prev Chronic Dis*. 2016 06 02;13:E73. doi: 10.5888/pcd13.160013. PMID: 27253636. **Exclusion reason:** Ineligible study design
1463. Tsai JH, Thompson EA. A multi-sector assessment of community organizational capacity for promotion of Chinese immigrant worker health. *Am J Ind Med*. 2017 Dec;60(12):1066-76. doi: 10.1002/ajim.22758. PMID: 28845515. **Exclusion reason:** Ineligible study design
1464. Tsark JU, Braun KL, Pacific Islands Cancer C. Reducing cancer health disparities in the US-associated Pacific. *J Public Health Manag Pract*. 2007 Jan-Feb;13(1):49-58. PMID: 17149100. **Exclusion reason:** Ineligible outcome
1465. Tsui J, Tanjasiri SP. Cervical cancer screening among Thai women in Northern California. *J Womens Health*. 2008 Apr;17(3):393-401. doi: 10.1089/jwh.2007.0427. PMID: 18346001. **Exclusion reason:** Ineligible population
1466. Tu SP, Jackson SL, Yasui Y, et al. Cancer preventive screening: a cross-border comparison of United States and Canadian Chinese women. *Prev Med*. 2005 Jul;41(1):36-46. PMID: 15916991. **Exclusion reason:** Ineligible study design

1467. Tuazon NC. Community outreach: moving beyond hospital walls. *Nurs Manage*. 2010 May;41(5):32-6. doi: 10.1097/01.NUMA.0000372031.44982.99. PMID: 20418750. **Exclusion reason:** Ineligible publication type
1468. Tucker CM, Daly KD, Herman KC. Customized multicultural health counseling: Bridging the gap between mental and physical health for racial and ethnic minorities. *Handbook of multicultural counseling*, 3rd ed. Thousand Oaks, CA: Sage Publications, Inc; US; 2010:505-16. **Exclusion reason:** Ineligible population
1469. Tucker CM, Ferdinand LA, Mirsu-Paun A, et al. The roles of counseling psychologists in reducing health disparities. *The Counseling Psychologist*. 2007 Sep;35(5):650-78. doi: 10.1177/0011000007301687. **Exclusion reason:** Ineligible publication type
1470. Tucker CM, Smith TM, Arthur TM, et al. Obesity and related chronic health conditions as predictors of motivation to engage in healthy eating behaviors among Black adults. *J Racial Ethn Health Disparities*. 2014 Jun;1(2):102-9. doi: 10.1007/s40615-014-0015-5. **Exclusion reason:** Ineligible study design
1471. Tucker CM, Wippold GM, Williams JL, et al. A CBPR Study to Test the Impact of a Church-Based Health Empowerment Program on Health Behaviors and Health Outcomes of Black Adult Churchgoers. *J Racial Ethn Health Disparities*. 2017 Feb;4(1):70-8. doi: 10.1007/s40615-015-0203-y. PMID: 26830631. **Exclusion reason:** Ineligible setting
1472. Tulloch H, Fortier M, Hogg W. Physical activity counseling in primary care: who has and who should be counseling? *Patient Educ Couns*. 2006 Dec;64(1-3):6-20. PMID: 16472959. **Exclusion reason:** Ineligible population
1473. Tully M, Kos A, Eastwood D, et al. Implementation of an adjunct strategy to reduce blood pressure in Blacks with uncontrolled hypertension: a pilot project. *Ethn Dis*. 2015;25(2):168-74. PMID: 26118144. **Exclusion reason:** Ineligible population
1474. Tung EL, Baig AA, Huang ES, et al. Racial and ethnic disparities in diabetes screening between Asian Americans and other adults: BRFSS 2012-2014. *J Gen Intern Med*. 2017 Apr;32(4):423-9. doi: 10.1007/s11606-016-3913-x. PMID: 27848187. **Exclusion reason:** Ineligible study design
1475. Tung W-C. Cervical cancer screening among Hispanic and Asian American women. *Home Health Care Management & Practice*. 2011 Dec;23(6):480-3. doi: 10.1177/1084822311413555. **Exclusion reason:** Ineligible study design
1476. Tung W-C, Lu M, Granner M. Perceived benefits and barriers of cervical cancer screening among Chinese American women. *Oncol Nurs Forum*. 2017 Mar;44(2):247-54. PMID: 28222091. **Exclusion reason:** Ineligible comparison
1477. Tung W-C, McDonough JX. Overweight and obesity among Hispanic/Latino American women. *Home Health Care Manag Pract*. 2015 Aug;27(3):162-5. doi: 10.1177/1084822314563075. **Exclusion reason:** Ineligible publication type
1478. Turner AM, Brownstein MK, Cole K, et al. Modeling workflow to design machine translation applications for public health practice. *J Biomed Inform*. 2015 Feb;53:136-46. doi: 10.1016/j.jbi.2014.10.005. PMID: 25445922. **Exclusion reason:** Ineligible intervention
1479. Turner J, Smith J, Bryant K, et al. Community building community: The distinct benefits of community partners building other communities' capacity to conduct health research. *Prog Community Health Partnersh*. 2017;11(1):81-6. doi: 10.1353/cpr.2017.0010. PMID: 28603154. **Exclusion reason:** Ineligible outcome
1480. Tussing-Humphreys L, Thomson JL, Mayo T, et al. A church-based diet and physical activity intervention for rural, lower Mississippi Delta African American adults: Delta Body and Soul effectiveness study, 2010-2011. *Prev Chronic Dis*. 2013 Jun 06;10:E92. doi: 10.5888/pcd10.120286. PMID: 23742940. **Exclusion reason:** Ineligible population

1481. Twyman L, Bonevski B, Paul C, et al. Perceived barriers to smoking cessation in selected vulnerable groups: a systematic review of the qualitative and quantitative literature. *BMJ Open*. 2014 Dec 22;4(12):e006414. doi: 10.1136/bmjopen-2014-006414. PMID: 25534212. **Exclusion reason:** Systematic review used to identify primary studies
1482. Udall T. National public health week: small steps toward big change. *Am J Public Health*. 2016 May;106(5):779-80. doi: 10.2105/AJPH.2016.303195. PMID: 27049410. **Exclusion reason:** Ineligible publication type
1483. Ueland AS, Hornung PA, Greenwald B. Colorectal cancer prevention and screening: a Health Belief Model-based research study to increase disease awareness. *Gastroenterol Nurs*. 2006 Sep-Oct;29(5):357-63. PMID: 17038836. **Exclusion reason:** Ineligible population
1484. Umbdenstock R. Why coverage counts. *Hosp Health Netw*. 2013 Oct;87(10):14. PMID: 24303625. **Exclusion reason:** Ineligible publication type
1485. Underwood SM. Breast cancer in African American women: nursing essentials. *ABNF J*. 2006 Jan-Feb;17(1):3-14. PMID: 16596895. **Exclusion reason:** Ineligible publication type
1486. Underwood SM. Expanding the evaluation of theories, models, and frameworks relevant to the detection and control of breast cancer in African-American women: a research imperative. *J Natl Black Nurses Assoc*. 2007 Jul;18(1):50-60. PMID: 17679414. **Exclusion reason:** Ineligible publication type
1487. Underwood SM, Buseh AG, Canales MK, et al. Nursing contributions to the elimination of health disparities among African-Americans: review and critique of a decade of research. *J Natl Black Nurses Assoc*. 2004 Jul;15(1):48-62. PMID: 15712820. **Exclusion reason:** Ineligible study design
1488. Underwood SM, Buseh AG, Canales MK, et al. Nursing contributions to the elimination of health disparities among African-Americans: review and critique of a decade of research. *J Natl Black Nurses Assoc*. 2005 Jul;16(1):31-47. PMID: 16255313. **Exclusion reason:** Ineligible study design
1489. Underwood SM, Buseh AG, Canales MK, et al. Nursing contributions to the elimination of health disparities among African-Americans: review and critique of a decade of research--Part III. *J Natl Black Nurses Assoc*. 2005 Dec;16(2):35-59. PMID: 16570644. **Exclusion reason:** Ineligible study design
1490. Underwood SM, Powe B, Canales M, et al. Cancer in U.S. ethnic and racial minority populations. *Annu Rev Nurs Res*. 2004;22:217-63. PMID: 15368773. **Exclusion reason:** Systematic review used to identify primary studies
1491. Underwood SM, Powell RL. Religion and spirituality: influence on health/risk behavior and cancer screening behavior of African Americans. *ABNF J*. 2006 Jan-Feb;17(1):20-31. PMID: 16596897. **Exclusion reason:** Ineligible outcome
1492. Underwood SM, Ramsay-Johnson E, Browne L, et al. What women in the United States Virgin Islands still want and need to know about HPV, cervical cancer, and condom use. *J Natl Black Nurses Assoc*. 2010 Jul;21(1):25-32. PMID: 20857773. **Exclusion reason:** Ineligible study design
1493. Underwood SM, Ramsay-Johnson E, Dean A, et al. Expanding the scope of nursing research in low resource and middle resource countries, regions, and states focused on cervical cancer prevention, early detection, and control. *J Natl Black Nurses Assoc*. 2009 Dec;20(2):42-54. PMID: 20364726. **Exclusion reason:** Ineligible publication type
1494. Unger JB, Soto C, Thomas N. Translation of health programs for American Indians in the United States. *Eval Health Prof*. 2008 Jun;31(2):124-44. doi: 10.1177/0163278708315919. PMID: 18319377. **Exclusion reason:** Ineligible publication type

1495. Uslan MM, Burton DM, Wilson TE, et al. Accessibility of home blood pressure monitors for blind and visually impaired people. *J Diabetes Sci Technol*. 2007 Mar;1(2):218-27. PMID: 19888410. **Exclusion reason:** Ineligible population
1496. Utz B, De Brouwere V. Tackling obesity: challenges ahead. *Lancet*. 2015 Aug 22;386(9995):739-40. doi: 10.1016/S0140-6736(15)61537-9. PMID: 26333972. **Exclusion reason:** Ineligible publication type
1497. Vaccaro JA, Anderson K, Huffman FG. Diabetes self-management behaviors, medical care, glycemic control, and self-rated health in U.S. men by race/ethnicity. *Am J Mens Health*. 2016 Nov;10(6):NP99-NP108. PMID: 25957250. **Exclusion reason:** Ineligible population
1498. Vaccaro JA, Feaster DJ, Lobar SL, et al. Medical advice and diabetes self-management reported by Mexican-American, Black- and White-non-Hispanic adults across the United States. *BMC Public Health*. 2012 Mar 12;12:185. doi: 10.1186/1471-2458-12-185. PMID: 22410191. **Exclusion reason:** Ineligible study design
1499. Vaccaro JA, Huffman FG. Reducing health disparities: medical advice received for minorities with diabetes. *J Health Hum Serv Adm*. 2012;34(4):389-417. PMID: 22530284. **Exclusion reason:** Ineligible study design
1500. Vadheim LM, Brewer KA, Kassner DR, et al. Effectiveness of a lifestyle intervention program among persons at high risk for cardiovascular disease and diabetes in a rural community. *J Rural Health*. 2010;26(3):266-72. doi: 10.1111/j.1748-0361.2010.00288.x. PMID: 20633095. **Exclusion reason:** Ineligible comparison
1501. Vahabi M, Lofters A. Muslim immigrant women's views on cervical cancer screening and HPV self-sampling in Ontario, Canada. *BMC Public Health*. 2016 08 24;16(1):868. doi: 10.1186/s12889-016-3564-1. PMID: 27557928. **Exclusion reason:** Ineligible outcome
1502. Vahabi M, Lofters A, Kim E, et al. Breast cancer screening utilization among women from Muslim majority countries in Ontario, Canada. *Prev Med*. 2017 Dec;105:176-83. doi: 10.1016/j.ypmed.2017.09.008. PMID: 28916289. **Exclusion reason:** Ineligible study design
1503. Vahabi M, Lofters A, Kumar M, et al. Breast cancer screening disparities among immigrant women by world region of origin: a population-based study in Ontario, Canada. *Cancer Medicine*. 2016 Jul;5(7):1670-86. doi: 10.1002/cam4.700. PMID: 27105926. **Exclusion reason:** Ineligible study design
1504. Vaidya V, Gangal NS, Shah S, et al. Trends in smoking status and utilization of smoking cessation agents among females with cardiovascular diseases. *J Womens Health*. 2016 Mar;25(3):270-5. doi: 10.1089/jwh.2015.5226. PMID: 26862887. **Exclusion reason:** Ineligible study design
1505. Vaidya V, Partha G, Howe J. Utilization of preventive care services and their effect on cardiovascular outcomes in the United States. *Risk Manag Healthc Policy*. 2011;4:1-7. doi: 10.2147/RMHP.S15777. PMID: 22312222. **Exclusion reason:** Ineligible study design
1506. Vaidya V, Partha G, Karmakar M. Gender differences in utilization of preventive care services in the United States. *J Womens Health*. 2012 Feb;21(2):140-5. doi: 10.1089/jwh.2011.2876. PMID: 22081983. **Exclusion reason:** Ineligible study design
1507. Valanis BG, Bowen DJ, Bassford T, et al. Sexual orientation and health: comparisons in the women's health initiative sample. *Arch Fam Med*. 2000 Sep-Oct;9(9):843-53. PMID: 11031391. **Exclusion reason:** Ineligible outcome
1508. Valdini A, Cargill LC. Access and barriers to mammography in New England community health centers. *J Fam Pract*. 1997 Sep;45(3):243-9. PMID: 9300004. **Exclusion reason:** Ineligible outcome

1509. Valdovinos C, Penedo FJ, Isasi CR, et al. Perceived discrimination and cancer screening behaviors in US Hispanics: the Hispanic Community Health Study/Study of Latinos Sociocultural Ancillary Study. *Cancer Causes Control*. 2016 Jan;27(1):27-37. PMID: 26498194. **Exclusion reason:** Ineligible outcome
1510. Valente TW. Need, demand, and external validity in dissemination of physical activity programs. *Am J Prev Med*. 2006 Oct;31(4 Suppl):S5-7. PMID: 16979464. **Exclusion reason:** Ineligible publication type
1511. Valentine SE, Nobles CJ, Gerber MW, et al. The association of posttraumatic stress disorder and chronic medical conditions by ethnicity. *J Lat Psychol*. 2017 Aug;5(3):227-41. doi: 10.1037/lat0000076. PMID: 28944108. **Exclusion reason:** Ineligible intervention
1512. Valenzuela JM, McDowell T, Cencula L, et al. Hazlo bien! A participatory needs assessment and recommendations for health promotion in growing Latino communities. *Am J Health Promot*. 2013 May-Jun;27(5):339-46. doi: 10.4278/ajhp.101110-QUAL-366. PMID: 23402231. **Exclusion reason:** Ineligible intervention
1513. Vallet F, Guillaume E, Dejardin O, et al. Influence of a screening navigation program on social inequalities in health beliefs about colorectal cancer screening. *J Health Psychol*. 2016 Aug;21(8):1700-10. doi: 10.1177/1359105314564018. PMID: 25549659. **Exclusion reason:** Ineligible outcome
1514. Van Der Wees PJ, Zaslavsky AM, Ayanian JZ. Improvements in health status after Massachusetts health care reform. *Milbank Q*. 2013 Dec;91(4):663-89. doi: 10.1111/1468-0009.12029. PMID: 24320165. **Exclusion reason:** Ineligible setting
1515. Van Duyn MA, McCrae T, Wingrove BK, et al. Adapting evidence-based strategies to increase physical activity among African Americans, Hispanics, Hmong, and Native Hawaiians: a social marketing approach. *Prev Chronic Dis*. 2007 Oct;4(4):A102. PMID: 17875246. **Exclusion reason:** Ineligible outcome
1516. Van Hoof TJ, Ho SY, Curry M, et al. Opportunities to improve colorectal cancer screening in Connecticut through Medicare claims data. *Conn Med*. 2011 Feb;75(2):69-82. PMID: 21476376. **Exclusion reason:** Ineligible outcome
1517. Van Houten D. The new accountability in managed care. *Med Interface*. 1996 Jun;Suppl B:5-6. PMID: 10158166. **Exclusion reason:** Ineligible publication type
1518. van Rijn AF, van Rossum LG, Deutekom M, et al. Low priority main reason not to participate in a colorectal cancer screening program with a faecal occult blood test. *J Public Health*. 2008 Dec;30(4):461-5. doi: 10.1093/pubmed/fdn063. PMID: 18716047. **Exclusion reason:** Ineligible population
1519. van Ryn M, Burgess D, Malat J, et al. Physicians' perceptions of patients' social and behavioral characteristics and race disparities in treatment recommendations for men with coronary artery disease. *Am J Public Health*. 2006 Feb;96(2):351-7. doi: 10.2105/AJPH.2004.041806. PMID: 16380577. **Exclusion reason:** Ineligible intervention
1520. van Valkengoed IG, Vlaar EM, Nierkens V, et al. The uptake of screening for type 2 diabetes and prediabetes by means of glycated hemoglobin versus the oral glucose tolerance test among 18 to 60-year-old people of South Asian origin: A comparative study. *PLoS ONE [Electronic Resource]*. 2015;10(8):e0136734. doi: 10.1371/journal.pone.0136734. PMID: 26317417. **Exclusion reason:** Ineligible outcome
1521. Vanderpool RC, Huang B. Cancer risk perceptions, beliefs, and physician avoidance in Appalachia: results from the 2008 HINTS Survey. *J Health Commun*. 2010;15 Suppl 3:78-91. doi: 10.1080/10810730.2010.522696. PMID: 21154085. **Exclusion reason:** Ineligible study design

1522. Vang S, Margolies LR, Jandorf L. Mobile Mammography Participation Among Medically Underserved Women: A Systematic Review. *Prev Chronic Dis*. 2018 11 15;15:E140. doi: <https://dx.doi.org/10.5888/pcd15.180291>. PMID: 30447104. **Exclusion reason:** Systematic review used to identify primary studies
1523. VanWormer JJ, Greenlee RT, McBride PE, et al. Aspirin for primary prevention of CVD: are the right people using it? *J Fam Pract*. 2012 Sep;61(9):525-32. PMID: 23000660. **Exclusion reason:** Ineligible study design
1524. VanWormer JJ, Johnson PJ, Pereira RF, et al. The Heart of New Ulm Project: using community-based cardiometabolic risk factor screenings in a rural population health improvement initiative. *Population Health Management*. 2012 Jun;15(3):135-43. doi: 10.1089/pop.2011.0027. PMID: 22313445. **Exclusion reason:** Ineligible study design
1525. Vargas Bustamante A, Chen J, Rodriguez HP, et al. Use of preventive care services among Latino subgroups. *Am J Prev Med*. 2010 Jun;38(6):610-9. doi: 10.1016/j.amepre.2010.01.029. PMID: 20494237. **Exclusion reason:** Ineligible outcome
1526. Varghese M, Sheffer C, Stitzer M, et al. Socioeconomic disparities in telephone-based treatment of tobacco dependence. *Am J Public Health*. 2014 Aug;104(8):e76-84. doi: 10.2105/AJPH.2014.301951. PMID: 24922165. **Exclusion reason:** Ineligible outcome
1527. Varkey AB, Manwell LB, Williams ES, et al. Separate and unequal: clinics where minority and nonminority patients receive primary care. *Arch Intern Med*. 2009 Feb 09;169(3):243-50. doi: 10.1001/archinternmed.2008.559. PMID: 19204215. **Exclusion reason:** Ineligible study design
1528. Vastis AG. Hypertension control: progress, but. *Med Health R I*. 1997 May;80(5):168-70. PMID: 9150684. **Exclusion reason:** Ineligible publication type
1529. Vaughn NA. Impact of insurance status on health care utilization and quality of self-care among ethnic minorities with type 2 diabetes. Dissertation abstracts international. 2007;67(11-B):6725. **Exclusion reason:** Ineligible publication type
1530. Vaughn S. Factors influencing the participation of middle-aged and older Latin-American women in physical activity: a stroke-prevention behavior. *Rehabil Nurs*. 2009 Jan-Feb;34(1):17-23. PMID: 19160920. **Exclusion reason:** Ineligible comparison
1531. Veach E, Xique I, Johnson J, et al. Race matters: analyzing the relationship between colorectal cancer mortality rates and various factors within respective racial groups. *Front Public Health*. 2014;2:239. doi: 10.3389/fpubh.2014.00239. PMID: 25426487. **Exclusion reason:** Ineligible intervention
1532. Veal YS. A million voices for health care: strengthening the health values and behaviors of African Americans. *J Natl Med Assoc*. 1996 Jan;88(1):13-4. PMID: 8583484. **Exclusion reason:** Ineligible publication type
1533. Vega S. Nicotine replacement therapy in grocery stores; but wait, there's more. *N Z Med J*. 2011 Jun 10;124(1336):110-1. PMID: 21946758. **Exclusion reason:** Ineligible publication type
1534. Veliz P, Matthews AK, Arslanian-Engoren C, et al. LDCT lung cancer screening eligibility and use of CT scans for lung cancer among sexual minorities. *Cancer Epidemiol*. 2019 Jun;60:51-4. doi: <https://dx.doi.org/10.1016/j.canep.2019.03.009>. PMID: 30909153. **Exclusion reason:** Ineligible outcome
1535. Vellozzi CJ, Romans M, Rothenberg RB. Delivering breast and cervical cancer screening services to underserved women: Part II. Implications for policy. *Womens Health Issues*. 1996 Jul-Aug;6(4):211-20. PMID: 8754671. **Exclusion reason:** Ineligible publication type

1536. Vellozzi CJ, Romans M, Rothenberg RB. Delivering breast and cervical cancer screening services to underserved women: Part I. Literature review and telephone survey. *Womens Health Issues*. 1996 Mar-Apr;6(2):65-73. PMID: 8932459. **Exclusion reason:** Ineligible intervention
1537. Venditti EM, Wylie-Rosett J, Delahanty LM, et al. Short and long-term lifestyle coaching approaches used to address diverse participant barriers to weight loss and physical activity adherence. *Int J Behav Nutr Phys Act*. 2014 Feb 12;11:16. doi: 10.1186/1479-5868-11-16. PMID: 24521153. **Exclusion reason:** Ineligible population
1538. Ventura E, Davis J, Byrd-Williams C, et al. Reduction in risk factors for type 2 diabetes mellitus in response to a low-sugar, high-fiber dietary intervention in overweight Latino adolescents. *Arch Pediatr Adolesc Med*. 2009 Apr;163(4):320-7. doi: 10.1001/archpediatrics.2009.11. PMID: 19349560. **Exclusion reason:** Ineligible population
1539. Vesey JL. PVD screenings offer revenue opportunities. *Health Care Strateg Manage*. 2003 Apr;21(4):1, 17-9. PMID: 12747077. **Exclusion reason:** Ineligible publication type
1540. Viadro CI. Taking stock of WISEWOMAN. *J Womens Health*. 2004 Jun;13(5):480-3. doi: 10.1089/1540999041281115. **Exclusion reason:** Ineligible publication type
1541. Vicini FA, Shah C, Wallace M, et al. Strategies for reducing cancer incidence and mortality in African American and Arab American and Chaldean communities in the Detroit metropolitan area. *Am J Clin Oncol*. 2012 Aug;35(4):316-21. doi: 10.1097/COC.0b013e318210f9b5. PMID: 21587031. **Exclusion reason:** Ineligible comparison
1542. Vickrey BG, Koroshetz WJ. Ensuring that the fruits of clinical trial research translate to equitable care. *Neurology*. 2011 Jan;76(4):314-5. doi: 10.1212/WNL.0b013e31820c7509. PMID: 21209371. **Exclusion reason:** Ineligible publication type
1543. Victorson D, Banas J, Smith J, et al. eSalud: designing and implementing culturally competent ehealth research with latino patient populations. *Am J Public Health*. 2014 Dec;104(12):2259-65. doi: 10.2105/AJPH.2014.302187. PMID: 25320901. **Exclusion reason:** Ineligible publication type
1544. Vieira R, Formenton A, Bertolini SR. Breast cancer screening in Brazil. Barriers related to the health system. *Rev Assoc Med Bras*. 2017 May;63(5):466-74. doi: 10.1590/1806-9282.63.05.466. PMID: 28724046. **Exclusion reason:** Ineligible country
1545. Viera AJ, Thorpe JM, Garrett JM. Effects of sex, age, and visits on receipt of preventive healthcare services: a secondary analysis of national data. *BMC Health Serv Res*. 2006 Feb 23;6:15. PMID: 16504097. **Exclusion reason:** Ineligible study design
1546. Vijayalakshmi T, Razia R, Prakasamma M. Knowledge and learning needs of clients with hypertension. *Nurs J India*. 1997 Apr;88(4):74-6. PMID: 9256768. **Exclusion reason:** Ineligible population
1547. Villaire M, Mayer G. Health literacy: the low-hanging fruit in health care reform. *J Health Care Finance*. 2009;36(2):55-9. PMID: 20499721. **Exclusion reason:** Ineligible publication type
1548. Villani J, Mortensen K. Patient-provider communication and timely receipt of preventive services. *Prev Med*. 2013 Nov;57(5):658-63. doi: 10.1016/j.ypmed.2013.08.034. PMID: 24021993. **Exclusion reason:** Ineligible study design
1549. Villarruel AM. Poverty and health disparities: More than just a difference. *West J Nurs Res*. 2007 Oct;29(6):654-6. doi: 10.1177/0193945907304404. **Exclusion reason:** Ineligible publication type
1550. Vincent D, Clark L, Zimmer LM, et al. Using focus groups to develop a culturally competent diabetes self-management program for Mexican Americans. *Diabetes Educ*. 2006 Jan-Feb;32(1):89-97. PMID: 16439497. **Exclusion reason:** Ineligible population

1551. Virani SS. Statins in the primary and secondary prevention of cardiovascular disease in women: facts and myths. *Tex Heart Inst J*. 2013;40(3):288-9. PMID: 23914021. **Exclusion reason:** Ineligible publication type
1552. Virk-Baker MK, Martin MY, Levine RS, et al. Mammography utilization among Black and White Medicare beneficiaries in high breast cancer mortality US counties. *Cancer Causes Control*. 2013 Dec;24(12):2187-96. doi: 10.1007/s10552-013-0295-9. PMID: 24077760. **Exclusion reason:** Ineligible outcome
1553. Virnig BA, Lurie N, Huang Z, et al. Racial variation in quality of care among Medicare+Choice enrollees. *Health Aff (Millwood)*. 2002 Nov-Dec;21(6):224-30. PMID: 12442860. **Exclusion reason:** Ineligible outcome
1554. Viswanath K, Breen N, Meissner H, et al. Cancer knowledge and disparities in the information age. *J Health Commun*. 2006 May;11(Suppl1):1-17. doi: 10.1080/10810730600637426. PMID: 16641071. **Exclusion reason:** Ineligible outcome
1555. Vitiello JR, Levary RR. Determining the optimal physician mix in health maintenance organizations. *J Med Syst*. 1997 Aug;21(4):249-66. PMID: 9442439. **Exclusion reason:** Ineligible study design
1556. Vitolins MZ, Crandall S, Miller D, et al. Obesity educational interventions in U.S. medical schools: a systematic review and identified gaps. *Teach Learn Med*. 2012;24(3):267-72. doi: 10.1080/10401334.2012.692286. PMID: 22775792. **Exclusion reason:** Ineligible population
1557. Vlahov D, Ahern J, Vazquez T, et al. Racial/ethnic differences in screening for colon cancer: report from the New York Cancer Project. *Ethn Dis*. 2005;15(1):76-83. PMID: 15720052. **Exclusion reason:** Ineligible outcome
1558. Voelker R. Colonoscopy: prime time for primary care? *JAMA*. 2009 Mar 04;301(9):921-2. doi: 10.1001/jama.2009.238. PMID: 19258574. **Exclusion reason:** Ineligible publication type
1559. Vogel CW, Whippy HJ, Robinett NR. A partnership between the cancer research center of Hawaii and the University of Guam in Cancer Research, Education, Training, and Outreach. *Hawaii Med J*. 2010 Jun;69(6 Suppl 3):56-8. PMID: 20540006. **Exclusion reason:** Ineligible outcome
1560. Volkmann K, Castanares T. Clinical community health workers: linchpin of the medical home. *J Ambul Care Manage*. 2011 Jul-Sep;34(3):221-33. doi: 10.1097/JAC.0b013e31821cb559. PMID: 21673521. **Exclusion reason:** Ineligible outcome
1561. von Friederichs-Fitzwater MM, Navarro L, Taylor SL. A value-based approach to increase breast cancer screening and health-directed behaviors among American Indian women. *J Cancer Educ*. 2010 Dec;25(4):582-7. doi: 10.1007/s13187-010-0111-0. PMID: 20405355. **Exclusion reason:** Ineligible outcome
1562. von Wagner C, Good A, Whitaker KL, et al. Psychosocial determinants of socioeconomic inequalities in cancer screening participation: a conceptual framework. *Epidemiol Rev*. 2011;33:135-47. doi: 10.1093/epirev/mxq018. PMID: 21586673. **Exclusion reason:** Ineligible publication type
1563. von Wagner C, Semmler C, Good A, et al. Health literacy and self-efficacy for participating in colorectal cancer screening: The role of information processing. *Patient Educ Couns*. 2009 Jun;75(3):352-7. doi: 10.1016/j.pec.2009.03.015. PMID: 19386461. **Exclusion reason:** Ineligible outcome
1564. Vyas A, Madhavan S, Kelly K, et al. Do Appalachian women attending a mobile mammography program differ from those visiting a stationary mammography facility? *J Community Health*. 2013 Aug;38(4):698-706. doi: 10.1007/s10900-013-9667-z. PMID: 23504266. **Exclusion reason:** Ineligible study design

1565. Wadden TA, West DS, Neiberg RH, et al. One-year weight losses in the Look AHEAD study: factors associated with success. *Obesity* (Silver Spring). 2009 Apr;17(4):713-22. doi: 10.1038/oby.2008.637. PMID: 19180071. **Exclusion reason:** Ineligible population
1566. Waghray A, Jain A, Waghray N. Colorectal cancer screening in African Americans: practice patterns in the United States. Are we doing enough? *Gastroenterology Report*. 2016 May;4(2):136-40. doi: 10.1093/gastro/gow005. PMID: 27071411. **Exclusion reason:** Ineligible study design
1567. Wagner J, Abbott G, Lacey K. Knowledge of heart disease risk among spanish speakers with diabetes: the role of interpreters in the medical encounter. *Ethn Dis*. 2005;15(4):679-84. PMID: 16259493. **Exclusion reason:** Ineligible population
1568. Wakefield J. Fighting obesity through the built environment. *Environ Health Perspect*. 2004 Aug;112(11):A616-8. PMID: 15289181. **Exclusion reason:** Ineligible publication type
1569. Waksman R. Outcome improvement for STEMI patients: the next breakthrough in interventional cardiology? *Cardiovasc Revasc Med*. 2013 Jan-Feb;14(1):1-2. doi: 10.1016/j.carrev.2012.12.011. PMID: 23337377. **Exclusion reason:** Ineligible publication type
1570. Waldemar C. St. Paul physicians readying for surge of Hmong immigrants. *Minn Med*. 2004 Aug;87(8):10. PMID: 15478816. **Exclusion reason:** Ineligible publication type
1571. Walker EA, Bragg R. Racial disparities in health outcomes: Research and intervention perspectives. *J Health Care Poor Underserved*. 2005 Nov;16(4,SupplA):v-xii. doi: 10.1353/hpu.2005.0131. **Exclusion reason:** Ineligible publication type
1572. Walker RJ, Gebregziabher M, Martin-Harris B, et al. Relationship between social determinants of health and processes and outcomes in adults with type 2 diabetes: validation of a conceptual framework. *BMC Endocr Disord*. 2014 Oct 09;14:82. doi: 10.1186/1472-6823-14-82. PMID: 25298071. **Exclusion reason:** Ineligible population
1573. Walker RJ, Smalls BL, Campbell JA, et al. Impact of social determinants of health on outcomes for type 2 diabetes: a systematic review. *Endocrine*. 2014 Sep;47(1):29-48. doi: 10.1007/s12020-014-0195-0. PMID: 24532079. **Exclusion reason:** Ineligible population
1574. Walker-Smith TL. A prospective quality improvement project using a mammography risk assessment tool to increase screening mammogram use with low-income Hispanic women. *Dissertation Abstracts International*. 2019;80(1-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1575. Wallace D, Hunter J, Papenfuss M, et al. Pap smear screening among women >=40 years residing at the United States-Mexico border. *Health Care Women Int*. 2007 Oct;28(9):799-816. PMID: 17907008. **Exclusion reason:** Ineligible study design
1576. Wallace PM, Torres S, Beltran J, et al. Views of mammography screening among U.S. Black and Hispanic immigrant women and their providers. *Health Care Women Int*. 2014;35(10):1181-200. doi: 10.1080/07399332.2013.862794. PMID: 24274768. **Exclusion reason:** Ineligible comparison
1577. Wallace SP, Gutierrez VF, Castaneda X. Access to preventive services for adults of Mexican origin. *J Immigr Minor Health*. 2008 Aug;10(4):363-71. PMID: 17939052. **Exclusion reason:** Ineligible outcome
1578. Walsh B, O'Neill C. Socioeconomic disparities across ethnicities: an application to cervical cancer screening. *Am J Manag Care*. 2015 Sep 01;21(9):e527-36. PMID: 26618440. **Exclusion reason:** Ineligible study design
1579. Walsh JM, Kaplan CP, Nguyen B, et al. Barriers to colorectal cancer screening in Latino and Vietnamese Americans. Compared with non-Latino white Americans. *J Gen Intern Med*. 2004 Feb;19(2):156-66. PMID: 15009795. **Exclusion reason:** Ineligible outcome

1580. Walsh JM, Salazar R, Nguyen TT, et al. Healthy colon, healthy life: a novel colorectal cancer screening intervention. *Am J Prev Med.* 2010 Jul;39(1):1-14. doi: 10.1016/j.amepre.2010.02.020. PMID: 20547275. **Exclusion reason:** Ineligible setting
1581. Walters SG. Communicating health ... saving lives. *Md Med.* 2007;8(3):25-6. PMID: 17970498. **Exclusion reason:** Ineligible publication type
1582. Walton-Moss B, Samuel L, Nguyen TH, et al. Community-based cardiovascular health interventions in vulnerable populations: a systematic review. *J Cardiovasc Nurs.* 2014 Jul;29(4):293-307. doi: 10.1097/JCN.0b013e31828Background995. PMID: 23612036. **Exclusion reason:** Systematic review used to identify primary studies
1583. Wang JH, Liang W, Chen MY, et al. The influence of culture and cancer worry on colon cancer screening among older Chinese-American women. *Ethn Dis.* 2006;16(2):404-11. PMID: 17682242. **Exclusion reason:** Ineligible study design
1584. Wang L, Jason XN, Upshur RE. Determining use of preventive health care in Ontario: comparison of rates of 3 maneuvers in administrative and survey data. *Can Fam Physician.* 2009 Feb;55(2):178-9.e5. PMID: 19221082. **Exclusion reason:** Ineligible study design
1585. Wang L, Southerland J, Wang K, et al. Ethnic Differences in Risk Factors for Obesity among Adults in California, the United States. *J Obes.* 2017;2017:2427483. doi: 10.1155/2017/2427483. PMID: 28352473. **Exclusion reason:** Ineligible study design
1586. Wang LY, Haddix AC, Teutsch SM, et al. The role of resource allocation models in selecting clinical preventive services. *Am J Manag Care.* 1999 Apr;5(4):445-54. PMID: 10387384. **Exclusion reason:** Ineligible study design
1587. Wang Y, Katzmarzyk PT, Horswell R, et al. Racial disparities in cardiovascular risk factor control in an underinsured population with Type 2 diabetes. *Diabet Med.* 2014 Oct;31(10):1230-6. doi: 10.1111/dme.12470. PMID: 24750373. **Exclusion reason:** Ineligible population
1588. Wang-Letzkus MF, Washington G, Calvillo ER, et al. Using culturally competent community-based participatory research with older diabetic Chinese Americans: Lessons learned. *J Transcult Nurs.* 2012 Jul;23(3):255-61. doi: 10.1177/1043659612441021. PMID: 22491300. **Exclusion reason:** Ineligible publication type
1589. Ward E, Halpern M, Schrag N, et al. Association of insurance with cancer care utilization and outcomes. *CA Cancer J Clin.* 2008 Jan-Feb;58(1):9-31. PMID: 18096863. **Exclusion reason:** Ineligible study design
1590. Ward KK, Shah NR, Saenz CC, et al. Changing demographics of cervical cancer in the United States (1973-2008). *Gynecol Oncol.* 2012 Sep;126(3):330-3. doi: 10.1016/j.ygyno.2012.05.035. PMID: 22668881. **Exclusion reason:** Ineligible population
1591. Ward SJ, Edge RM, Peterson C. The development of a community breast center. *J Oncol Manag.* 1999 May-Jun;8(3):10-2. PMID: 10538237. **Exclusion reason:** Ineligible publication type
1592. Warne D. Research and educational approaches to reducing health disparities among American Indians and Alaska Natives. *J Transcult Nurs.* 2006 Jul;17(3):266-71. PMID: 16757666. **Exclusion reason:** Ineligible publication type
1593. Warner KE. Disparities in smoking are complicated and consequential. What to do about them? *Am J Health Promot.* 2011 May-Jun;25(5 Suppl):S5-7. doi: 10.4278/ajhp.25.5.c3. PMID: 21510786. **Exclusion reason:** Ineligible publication type

1594. Warner KE, Mackay JL. Smoking cessation treatment in a public-health context. *Lancet*. 2008 Jun 14;371(9629):1976-8. doi: 10.1016/S0140-6736(08)60846-6. PMID: 18555898. **Exclusion reason:** Ineligible publication type
1595. Warren AG, Londono GE, Wessel LA, et al. Breaking down barriers to breast and cervical cancer screening: a university-based prevention program for Latinas. *J Health Care Poor Underserved*. 2006 Aug;17(3):512-21. PMID: 16960319. **Exclusion reason:** Ineligible comparison
1596. Warren JR, Sukumar A. Identity-congruent communication in user interface design: The case of medically underserved smokers. *Howard J Comm*. 2013 Oct;24(4):348-69. doi: 10.1080/10646175.2013.835590. **Exclusion reason:** Ineligible outcome
1597. Warren M, Beck S, Rayburn J. The State of Obesity 2018: Better Policies for a Healthier America Trust for America's Health, Robert Wood Johnson Foundation 2018. <https://stateofobesity.org/wp-content/uploads/2018/09/stateofobesity2018.pdf>. Accessed May 17 2019. **Exclusion reason:** Ineligible publication type
1598. Warren N, Kabore C. SOPHE: Sustainable solutions for health equity. Obesity interventions in underserved communities: Evidence and directions. Baltimore, MD: Johns Hopkins University Press; US; 2014:290-8. **Exclusion reason:** Ineligible publication type
1599. Washington TA, Murray JP. Breast cancer prevention strategies for aged Black lesbian women. *J Gay Lesbian Soc Serv*. 2005;18(1):89-96. doi: 10.1300/J041v18n0107. PMID: 23045560. **Exclusion reason:** Ineligible intervention
1600. Wasserman MR, Bender DE, Lee SY, et al. Social support among Latina immigrant women: bridge persons as mediators of cervical cancer screening. *J Immigr Minor Health*. 2006 Jan;8(1):67-84. PMID: 19835001. **Exclusion reason:** Ineligible comparison
1601. Watanabe-Galloway S, Flom N, Xu L, et al. Cancer-related disparities and opportunities for intervention in Northern Plains American Indian communities. *Public Health Rep*. 2011 May-Jun;126(3):318-29. PMID: 21553659. **Exclusion reason:** Ineligible study design
1602. Waters EA, Sullivan HW, Finney Rutten LJ. Cancer prevention information-seeking among Hispanic and non-Hispanic users of the National Cancer Institute's Cancer Information Service: trends in telephone and LiveHelp use. *J Health Commun*. 2009 Jul-Aug;14(5):476-86. doi: 10.1080/10810730903032952. PMID: 19657927. **Exclusion reason:** Ineligible intervention
1603. Watson BI. African American pastors' perspectives on health promotion ministries. Dissertation abstracts international. 2018;78(10-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1604. Watson KE. Cardiovascular risk reduction among African Americans: a call to action. *J Natl Med Assoc*. 2008 Jan;100(1):18-26. PMID: 18277804. **Exclusion reason:** Ineligible publication type
1605. Watson KE, Fonarow GC. Cardiovascular disease in African Americans. Closing the knowledge, treatment, and outcome gap. *Rev Cardiovasc Med*. 2004;5 Suppl 3:S42-4. PMID: 15303085. **Exclusion reason:** Ineligible publication type
1606. Watson KS, Hulbert A, Henderson V, et al. Lung Cancer Screening and Epigenetics in African Americans: The Role of the Socioecological Framework. *Front Oncol*. 2019;9:87. doi: <https://dx.doi.org/10.3389/fonc.2019.00087>. PMID: 30915271. **Exclusion reason:** Ineligible publication type
1607. Watson Y. The cure for prevention is cultural sensitivity. Ethnicity and Inequalities in Health and Social Care. 2008;1(2):8-10. **Exclusion reason:** Ineligible publication type

1608. Watson-Johnson LC, DeGroff A, Steele CB, et al. Mammography adherence: a qualitative study. *J Womens Health*. 2011 Dec;20(12):1887-94. doi: 10.1089/jwh.2010.2724. PMID: 22023414. **Exclusion reason:** Ineligible study design
1609. Watts L, Joseph N, Velazquez A, et al. Understanding barriers to cervical cancer screening among Hispanic women. *Am J Obstet Gynecol*. 2009 Aug;201(2):199.e1-8. doi: 10.1016/j.ajog.2009.05.014. PMID: 19646571. **Exclusion reason:** Ineligible outcome
1610. Weaver HN. Native Americans and cancer risks: moving toward multifaceted solutions. *Social Work in Public Health*. 2010 May;25(3):272-85. doi: 10.1080/19371910903240621. PMID: 20446175. **Exclusion reason:** Ineligible publication type
1611. Weaver RG, Whittaker L, Valachovic RW, et al. Tobacco control and prevention effort in dental education. *J Dent Educ*. 2002 Mar;66(3):426-9. PMID: 11936234. **Exclusion reason:** Ineligible publication type
1612. Webb Hooper M, Antoni MH, Okuyemi K, et al. Randomized controlled trial of group-based culturally specific cognitive behavioral therapy among African American smokers. *Nicotine & Tobacco Research*. 2017 Mar 01;19(3):333-41. doi: 10.1093/ntr/ntw181. PMID: 27613941. **Exclusion reason:** Ineligible comparison
1613. Weber D, Wolff LS, Orleans T, et al. Smokers' attitudes and behaviors related to consumer demand for cessation counseling in the medical care setting. *Nicotine & Tobacco Research*. 2007 May;9(5):571-80. PMID: 17454713. **Exclusion reason:** Ineligible study design
1614. Weber DO. New Hanover Regional Medical Center in Wilmington, NC, does well by doing good. *Strategies for Healthcare Excellence*. 1998 Mar;11(3):1-8. PMID: 10177486. **Exclusion reason:** Ineligible publication type
1615. Webster NJ. Medicare and racial disparities in health: fee-for-service versus managed care. *Res Social Health Care*. 2010;28:47-70. doi: 10.1108/S0275-4959(2010)0000028005. **Exclusion reason:** Ineligible study design
1616. Wechsler H. Addressing youth health disparities: the CDC perspective. *Health Promotion Practice*. 2010 May;11(3 Suppl):7S-8S. doi: 10.1177/1524839910369923. PMID: 20488962. **Exclusion reason:** Ineligible publication type
1617. Wee CC, McCarthy EP, Davis RB, et al. Screening for cervical and breast cancer: is obesity an unrecognized barrier to preventive care? *Ann Intern Med*. 2000 May 02;132(9):697-704. PMID: 10787362. **Exclusion reason:** Ineligible study design
1618. Wee CC, McCarthy EP, Davis RB, et al. Obesity and breast cancer screening. *J Gen Intern Med*. 2004 Apr;19(4):324-31. PMID: 15061741. **Exclusion reason:** Ineligible study design
1619. Wee CC, McCarthy EP, Phillips RS. Factors associated with colon cancer screening: The role of patient factors and physician counseling. *Int J Prev Med*. 2005 Jul;41(1):23-9. doi: 10.1016/j.ypmed.2004.11.004. PMID: 15916989. **Exclusion reason:** Ineligible outcome
1620. Wee CC, Phillips RS, McCarthy EP. BMI and cervical cancer screening among white, African-American, and Hispanic women in the United States. *Obes Res*. 2005 Jul;13(7):1275-80. PMID: 16076999. **Exclusion reason:** Ineligible study design
1621. Weech-Maldonado R, Al-Amin M, Nishimi RY, et al. Enhancing the cultural competency of health-care organizations. *Advances in Health Care Management*. 2011;10:43-67. PMID: 21887937. **Exclusion reason:** Ineligible publication type

1622. Weech-Maldonado R, Carle A, Weidmer B, et al. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) cultural competence (CC) item set. *Med Care*. 2012 Sep;50(9 Suppl 2):S22-31. doi: 10.1097/MLR.0b013e318263134b. PMID: 22895226. **Exclusion reason:** Ineligible intervention
1623. Weeks WB. A new role for health insurers. *Healthc Financ Manage*. 2015 Oct;69(10):86-7. PMID: 26595982. **Exclusion reason:** Ineligible publication type
1624. Wehrly RA, Mier N, Ory MG, et al. Confronting the diabetes disparity: a look at diabetes, nutrition, and physical activity programs in the Lower Rio Grande Valley. *Health Promotion Practice*. 2010 May;11(3):394-9. doi: 10.1177/1524839908321488. PMID: 19098266. **Exclusion reason:** Ineligible outcome
1625. Weinick RM, Beauregard KM. Women's use of preventive screening services: a comparison of HMO versus fee-for-service enrollees. *Med Care Res Rev*. 1997 Jun;54(2):176-99. PMID: 9437164. **Exclusion reason:** Ineligible study design
1626. Weinstein LC, Lanoue MD, Plumb JD, et al. A primary care-public health partnership addressing homelessness, serious mental illness, and health disparities. *J Am Board Fam Med*. 2013 May-Jun;26(3):279-87. doi: 10.3122/jabfm.2013.03.120239. PMID: 23657696. **Exclusion reason:** Ineligible intervention
1627. Weinstein RS, Lopez AM. Health literacy and connected health. *Health Aff (Millwood)*. 2014 Jun;33(6):1103-4. doi: 10.1377/hlthaff.2014.0396. PMID: 24889963. **Exclusion reason:** Ineligible publication type
1628. Weinstock RS, Teresi JA, Golan R, et al. Glycemic control and health disparities in older ethnically diverse underserved adults with diabetes: five-year results from the Informatics for Diabetes Education and Telemedicine (IDEATel) study. *Diabetes Care*. 2011 Feb;34(2):274-9. doi: 10.2337/dc10-1346. PMID: 21270184. **Exclusion reason:** Ineligible population
1629. Weir MR. Leadership message: government and corporate responsibility to work with academia about the obesity epidemic. *J Clin Hypertens*. 2011 Mar;13(3):217-8. doi: 10.1111/j.1751-7176.2011.00426.x. PMID: 21366855. **Exclusion reason:** Ineligible publication type
1630. Weisman CS, Henderson JT. Managed care and women's health: access, preventive services, and satisfaction. *Womens Health Issues*. 2001 May-Jun;11(3):201-15. PMID: 11336861. **Exclusion reason:** Ineligible study design
1631. Weiss M. The quality evolution in managed care organizations: shifting the focus to community health. *J Nurs Care Qual*. 1997 Apr;11(4):27-31. PMID: 9097517. **Exclusion reason:** Ineligible publication type
1632. Weiss R. Communications partnership benefits Southern California. *Health Prog*. 1998 Nov-Dec;79(6):57. PMID: 10339235. **Exclusion reason:** Ineligible publication type
1633. Weiss R. Family resource center responds to community needs. *Health Prog*. 1998 Mar-Apr;79(2):65, 8. PMID: 10178092. **Exclusion reason:** Ineligible publication type
1634. Weiss R. Community health partnerships. *Health Prog*. 2002 Jul-Aug;83(4):11, 56. PMID: 12141076. **Exclusion reason:** Ineligible publication type
1635. Weiss R. Heart smart. *Mark Health Serv*. 2006;26(3):10-1. PMID: 17004427. **Exclusion reason:** Ineligible publication type
1636. Weissman GE, Morris RJ, Ng C, et al. Global health at home: a student-run community health initiative for refugees. *J Health Care Poor Underserved*. 2012 Aug;23(3):942-8. doi: 10.1353/hpu.2012.0093. PMID: 24212145. **Exclusion reason:** Ineligible publication type

1637. Weissman JS, Hasnain-Wynia R, Weinick RM, et al. Pay-for-performance programs to reduce racial/ethnic disparities: What might different designs achieve? *J Health Care Poor Underserved*. 2012 Feb;23(1):144-60. doi: 10.1353/hpu.2012.0030. PMID: 22643468. **Exclusion reason:** Ineligible intervention
1638. Weissman JS, Zaslavsky AM, Wolf RE, et al. State Medicaid coverage and access to care for low-income adults. *J Health Care Poor Underserved*. 2008 Feb;19(1):307-19. doi: 10.1353/hpu.2008.0021. PMID: 18264004. **Exclusion reason:** Ineligible study design
1639. Weist MD, Schlitt J. Alliances and school-based health care. *J Sch Health*. 1998 Dec;68(10):401-3. PMID: 9919493. **Exclusion reason:** Ineligible publication type
1640. Weitzel K, Farley JF, Anderson JJ, et al. APHA2007 House of Delegates: improving practice today, preparing for and protecting the profession's future. *J Am Pharm Assoc*. 2007 Sep-Oct;47(5):548, 50-2, 59-60, passim. PMID: 17848339. **Exclusion reason:** Ineligible publication type
1641. Welch C, Miller CW, James NT. Sociodemographic and health-related determinants of breast and cervical cancer screening behavior, 2005. *J Obstet Gynecol Neonatal Nurs*. 2008 Jan-Feb;37(1):51-7. doi: 10.1111/j.1552-6909.2007.00190.x. PMID: 18226157. **Exclusion reason:** Ineligible study design
1642. Welch VL, Oster NV, Gazmararian JA, et al. Impact of a diabetes disease management program by race and ethnicity. *Disease Management and Health Outcomes*. 2006;14(4):245-52. doi: 10.2165/00115677-200614040-00007. **Exclusion reason:** Ineligible population
1643. Wellman G. Smoking makes me ugly. *S D Med*. 2010 Nov;63(11):371. PMID: 21117515. **Exclusion reason:** Ineligible publication type
1644. Wells AA, Shon EJ, McGowan K, et al. Perspectives of Low-Income African-American Women Non-adherent to Mammography Screening: the Importance of Information, Behavioral Skills, and Motivation. *J Cancer Educ*. 2017 Jun;32(2):328-34. doi: 10.1007/s13187-015-0947-4. PMID: 26661256. **Exclusion reason:** Ineligible study design
1645. Wells GL. Cardiovascular Risk Factors: Does Sex Matter? *Curr Vasc Pharmacol*. 2016;14(5):452-7. PMID: 27456107. **Exclusion reason:** Ineligible publication type
1646. Wells J. Mammography and the politics of randomised controlled trials.[Erratum appears in *BMJ* 1998 Dec 5;317(7172):1561]. *BMJ*. 1998 Oct 31;317(7167):1224-9. PMID: 9794866. **Exclusion reason:** Ineligible publication type
1647. Wells KJ, Lee JH, Calcano ER, et al. A cluster randomized trial evaluating the efficacy of patient navigation in improving quality of diagnostic care for patients with breast or colorectal cancer abnormalities. *Cancer Epidemiol Biomarkers Prev*. 2012 Oct;21(10):1664-72. doi: 10.1158/1055-9965.Epi-12-0448. PMID: 23045541. **Exclusion reason:** Ineligible outcome
1648. Wells KJ, Meade CD, Calcano E, et al. Innovative approaches to reducing cancer health disparities: The Moffitt Cancer Center Patient Navigator Research Program. *J Cancer Educ*. 2011 Dec;26(4):649-57. doi: 10.1007/s13187-011-0238-7. PMID: 21573740. **Exclusion reason:** Ineligible outcome
1649. Wells KJ, Roetzheim RG. Health disparities in receipt of screening mammography in Latinas: a critical review of recent literature. *Cancer Control*. 2007 Oct;14(4):369-79. PMID: 17914337. **Exclusion reason:** Systematic review used to identify primary studies
1650. Welsh AL, Sauaia A, Jacobellis J, et al. The effect of two church-based interventions on breast cancer screening rates among Medicaid-insured Latinas. *Prev Chronic Dis*. 2005 Oct;2(4):A07. PMID: 16164811. **Exclusion reason:** Ineligible study design

1651. Wen XJ, Balluz L. Racial disparities in access to health care and preventive services between Asian Americans/Pacific Islanders and Non-Hispanic Whites. *Ethn Dis.* 2010;20(3):290-5. PMID: 20828104. **Exclusion reason:** Ineligible study design
1652. Wendel CS, Shah JH, Duckworth WC, et al. Racial and ethnic disparities in the control of cardiovascular disease risk factors in Southwest American veterans with type 2 diabetes: the Diabetes Outcomes in Veterans Study. *BMC Health Serv Res.* 2006 May 23;6:58. PMID: 16716235. **Exclusion reason:** Ineligible outcome
1653. Wender RC. Preventive health care for diabetics. A realistic vision. *Arch Fam Med.* 1997 Jan-Feb;6(1):38-41. PMID: 9003168. **Exclusion reason:** Ineligible publication type
1654. Wender RC. Barriers to screening for colorectal cancer. *Gastrointest Endosc Clin N Am.* 2002 Jan;12(1):145-70. PMID: 11916157. **Exclusion reason:** Ineligible publication type
1655. Wender RC. The adequacy of the access-to-care debate: Looking through the cancer lens. *Cancer.* 2007 Jul;110(2):231-3. doi: 10.1002/cncr.22787. **Exclusion reason:** Ineligible publication type
1656. Wenger NK. The female heart is vulnerable to cardiovascular disease: emerging prevention evidence for women must inform emerging prevention strategies for women. *Circulation. Cardiovascular Quality & Outcomes.* 2010 Mar;3(2):118-9. doi: 10.1161/CIRCOUTCOMES.110.942664. PMID: 20233978. **Exclusion reason:** Ineligible publication type
1657. Wenger NK. Coronary heart disease in men and women: does 1 size fit all? No! *Clin Cardiol.* 2011 Nov;34(11):663-7. doi: 10.1002/clc.20985. PMID: 22095657. **Exclusion reason:** Ineligible publication type
1658. Wesp C, Jr. An idea in search of reality: challenge is to identify groups that will be most amenable to population health efforts. *Health Manag Technol.* 2013 Oct;34(10):21. PMID: 24199314. **Exclusion reason:** Ineligible publication type
1659. West DS, Elaine Prewitt T, Bursac Z, et al. Weight loss of black, white, and Hispanic men and women in the Diabetes Prevention Program. *Obesity (Silver Spring).* 2008 Jun;16(6):1413-20. doi: 10.1038/oby.2008.224. PMID: 18421273. **Exclusion reason:** Ineligible outcome
1660. West SP, Laguna C, Trief PM, et al. Goal setting using telemedicine in rural underserved older adults with diabetes: experiences from the informatics for diabetes education and telemedicine project. *Telemed J E Health.* 2010 May;16(4):405-16. doi: 10.1089/tmj.2009.0136. PMID: 20507198. **Exclusion reason:** Ineligible population
1661. WestRasmus EK, Pineda-Reyes F, Tamez M, et al. Promotores de salud and community health workers: an annotated bibliography. *Fam Community Health.* 2012 Apr-Jun;35(2):172-82. doi: 10.1097/FCH.0b013e31824991d2. PMID: 22367264. **Exclusion reason:** Ineligible publication type
1662. Wetter DW, Mazas C, Daza P, et al. Reaching and treating Spanish-speaking smokers through the National Cancer Institute's Cancer Information Service. A randomized controlled trial. *Cancer.* 2007 Jan 15;109(2 Suppl):406-13. doi: 10.1002/cncr.22360. PMID: 17149758. **Exclusion reason:** Ineligible setting
1663. Wexler R, Elton T, Pleister A, et al. Barriers to blood pressure control as reported by African American patients. *J Natl Med Assoc.* 2009 Jun;101(6):597-603. doi: 10.1016/S0027-9684%2815%2930947-0. PMID: 19585931. **Exclusion reason:** Ineligible outcome
1664. Wheeler SB, Kuo TM, Goyal RK, et al. Regional variation in colorectal cancer testing and geographic availability of care in a publicly insured population. *Health & Place.* 2014 Sep;29:114-23. doi: 10.1016/j.healthplace.2014.07.001. PMID: 25063908. **Exclusion reason:** Ineligible study design

1665. White A, Vernon SW, Franzini L, et al. Racial and ethnic disparities in colorectal cancer screening persisted despite expansion of Medicare's screening reimbursement. *Cancer Epidemiol Biomarkers Prev.* 2011 May;20(5):811-7. doi: 10.1158/1055-9965.EPI-09-0963. PMID: 21546366. **Exclusion reason:** Ineligible study design
1666. White AL. Racial/ethnic disparities in colorectal cancer screening and survival in a large nationwide population-based cohort. Dissertation abstracts international. 2010;70(7-B):4061. **Exclusion reason:** Ineligible publication type
1667. White J, Heney J, Esquibel AY, et al. Teaching and addressing health disparities through the family medicine social and community context of care project. *R I Med.* 2014 Sep 02;97(9):26-30. PMID: 25181743. **Exclusion reason:** Ineligible publication type
1668. White PM, Sahu M, Poles MA, et al. Colorectal cancer screening of high-risk populations: A national survey of physicians. *BMC Res Notes.* 2012 Jan 24;5:64. doi: 10.1186/1756-0500-5-64. PMID: 22272666. **Exclusion reason:** Ineligible study design
1669. Whitehead M. A typology of actions to tackle social inequalities in health. *J Epidemiol Community Health.* 2007 Jun;61(6):473-8. PMID: 17496254. **Exclusion reason:** Ineligible publication type
1670. Whitehead T. Fake change fails. *Mark Health Serv.* 2012;32(2):16-21. PMID: 22708213. **Exclusion reason:** Ineligible publication type
1671. Whiting SJ, Vatanparast H, Taylor JG, et al. Barriers to healthful eating and supplement use in lower-income adults. *Can J Diet Pract Res.* 2010;71(2):70-6. PMID: 20525418. **Exclusion reason:** Ineligible outcome
1672. Whitley EM, Heeley GF. Forging a code of ethics for managed care. *Healthc Forum J.* 1997 Nov-Dec;40(6):40-3. PMID: 10175122. **Exclusion reason:** Ineligible publication type
1673. Whitley EM, Jarrett NC, Young AM, et al. Building effective programs to improve men's health. *Am J Mens Health.* 2007 Dec;1(4):294-306. doi: 10.1177/1557988307306956. PMID: 19482811. **Exclusion reason:** Ineligible publication type
1674. Whitman S, Shah AM, Silva A, et al. Mammography screening in six diverse communities in Chicago--a population study. *Cancer Detect Prev.* 2007;31(2):166-72. PMID: 17418980. **Exclusion reason:** Ineligible study design
1675. Whittemore R. Culturally competent interventions for Hispanic adults with type 2 diabetes: a systematic review. *J Transcult Nurs.* 2007 Apr;18(2):157-66. PMID: 17416718. **Exclusion reason:** Ineligible population
1676. Wilcox B, Bruce SD. Patient navigation: a "win-win" for all involved. *Oncol Nurs Forum.* 2010 Jan;37(1):21-5. doi: 10.1188/10.ONF.21-25. PMID: 20044337. **Exclusion reason:** Ineligible study design
1677. Wilcox ML, Acuna JM, de la Vega PR, et al. Factors associated with compliance of blood stool test and use of colonoscopy in underserved communities of north Miami-Dade County, Florida. *J Health Care Poor Underserved.* 2015 Nov;26(4):1319-35. doi: 10.1353/hpu.2015.0114. PMID: 26548681. **Exclusion reason:** Ineligible study design
1678. Wilcox ML, Acuna JM, Ward-Peterson M, et al. Racial/ethnic disparities in annual mammogram compliance among households in Little Haiti, Miami-Dade County, Florida: An observational study. *Medicine.* 2016 Jul;95(27):e3826. doi: 10.1097/MD.00000000000003826. PMID: 27399061. **Exclusion reason:** Ineligible study design
1679. Wilcox MR. Community Paramedicine in a Rural Setting. Minnesota's approach includes free clinics and a mobile unit that travels the community. *EMS world.* 2016 Feb;45(2):17-9. PMID: 26946585. **Exclusion reason:** Ineligible publication type

1680. Wilcox S, Laken M, Bopp M, et al. Increasing physical activity among church members: Community-based participatory research. *Am J Prev Med.* 2007 Feb;32(2):131-8. doi: 10.1016/j.amepre.2006.10.009. PMID: 17234487. **Exclusion reason:** Ineligible outcome
1681. Wilcox S, Laken M, Parrott AW, et al. The faith, activity, and nutrition (FAN) program: design of a participatory research intervention to increase physical activity and improve dietary habits in African American churches. *Contemp Clin Trials.* 2010 Jul;31(4):323-35. doi: 10.1016/j.cct.2010.03.011. PMID: 20359549. **Exclusion reason:** Ineligible population
1682. Wilder JM, Wilson JA. Racial and Ethnic Disparities in Colon Cancer Screening in North Carolina. *N C Med J.* 2016 May-Jun;77(3):185-6. doi: 10.18043/ncm.77.3.185. PMID: 27154886. **Exclusion reason:** Ineligible publication type
1683. Wilensky SE, Gray EA. Existing Medicaid beneficiaries left off the Affordable Care Act's prevention bandwagon. *Health Aff (Millwood).* 2013 Jul;32(7):1188-95. doi: 10.1377/hlthaff.2013.0224. PMID: 23836733. **Exclusion reason:** Background information only
1684. Wilfond BS. Policy in the light: professional society guidelines begin the ethical conversations about screening. *Am J Bioeth.* 2009 Apr;9(4):17-9. doi: 10.1080/15265160902790575. PMID: 19326303. **Exclusion reason:** Ineligible publication type
1685. Wilkinson GW, Sager A, Selig S, et al. No equity, no triple aim: strategic proposals to advance health equity in a volatile policy environment. *Am J Public Health.* 2017;107:S223-S8. doi: 10.2105/AJPH.2017.304000. PMID: 29236539. **Exclusion reason:** Ineligible publication type
1686. Will JC, Farris RP, Sanders CG, et al. Health Promotion Interventions for Disadvantaged Women: Overview of the WISEWOMAN Projects. *J Womens Health.* 2004 Jun;13(5):484-502. doi: 10.1089/1540999041281025. PMID: 15257842. **Exclusion reason:** Ineligible publication type
1687. Willett JG, Hood NE, Burns EK, et al. Clinical faxed referrals to a tobacco quitline: reach, enrollment, and participant characteristics. *Am J Prev Med.* 2009 Apr;36(4):337-40. doi: 10.1016/j.amepre.2008.12.004. PMID: 19201150. **Exclusion reason:** Ineligible outcome
1688. Williams AJ. Racial/ethnic disparities in colorectal cancer screening among United States community-based residents. Dissertation abstracts international. 2013;73(9-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1689. Williams DG, Scott DB. Community perspective: colorectal cancer disparities in South Carolina. *J S C Med Assoc.* 2006 Aug;102(7):221-2. PMID: 17319234. **Exclusion reason:** Ineligible publication type
1690. Williams DL, Tortu S, Thomson J. Factors associated with delays to diagnosis and treatment of breast cancer in women in a Louisiana urban safety net hospital. *Women Health.* 2010 Dec;50(8):705-18. doi: 10.1080/03630242.2010.530928. PMID: 21170814. **Exclusion reason:** Ineligible study design
1691. Williams DR, Mohammed SA, Shields AE. Understanding and effectively addressing breast cancer in African American women: Unpacking the social context. *Cancer.* 2016 Jul 15;122(14):2138-49. doi: 10.1002/cncr.29935. PMID: 26930024. **Exclusion reason:** Ineligible publication type
1692. Williams F. Spatial cluster analysis of female breast cancer diagnosis in Missouri: Using gis and spatial analyst functions. Dissertation abstracts international. 2014;75(3-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type

1693. Williams F, Jeanetta S, O'Brien DJ, et al. Rural-urban difference in female breast cancer diagnosis in Missouri. *Rural & Remote Health*. 2015 Jul-Sep;15(3):3063. PMID: 26223824. **Exclusion reason:** Ineligible study design
1694. Williams F, Thompson E. Disparity in breast cancer late stage at diagnosis in Missouri: Does rural versus urban residence matter? *J Racial Ethn Health Disparities*. 2016 Jun;3(2):233-9. doi: 10.1007/s40615-015-0132-9. PMID: 27271063. **Exclusion reason:** Ineligible population
1695. Williams JH, Carter SM. An empirical study of the 'underscreened' in organised cervical screening: experts focus on increasing opportunity as a way of reducing differences in screening rates. *BMC Med Ethics*. 2016 10 06;17(1):56. PMID: 27716156. **Exclusion reason:** Ineligible intervention
1696. Williams JS, Walker RJ, Egede LE. Achieving Equity in an Evolving Healthcare System: Opportunities and Challenges. *Am J Med Sci*. 2016 Jan;351(1):33-43. doi: 10.1016/j.amjms.2015.10.012. PMID: 26802756. **Exclusion reason:** Ineligible publication type
1697. Williams K, Mullan P, Todem D. Moving from theory to practice: Implementing the Kin KeeperSM Cancer Prevention Model. *Health Educ Res*. 2009 Apr;24(2):343-56. doi: 10.1093/her/cyn026. PMID: 18515265. **Exclusion reason:** Ineligible outcome
1698. Williams KP, Mullan PB, Todem D. Moving from theory to practice: implementing the Kin Keeper Cancer Prevention Model. *Health Educ Res*. 2009 Apr;24(2):343-56. doi: <https://dx.doi.org/10.1093/her/cyn026>. PMID: 18515265. **Exclusion reason:** Ineligible outcome
1699. Williams KP, Roman L, Meghea CI, et al. Kin KeeperSM: design and baseline characteristics of a community-based randomized controlled trial promoting cancer screening in Black, Latina, and Arab women. *Contemp Clin Trials*. 2013 Mar;34(2):312-9. doi: 10.1016/j.cct.2012.12.005. PMID: 23274402. **Exclusion reason:** Ineligible outcome
1700. Williams LB, Franklin B, Evans MB, et al. Turn the beat around: A stroke prevention program for African-American churches. *Public Health Nurs*. 2016 Jan-Feb;33(1):11-20. doi: 10.1111/phn.12234. PMID: 26404001. **Exclusion reason:** Ineligible setting
1701. Williams M, Moneyham L, Kempf MC, et al. Structural and sociocultural factors associated with cervical cancer screening among HIV-infected African American women in Alabama. *AIDS Patient Care STDS*. 2015 Jan;29(1):13-9. doi: 10.1089/apc.2014.0063. PMID: 25514125. **Exclusion reason:** Ineligible outcome
1702. Williams R, White P, Nieto J, et al. Colorectal Cancer in African Americans: An Update. *Clinical and Translational Gastroenterology*. 2016 Jul 28;7(7):e185. doi: 10.1038/ctg.2016.36. PMID: 27467183. **Exclusion reason:** Ineligible publication type
1703. Williams RA. The Association of Black Cardiologists: A small-group success story. Eliminating healthcare disparities in America: Beyond the IOM report. Totowa, NJ: Humana Press; US; 2007:307-12. **Exclusion reason:** Ineligible study design
1704. Williams RD, 2nd. Medicare and communities of color. Medicare Brief/ National Academy of Social Insurance. 2004 Nov(11):1-9. PMID: 15532133. **Exclusion reason:** Ineligible publication type
1705. Williams RL, Flocke SA, Stange KC. Race and preventive services delivery among black patients and white patients seen in primary care. *Med Care*. 2001 Nov;39(11):1260-7. PMID: 11606879. **Exclusion reason:** Ineligible outcome
1706. Willis CD, Riley BL, Stockton L, et al. Scaling up complex interventions: insights from a realist synthesis. *Health Res Policy Syst*. 2016 Dec 19;14(1):88. PMID: 27993138. **Exclusion reason:** Ineligible intervention

1707. Willson AE. 'Fundamental Causes' of Health Disparities: A Comparative Analysis of Canada and the United States ['Causas fundamentales' de las disparidades en materia de salud: un análisis comparativo entre Canadá y Estados Unidos]. *Int Sociol.* 2009;24(1):93-113. doi: 10.1177/0268580908099155. **Exclusion reason:** Ineligible study design
1708. Willson MN, Neumiller JJ, Sclar DA, et al. Ethnicity/race, use of pharmacotherapy, scope of physician-ordered cholesterol screening, and provision of diet/nutrition or exercise counseling during US office-based visits by patients with hyperlipidemia. *Am J Cardiovasc Drugs.* 2010;10(2):105-8. doi: 10.2165/11532820-000000000-00000. PMID: 20334447. **Exclusion reason:** Ineligible intervention
1709. Wilson DB, McClish D, Tracy K, et al. Variations in breast cancer screening and health behaviors by age and race among attendees of women's health clinics. *J Natl Med Assoc.* 2009 Jun;101(6):528-35. PMID: 19585920. **Exclusion reason:** Ineligible outcome
1710. Wilson DK. New perspectives on health disparities and obesity interventions in youth. *J Pediatr Psychol.* 2009 Apr;34(3):231-44. doi: 10.1093/jpepsy/jsn137. PMID: 19223277. **Exclusion reason:** Ineligible population
1711. Wilson DK, Kirtland KA, Ainsworth BE, et al. Socioeconomic status and perceptions of access and safety for physical activity. *Ann Behav Med.* 2004 Aug;28(1):20-8. PMID: 15249256. **Exclusion reason:** Ineligible intervention
1712. Wilson DK, Lee Van Horn M, Siceloff E, et al. The results of the "Positive Action for Today's Health" (PATH) trial for increasing walking and physical activity in underserved African-American communities. *Ann Behav Med.* 2015 Jun;49(3):398-410. doi: 10.1007/s12160-014-9664-1. PMID: 25385203. **Exclusion reason:** Ineligible population
1713. Wilson DK, St George SM, Trumpeter NN, et al. Qualitative developmental research among low income African American adults to inform a social marketing campaign for walking. *Int J Behav Nutr Phys Act.* 2013 Mar 05;10:33. doi: 10.1186/1479-5868-10-33. PMID: 23497164. **Exclusion reason:** Ineligible population
1714. Wilson DK, Trumpeter NN, St George SM, et al. An overview of the "Positive Action for Today's Health" (PATH) trial for increasing walking in low income, ethnic minority communities. *Contemp Clin Trials.* 2010 Nov;31(6):624-33. doi: 10.1016/j.cct.2010.08.009. PMID: 20801233. **Exclusion reason:** Ineligible population
1715. Wilson FA, Villarreal R, Stimpson JP, et al. Cost-effectiveness analysis of a colonoscopy screening navigator program designed for Hispanic men. *J Cancer Educ.* 2015 Jun;30(2):260-7. doi: 10.1007/s13187-014-0718-7. PMID: 25168070. **Exclusion reason:** Ineligible outcome
1716. Wilson GJ. Factors affecting heart attack treatment-seeking delay among African American women. *Dissertation abstracts international.* 2010;70(12-B):7518. **Exclusion reason:** Ineligible publication type
1717. Wilson RT, Adams-Cameron M, Burhansstipanov L, et al. Disparities in breast cancer treatment among American Indian, Hispanic and non-Hispanic White women enrolled in Medicare. *J Health Care Poor Underserved.* 2007 Aug;18(3):648-64. doi: 10.1353/hpu.2007.0071. PMID: 17675720. **Exclusion reason:** Ineligible population
1718. Wilson RT, Giroux J, Kasicky KR, et al. Breast and cervical cancer screening patterns among American Indian women at IHS clinics in Montana and Wyoming. *Public Health Rep.* 2011 Nov-Dec;126(6):806-15. PMID: 22043096. **Exclusion reason:** Ineligible study design
1719. Wilson T. Breast cancer screening beliefs and barriers among college-aged women. *Dissertation abstracts international.* 2016;76(11-B(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type

1720. Wilson-Stronks AL. The role of nursing in meeting the healthcare needs of diverse populations. *J Nurs Care Qual.* 2008 Oct-Dec;23(4):289-91. doi: 10.1097/01.NCQ.0000336669.79853.38. PMID: 18806642. **Exclusion reason:** Ineligible publication type
1721. Wingfield JH, Akintobi TH, Jacobs D, et al. The SUCCEED Legacy Grant program: enhancing community capacity to implement evidence-based interventions in breast and cervical cancer. *J Health Care Poor Underserved.* 2012 May;23(2 Suppl):62-76. doi: 10.1353/hpu.2012.0081. PMID: 22643555. **Exclusion reason:** Ineligible publication type
1722. Wingo PA, Howe HL, Thun MJ, et al. A national framework for cancer surveillance in the United States. *Cancer Causes Control.* 2005 Mar;16(2):151-70. PMID: 15868456. **Exclusion reason:** Ineligible publication type
1723. Winker MA. Measuring race and ethnicity: Why and how? Comment. *JAMA.* 2004 Oct;292(13):1612-4. doi: 10.1001/jama.292.13.1612. PMID: 15467065. **Exclusion reason:** Ineligible publication type
1724. Winterich JA, Quandt SA, Grzywacz JG, et al. Masculinity and the body: How African American and White men experience cancer screening exams involving the rectum. *Am J Mens Health.* 2009 Dec;3(4):300-9. doi: 10.1177/1557988308321675. PMID: 19477742. **Exclusion reason:** Ineligible outcome
1725. Withall J, Jago R, Fox KR. The effect a of community-based social marketing campaign on recruitment and retention of low-income groups into physical activity programmes - a controlled before-and-after study. *BMC Public Health.* 2012 Oct 02;12:836. doi: 10.1186/1471-2458-12-836. PMID: 23031359. **Exclusion reason:** Ineligible population
1726. Withy KM, Berry SP, Lee M, et al. Resources for providers to counsel patients about healthy lifestyles. *Hawaii Med J.* 2005 Jul;64(7):180-3. PMID: 16130814. **Exclusion reason:** Ineligible comparison
1727. Wittenberg E, Bharel M, Saada A, et al. Measuring the preferences of homeless women for cervical cancer screening interventions: Development of a best-worst scaling survey. *Patient.* 2015 Oct;8(5):455-67. doi: 10.1007/s40271-014-0110-z. PMID: 25586646. **Exclusion reason:** Ineligible outcome
1728. Wojcik BE, Spinks MK, Stein CR. Effects of screening mammography on the comparative survival rates of African American, white, and Hispanic beneficiaries of a comprehensive health care system. *Breast J.* 2003 May-Jun;9(3):175-83. PMID: 12752625. **Exclusion reason:** Ineligible study design
1729. Wolf AB, Brem RF. Decreased mammography utilization in the United States: why and how can we reverse the trend? *AJR Am J Roentgenol.* 2009 Feb;192(2):400-2. doi: 10.2214/AJR.08.1873. PMID: 19155401. **Exclusion reason:** Ineligible publication type
1730. Wolf RL, Basch CE, Zybert P, et al. Patient test preference for colorectal cancer screening and screening uptake in an insured urban minority population. *J Community Health.* 2016 Jun;41(3):502-8. doi: 10.1007/s10900-015-0123-0. PMID: 26585609. **Exclusion reason:** Ineligible outcome
1731. Wolff M, Bates T, Beck B, et al. Cancer prevention in underserved African American communities: barriers and effective strategies--a review of the literature. *WMJ.* 2003;102(5):36-40. PMID: 14621929. **Exclusion reason:** Ineligible publication type
1732. Wolin KY, Colditz G, Stoddard AM, et al. Acculturation and physical activity in a working class multiethnic population. *Int J Prev Med.* 2006 Apr;42(4):266-72. doi: 10.1016/j.ypmed.2006.01.005. PMID: 16481031. **Exclusion reason:** Ineligible study design
1733. Woloshin S, Schwartz LM, Katz SJ, et al. Is language a barrier to the use of preventive services? *J Gen Intern Med.* 1997 Aug;12(8):472-7. PMID: 9276652. **Exclusion reason:** Ineligible study design

1734. Wong CC, Tsoh JY, Tong EK, et al. The Chinese community smoking cessation project: a community sensitive intervention trial. *J Community Health*. 2008 Dec;33(6):363-73. doi: 10.1007/s10900-008-9114-8. PMID: 18574679. **Exclusion reason:** Ineligible publication type
1735. Wong CM. An evaluation of recruitment and retention strategies among Asian American women in the National Breast and Cervical Cancer Early Detection Program. *Dissertation abstracts international*. 2007;68(4-B):2305. **Exclusion reason:** Ineligible publication type
1736. Wong CR, Bloomfield ER, Crookes DM, et al. Barriers and facilitators to adherence to screening colonoscopy among African-Americans: A mixed-methods analysis. *J Cancer Educ*. 2013 Dec;28(4):722-8. doi: 10.1007/s13187-013-0510-0. PMID: 23832432. **Exclusion reason:** Ineligible study design
1737. Wong FL, Miller JW. Centers for Disease Control and Prevention's National Breast and Cervical Cancer Early Detection Program: Increasing Access to Screening. *J Womens Health*. 2019 Apr;28(4):427-31. doi: <https://dx.doi.org/10.1089/jwh.2019.7726>. PMID: 30969905. **Exclusion reason:** Ineligible publication type
1738. Wong MS, Gudzone KA, Bleich SN. Provider communication quality: Influence of patients' weight and race. *Patient Educ Couns*. 2015 Apr;98(4):492-8. doi: 10.1016/j.pec.2014.12.007. PMID: 25617907. **Exclusion reason:** Ineligible study design
1739. Wong ND. American Society for Preventive Cardiology Annual Debate: coronary heart disease in men and women--does one size fit all? *Clin Cardiol*. 2011 Nov;34(11):653. doi: 10.1002/clc.20954. PMID: 22095655. **Exclusion reason:** Ineligible publication type
1740. Wong RJ. Marked Variations in Colon Cancer Epidemiology: Sex-specific and Race/Ethnicity-specific Disparities. *Gastroenterology Research*. 2009 Oct;2(5):268-76. PMID: 27956970. **Exclusion reason:** Ineligible study design
1741. Wong ST, Gildengorin G, Nguyen T, et al. Disparities in colorectal cancer screening rates among Asian Americans and non-Latino whites. *Cancer*. 2005 Dec 15;104(12 Suppl):2940-7. PMID: 16276538. **Exclusion reason:** Ineligible study design
1742. Wong WF, LaVeist TA, Sharfstein JM. Achieving health equity by design. *JAMA*. 2015 Apr 14;313(14):1417-8. doi: 10.1001/jama.2015.2434. PMID: 25751310. **Exclusion reason:** Ineligible publication type
1743. Wong-Kim E, Chilton JA, Goh SS, et al. Breast health issues of undocumented women in California and Texas. *J Cancer Educ*. 2009 Jan;24(Suppl 2):S64-S7. doi: 10.1080/08858190903404601. PMID: 20024832. **Exclusion reason:** Ineligible publication type
1744. Wood DM, Jones KD. Comparing NHANES data in the assessment of hypertension of African-Americans. Awareness, treatment and control of hypertension in an urban Maryland city. *Md Med*. 2002;3(2):57-9. PMID: 12056231. **Exclusion reason:** Ineligible population
1745. Wood SM, Schott W, Marshal MP, et al. Disparities in Body Mass Index Trajectories From Adolescence to Early Adulthood for Sexual Minority Women. *J Adolesc Health*. 2017 Dec;61(6):722-8. doi: 10.1016/j.jadohealth.2017.06.008. PMID: 28935384. **Exclusion reason:** Ineligible study design
1746. Woodall ED, Taylor VM, Teh C, et al. Sources of health information among Chinese immigrants to the Pacific Northwest. *J Cancer Educ*. 2009;24(4):334-40. doi: 10.1080/08858190902854533. PMID: 19838895. **Exclusion reason:** Ineligible study design
1747. Woodard LD, Hernandez MT, Lees E, et al. Racial differences in attitudes regarding cardiovascular disease prevention and treatment: a qualitative study. *Patient Educ Couns*. 2005 May;57(2):225-31. PMID: 15911197. **Exclusion reason:** Ineligible population

1748. Woodard LD, Hernandez MT, Lees E, et al. Racial differences in attitudes regarding cardiovascular disease prevention and treatment. *The Praeger handbook on stress and coping*, Vol. Westport, CT: Praeger Publishers/Greenwood Publishing Group; US; 2007:1 (pp. 127-39). xxi, 279. **Exclusion reason:** Ineligible population
1749. Woodgate RL, Busolo DS, Crockett M, et al. A qualitative study on African immigrant and refugee families' experiences of accessing primary health care services in Manitoba, Canada: it's not easy! *Int J Equity Health*. 2017 Jan 09;16(1):5. doi: 10.1186/s12939-016-0510-x. PMID: 28068998. **Exclusion reason:** Ineligible study design
1750. Woodruff SI, Talavera GA, Elder JP. Evaluation of a culturally appropriate smoking cessation intervention for Latinos. *Tob Control*. 2002 Dec;11(4):361-7. PMID: 12432162. **Exclusion reason:** Ineligible setting
1751. Woods LM, Sasieni P, Rachet B. Screening mammography and socioeconomic inequalities in breast cancer survival. *Ann Oncol*. 2012 Feb;23(2):285-6. doi: 10.1093/annonc/mdr557. PMID: 22156623. **Exclusion reason:** Ineligible publication type
1752. Woods SS, Jaen CR. Increasing consumer demand for tobacco treatments: Ten design recommendations for clinicians and healthcare systems. *Am J Prev Med*. 2010 Mar;38(3 Suppl):S385-92. doi: 10.1016/j.amepre.2009.12.003. PMID: 20176312. **Exclusion reason:** Ineligible publication type
1753. Woolf SH, Dekker MM, Byrne FR, et al. Citizen-centered health promotion: building collaborations to facilitate healthy living. *Am J Prev Med*. 2011 Jan;40(1 Suppl 1):S38-47. doi: 10.1016/j.amepre.2010.09.025. PMID: 21146777. **Exclusion reason:** Ineligible publication type
1754. Woolford SJ, Clark SJ, Butchart A, et al. To pay or not to pay: public perception regarding insurance coverage of obesity treatment. *Obesity*. 2013 Dec;21(12):E709-E14. doi: 10.1002/oby.20387. PMID: 23512908. **Exclusion reason:** Ineligible population
1755. Wooten L. Health and safety on North Carolina farms. *N C Med J*. 2011 Nov-Dec;72(6):484-6. PMID: 22523862. **Exclusion reason:** Ineligible publication type
1756. Worabo HJ. A Life Course Theory Approach to Understanding Eritrean Refugees' Perceptions of Preventive Health Care in the United States. *Issues Ment Health Nurs*. 2017 Apr;38(4):310-6. doi: 10.1080/01612840.2017.1289286. PMID: 28282222. **Exclusion reason:** Ineligible study design
1757. Worden JK, Mickey RM, Vacek PM, et al. Evaluation of a community breast screening promotion program. *Prev Med*. 2002 Oct;35(4):349-61. PMID: 12453712. **Exclusion reason:** Ineligible setting
1758. Workgroup AGSCW. American Geriatrics Society identifies five things that healthcare providers and patients should question. *J Am Geriatr Soc*. 2013 Apr;61(4):622-31. doi: 10.1111/jgs.12226. PMID: 23469880. **Exclusion reason:** Ineligible outcome
1759. Workgroup TW. Cardiovascular disease prevention for women attending breast and cervical cancer screening programs: the WISEWOMAN projects. *Prev Med*. 1999 May;28(5):496-502. PMID: 10329340. **Exclusion reason:** Ineligible outcome
1760. Worrell B. Providers find success with women's cardiovascular. *Health Care Strateg Manage*. 2003 Jun;21(6):1, 13-5. PMID: 12846082. **Exclusion reason:** Ineligible publication type
1761. Wray NP, Weiss TW, Christian CE, et al. The health status of veterans using mobile clinics in rural areas. *J Health Care Poor Underserved*. 1999 Aug;10(3):338-48. PMID: 10436732. **Exclusion reason:** Ineligible outcome

1762. Wray NP, Weiss TW, Menke TJ, et al. Evaluation of the VA mobile clinics demonstration project. *J Healthc Manag.* 1999 Mar-Apr;44(2):133-47. PMID: 10350836. **Exclusion reason:** Ineligible intervention
1763. Wray RJ, Jupka K, Ludwig-Bell C. A community-wide media campaign to promote walking in a Missouri town. *Prev Chronic Dis.* 2005 Oct;2(4):A04. PMID: 16164808. **Exclusion reason:** Ineligible intervention
1764. Wright B, Askelson NM, Ahrens M, et al. Completion of requirements in Iowa's Medicaid expansion premium disincentive program, 2014–2015. *Am J Public Health.* 2018;108(2):219-23. doi: 10.2105/AJPH.2017.304178. PMID: 29267056. **Exclusion reason:** Ineligible intervention
1765. Wright B, Nice AJ. Variation in local health department primary care services as a function of health center availability. *J Public Health Manag Pract.* 2015 Jan-Feb;21(1):E1-9. doi: 10.1097/PHH.0000000000000112. PMID: 24936802. **Exclusion reason:** Ineligible study design
1766. Wright PJ, Fortinsky RH, Covinsky KE, et al. Delivery of preventive services to older black patients using neighborhood health centers. *J Am Geriatr Soc.* 2000 Feb;48(2):124-30. PMID: 10682940. **Exclusion reason:** Ineligible study design
1767. Wu BU, Longstreth GF, Ngor EW. Screening colonoscopy versus sigmoidoscopy: implications of a negative examination for cancer prevention and racial disparities in average-risk patients. *Gastrointest Endosc.* 2014 Nov;80(5):852-61.e1-2. doi: 10.1016/j.gie.2014.03.015. PMID: 24814774. **Exclusion reason:** Ineligible population
1768. Wu D, Ma GX, Zhou K, et al. The effect of a culturally tailored smoking cessation for Chinese American smokers. *Nicotine Tob Res.* 2009 Dec;11(12):1448-57. doi: 10.1093/ntr/ntp159. PMID: 19915080. **Exclusion reason:** Ineligible setting
1769. Wu H, Zhu K, Jatoi I, et al. Factors associated with the incompletion with mammogram screening among individuals with a family history of breast cancer or ovarian cancer. *Breast Cancer Res Treat.* 2007 Mar;101(3):317-24. PMID: 16821080. **Exclusion reason:** Ineligible study design
1770. Wu JR, Holmes GM, DeWalt DA, et al. Low literacy is associated with increased risk of hospitalization and death among individuals with heart failure. *J Gen Intern Med.* 2013 Sep;28(9):1174-80. doi: 10.1007/s11606-013-2394-4. PMID: 23478997. **Exclusion reason:** Ineligible outcome
1771. Wu JR, Moser DK, DeWalt DA, et al. Health literacy mediates the relationship between age and health outcomes in patients with heart failure. *Circulation.* 2016 Jan;9(1):e002250. doi: 10.1161/CIRCHEARTFAILURE.115.002250. PMID: 26721913. **Exclusion reason:** Ineligible outcome
1772. Wu L, Colby E, Iongi-Filiaga A, et al. American Samoan women's health: experiences and attitudes toward breast and cervical cancer screening. *Hawaii Med J.* 2010 Jun;69(6 Suppl 3):17-20. PMID: 20539996. **Exclusion reason:** Ineligible outcome
1773. Wu TY, Hsieh HF, West BT. Demographics and perceptions of barriers toward breast cancer screening among Asian-American women. *Women Health.* 2008;48(3):261-81. doi: 10.1080/03630240802463384. PMID: 19064462. **Exclusion reason:** Ineligible study design
1774. Wu TY, Kao JY, Hsieh HF, et al. Effective colorectal cancer education for Asian Americans: a Michigan program. *J Cancer Educ.* 2010 Jun;25(2):146-52. doi: 10.1007/s13187-009-0009-x. PMID: 20094825. **Exclusion reason:** Ineligible setting
1775. Wujcik D, Fair AM. Barriers to diagnostic resolution after abnormal mammography: a review of the literature. *Cancer Nurs.* 2008 Sep-Oct;31(5):E16-30. doi: 10.1097/01.NCC.0000305764.96732.45. PMID: 18772653. **Exclusion reason:** Ineligible publication type

1776. Wujcik DM. All nurses can address disparities in their communities. *ONS Connect*. 2008 Jun;23(6):7. PMID: 18572871. **Exclusion reason:** Systematic review used to identify primary studies
1777. Wyatt SB, Akylbekova EL, Wofford MR, et al. Prevalence, awareness, treatment, and control of hypertension in the Jackson Heart Study. *Hypertension*. 2008 Mar;51(3):650-6. doi: 10.1161/HYPERTENSIONAHA.107.100081. PMID: 18268140. **Exclusion reason:** Ineligible study design
1778. Wylie A, Leedham-Green K. Health promotion in medical education: lessons from a major undergraduate curriculum implementation. *Educ Prim Care*. 2017 Nov;28(6):325-33. doi: 10.1080/14739879.2017.1311776. PMID: 28395588. **Exclusion reason:** Ineligible outcome
1779. Wylie-Rosett J, Karanja N. American Heart Association's behavioral roundtable for preventable disparities. *Prev Chronic Dis*. 2009 Apr;6(2):A71. PMID: 19289014. **Exclusion reason:** Ineligible publication type
1780. Wynn TA, Anderson-Lewis C, Johnson R, et al. Developing a community action plan to eliminate cancer disparities: lessons learned. *Progress in Community Health Partnerships*. 2011;5(2):161-8. doi: 10.1353/cpr.2011.0013. PMID: 21623018. **Exclusion reason:** Ineligible publication type
1781. Wynn TA, Johnson RE, Fouad M, et al. Addressing disparities through coalition building: Alabama REACH 2010 lessons learned. *J Health Care Poor Underserved*. 2006 May;17(2 Suppl):55-77. PMID: 16809875. **Exclusion reason:** Ineligible publication type
1782. Wynn TA, Taylor-Jones MM, Johnson RE, et al. Using community-based participatory approaches to mobilize communities for policy change. *Fam Community Health*. 2011 Jan-Mar;34(Suppl 1):S102-S14. doi: 10.1097/FCH.0b013e318202ee72. PMID: 21160326. **Exclusion reason:** Ineligible study design
1783. Wynn TA, Wyatt SB, Hardy CM, et al. Using community feedback to improve community interventions: Results from the Deep South Network for Cancer Control Project. *Fam Community Health*. 2016 Oct-Dec;39(4):234-41. doi: 10.1097/FCH.0000000000000101. PMID: 27536928. **Exclusion reason:** Ineligible outcome
1784. Xanthos C. Prejudiced providers: Unequal treatment as a determinant of African-American men's health. Social determinants of health among African-American men. San Francisco, CA: Jossey-Bass; US; 2013:207-24. **Exclusion reason:** Ineligible publication type
1785. Xiao Q, Savage GT. HMOs' consumer-friendliness and preventive health care utilization: exploratory findings from the 2002 Medical Expenditure Panel Survey. *J Health Hum Serv Adm*. 2008;31(2):259-89. PMID: 18998526. **Exclusion reason:** Ineligible population
1786. Xirasagar S, Hurley TG, Burch JB, et al. Colonoscopy screening rates among patients of colonoscopy-trained African American primary care physicians. *Cancer*. 2011 Nov;117(22):5151-60. doi: 10.1002/cncr.26142. PMID: 21523762. **Exclusion reason:** Ineligible comparison
1787. Yabroff KR, Lawrence WF, King JC, et al. Geographic disparities in cervical cancer mortality: what are the roles of risk factor prevalence, screening, and use of recommended treatment? *J Rural Health*. 2005;21(2):149-57. PMID: 15859052. **Exclusion reason:** Ineligible publication type
1788. Yabroff KR, Mandelblatt JS. Interventions targeted toward patients to increase mammography use. *Cancer Epidemiol Biomarkers Prev*. 1999 Sep;8(9):749-57. PMID: 10498393. **Exclusion reason:** Systematic review used to identify primary studies

1789. Yabroff KR, Washington KS, Leader A, et al. Is the promise of cancer-screening programs being compromised? Quality of follow-up care after abnormal screening results. *Med Care Res Rev.* 2003 Sep;60(3):294-331. PMID: 12971231. **Exclusion reason:** Ineligible publication type
1790. Yaesoubi R, Roberts SD. Payment contracts in a preventive health care system: a perspective from operations management. *J Health Econ.* 2011 Dec;30(6):1188-96. doi: 10.1016/j.jhealeco.2011.08.009. PMID: 21978522. **Exclusion reason:** Ineligible publication type
1791. Yager SS, Chen L, Cheung WY. Sex-based disparities in colorectal cancer screening. *Am J Clin Oncol.* 2014 Dec;37(6):555-60. doi: 10.1097/COC.0b013e318282a830. PMID: 23466582. **Exclusion reason:** Ineligible study design
1792. Yaghjian L, Wolin K, Chang SH, et al. Racial disparities in healthy behaviors and cancer screening among breast cancer survivors and women without cancer: National Health Interview Survey 2005. *Cancer Causes Control.* 2014 May;25(5):605-14. doi: 10.1007/s10552-014-0365-7. PMID: 24634091. **Exclusion reason:** Ineligible study design
1793. Yan F, Cha E, Lee ET, et al. A self-assessment tool for screening young adults at risk of type 2 diabetes using strong heart family study data. *Diabetes Educ.* 2016 Oct;42(5):607-17. doi: 10.1177/0145721716658709. PMID: 27480523. **Exclusion reason:** Ineligible population
1794. Yancey AK, Kumanyika SK, Ponce NA, et al. Population-based interventions engaging communities of color in healthy eating and active living: a review. *Prev Chronic Dis.* 2004 Jan;1(1):A09. PMID: 15634371. **Exclusion reason:** Systematic review used to identify primary studies
1795. Yancey AK, Lewis LB, Guinyard JJ, et al. Putting promotion into practice: the African Americans building a legacy of health organizational wellness program. *Health Promotion Practice.* 2006 Jul;7(3 Suppl):233S-46S. PMID: 16760245. **Exclusion reason:** Ineligible outcome
1796. Yancey AK, Ory MG, Davis SM. Dissemination of physical activity promotion interventions in underserved populations.[Erratum appears in *Am J Prev Med.* 2007 Feb;32(2):175]. *Am J Prev Med.* 2006 Oct;31(4 Suppl):S82-91. PMID: 16979472. **Exclusion reason:** Ineligible publication type
1797. Yancey AK, Sallis JF. Physical activity: Cinderella or Rodney Dangerfield? *Prev Med.* 2009 Oct;49(4):277-9. doi: 10.1016/j.ypmed.2009.08.012. PMID: 19716844. **Exclusion reason:** Ineligible publication type
1798. Yancey AK, Whitt-Glover MC, AuYoung M. Physical activity. Health issues in the Black community , 3rd ed. San Francisco, CA: Jossey-Bass; US; 2009:461-87. **Exclusion reason:** Ineligible publication type
1799. Yancy CW. The prevention of heart failure in minority communities and discrepancies in health care delivery systems. *Med Clin North Am.* 2004 Sep;88(5):1347-68, xii-xiii. PMID: 15331320. **Exclusion reason:** Ineligible publication type
1800. Yancy CW. Cardiovascular disease outcomes: priorities today, priorities tomorrow for research and community health. *Ethn Dis.* 2012;22(3 Suppl 1):S1-7-12. PMID: 23156833. **Exclusion reason:** Ineligible publication type
1801. Yancy WS, Jr., McDuffie JR, Stechuchak KM, et al. Obesity and receipt of clinical preventive services in veterans. *Obesity.* 2010 Sep;18(9):1827-35. doi: 10.1038/oby.2010.40. PMID: 20203629. **Exclusion reason:** Ineligible population
1802. Yang TC, Matthews SA, Hillemeier MM. Effect of health care system distrust on breast and cervical cancer screening in Philadelphia, Pennsylvania. *Am J Public Health.* 2011 Jul;101(7):1297-305. doi: 10.2105/AJPH.2010.300061. PMID: 21566035. **Exclusion reason:** Ineligible study design

1803. Yao X, Dembe AE, Wickizer T, et al. Does time pressure create barriers for people to receive preventive health services? *Prev Med*. 2015 May;74:55-8. doi: 10.1016/j.ypmed.2015.03.008. PMID: 25773470. **Exclusion reason:** Ineligible study design
1804. Yasmeen S, Xing G, Morris C, et al. Comorbidities and mammography use interact to explain racial/ethnic disparities in breast cancer stage at diagnosis. *Cancer*. 2011 Jul;117(14):3252-61. doi: 10.1002/cncr.25857. PMID: 21246529. **Exclusion reason:** Ineligible study design
1805. Yaeger BJ, Rodriguez M, Parker MF. Default from colposcopy and loop excision electrocautery procedure appointments in a military clinic. *J Low Genit Tract Dis*. 2005 Apr;9(2):78-81. PMID: 15870527. **Exclusion reason:** Ineligible population
1806. Yeary K, Flowers E, Ford G, et al. Development of a community-based participatory colorectal cancer screening intervention to address disparities, Arkansas, 2008-2009. *Prev Chronic Dis*. 2011 Mar;8(2):A47. PMID: 21324261. **Exclusion reason:** Ineligible study design
1807. Yeary KH, Mason M, Turner J, et al. A community-based approach to translational research addressing breast cancer disparities. *Transl Behav Med*. 2011 Jun;1(2):224-33. doi: 10.1007/s13142-011-0018-2. PMID: 24073047. **Exclusion reason:** Ineligible outcome
1808. Yedjou CG, Tchounwou PB, Payton M, et al. Assessing the Racial and Ethnic Disparities in Breast Cancer Mortality in the United States. *Int J Environ Res Public Health*. 2017 May 05;14(5):05. doi: 10.3390/ijerph14050486. PMID: 28475137. **Exclusion reason:** Ineligible publication type
1809. Yeh MC, Heo M, Suchday S, et al. Translation of the Diabetes Prevention Program for diabetes risk reduction in Chinese immigrants in New York City. *Diabet Med*. 2016 Apr;33(4):547-51. doi: 10.1111/dme.12848. PMID: 26179569. **Exclusion reason:** Ineligible intervention
1810. Yeh W-S. Association between cancer and the detection and management of comorbid health conditions among elderly men with prostate cancer in the United States. Dissertation abstracts international. 2011;71(8-B):4780. **Exclusion reason:** Ineligible publication type
1811. Yi JK, Prows SL. Breast cancer screening practices among Cambodian women in Houston, Texas. *J Cancer Educ*. 1996;11(4):221-5. PMID: 8989636. **Exclusion reason:** Ineligible study design
1812. Yi SS, Tabaei BP, Angell SY, et al. Self-blood pressure monitoring in an urban, ethnically diverse population: a randomized clinical trial utilizing the electronic health record. *Circulation*. Cardiovascular Quality & Outcomes. 2015 Mar;8(2):138-45. doi: 10.1161/CIRCOUTCOMES.114.000950. PMID: 25737487. **Exclusion reason:** Ineligible population
1813. Yin H, Wu Q, Cui Y, et al. Socioeconomic status and prevalence of chronic non-communicable diseases in Chinese women: a structural equation modelling approach. *BMJ Open*. 2017 Aug 21;7(8):e014402. doi: 10.1136/bmjopen-2016-014402. PMID: 28827232. **Exclusion reason:** Ineligible study design
1814. Yosef AR. Health beliefs, practice, and priorities for health care of Arab Muslims in the United States. *J Transcult Nurs*. 2008 Jul;19(3):284-91. doi: 10.1177/1043659608317450. PMID: 18445762. **Exclusion reason:** Ineligible publication type
1815. Young RF, Schwartz K, Booza J. Medical barriers to mammography screening of African American women in a high cancer mortality area: implications for cancer educators and health providers. *J Cancer Educ*. 2011 Jun;26(2):262-9. doi: 10.1007/s13187-010-0184-9. PMID: 21210272. **Exclusion reason:** Ineligible study design
1816. Young RF, Waller JB, Jr., Smitherman H. A breast cancer education and on-site screening intervention for unscreened African American women. *J Cancer Educ*. 2002;17(4):231-6. PMID: 12556062. **Exclusion reason:** Ineligible outcome

1817. Young S, Patterson L, Wolff M, et al. Empowerment, leadership, and sustainability in a faith-based partnership to improve health. *J Relig Health*. 2015 Dec;54(6):2086-98. PMID: 26668847. **Exclusion reason:** Ineligible outcome
1818. Young WF, McGloin J, Zittleman L, et al. Predictors of colorectal screening in rural Colorado: testing to prevent colon cancer in the high plains research network. *J Rural Health*. 2007;23(3):238-45. PMID: 17565524. **Exclusion reason:** Ineligible outcome
1819. Young-Wolff KC, Klebaner D, Campbell CI, et al. Association of the Affordable Care Act with smoking and tobacco treatment utilization among adults newly enrolled in health care. *Med Care*. 2017 May;55(5):535-41. doi: 10.1097/MLR.0000000000000712. PMID: 28288073. **Exclusion reason:** Ineligible outcome
1820. Yu MY, Seetoo AD, Hong OS, et al. Cancer screening promotion among medically underserved Asian American women: integration of research and practice. *Res Theory Nurs Pract*. 2002;16(4):237-48. PMID: 12643332. **Exclusion reason:** Ineligible publication type
1821. Yu MY, Wu TY. Factors influencing mammography screening of Chinese American women. *J Obstet Gynecol Neonatal Nurs*. 2005 May-Jun;34(3):386-94. PMID: 15890839. **Exclusion reason:** Ineligible study design
1822. Yu MY, Wu TY, Mood DW. Cultural affiliation and mammography screening of Chinese women in an urban county of Michigan. *J Transcult Nurs*. 2005 Apr;16(2):107-16. PMID: 15764633. **Exclusion reason:** Ineligible study design
1823. Yu SWY, Hill C, Ricks ML, et al. The scope and impact of mobile health clinics in the United States: a literature review. *Int J Equity Health*. 2017 Oct 05;16(1):178. doi: 10.1186/s12939-017-0671-2. PMID: 28982362. **Exclusion reason:** Ineligible outcome
1824. Zambrana RE, Breen N, Fox SA, et al. Use of cancer screening practices by Hispanic women: analyses by subgroup. *Prev Med*. 1999 Dec;29(6 Pt 1):466-77. PMID: 10600427. **Exclusion reason:** Ineligible study design
1825. Zapka J, Cranos C. Behavioral theory in the context of applied cancer screening research. *Health Educ Behav*. 2009 Oct;36(5, Suppl):161S-6S. doi: 10.1177/1090198109340512. PMID: 19830886. **Exclusion reason:** Ineligible publication type
1826. Zapka JG, Puleo E, Vickers-Lahti M, et al. Healthcare system factors and colorectal cancer screening. *Am J Prev Med*. 2002 Jul;23(1):28-35. PMID: 12093420. **Exclusion reason:** Ineligible study design
1827. Zarate-Abbott P, Etnyre A, Gilliland I, et al. Workplace health promotion--strategies for low-income Hispanic immigrant women. *AAOHN J*. 2008 May;56(5):217-22. PMID: 18578188. **Exclusion reason:** Ineligible outcome
1828. Zarchy T. Projected national impact of colorectal cancer screening on clinical and economic outcomes and health services demand. *Gastroenterology*. 2006 Mar;130(3):1012; author reply PMID: 16530546. **Exclusion reason:** Ineligible publication type
1829. Zaslavsky AM, Ayanian JZ. Integrating Research on Racial and Ethnic Disparities in Health Care Over Place and Time. *Med Care*. 2005 Apr;43(4):303-7. doi: 10.1097/01.mlr.0000159975.43573.8d. PMID: 15778633. **Exclusion reason:** Ineligible study design
1830. Zawertailo L, Dragonetti R, Bondy SJ, et al. Reach and effectiveness of mailed nicotine replacement therapy for smokers: 6-month outcomes in a naturalistic exploratory study. *Tob Control*. 2013 May;22(3):e4. doi: 10.1136/tobaccocontrol-2011-050303. PMID: 22496352. **Exclusion reason:** Ineligible population

1831. Zeh P, Sandhu HK, Cannaby AM, et al. The impact of culturally competent diabetes care interventions for improving diabetes-related outcomes in ethnic minority groups: a systematic review. *Diabet Med*. 2012 Oct;29(10):1237-52. doi: 10.1111/j.1464-5491.2012.03701.x. PMID: 22553954. **Exclusion reason:** Systematic review used to identify primary studies
1832. Zeliadt SB, Hoffman RM, Birkby G, et al. Challenges Implementing Lung Cancer Screening in Federally Qualified Health Centers. *Am J Prev Med*. 2018 04;54(4):568-75. doi: <https://dx.doi.org/10.1016/j.amepre.2018.01.001>. PMID: 29429606. **Exclusion reason:** Ineligible study design
1833. Zenk SN, Schulz AJ, Odoms-Young AM. How neighborhood environments contribute to obesity. *Am J Nurs*. 2009 Jul;109(7):61-4. doi: 10.1097/01.NAJ.0000357175.86507.c8. PMID: 19546647. **Exclusion reason:** Ineligible publication type
1834. Zenk SN, Tarlov E, Sun J. Spatial equity in facilities providing low- or no-fee screening mammography in Chicago neighborhoods. *J Urban Health*. 2006 Mar;83(2):195-210. PMID: 16736369. **Exclusion reason:** Ineligible outcome
1835. Zepeda ED. Technology-enabled health care supply chain for primary care: Reducing disparities in the delivery of chronic care. Dissertation abstracts international. 2013;74(1-A(E)):No Pagination Specified. **Exclusion reason:** Ineligible publication type
1836. Zha N, Alabousi M, Patel BK, et al. Beyond Universal Health Care: Barriers to Breast Cancer Screening Participation in Canada. *J Am Coll Radiol*. 2019 Apr;16(4 Pt B):570-9. doi: <https://dx.doi.org/10.1016/j.jacr.2019.02.044>. PMID: 30947889. **Exclusion reason:** Systematic review used to identify primary studies
1837. Zhang X, Beckles GL, Bullard KM, et al. Access to health care and undiagnosed diabetes along the United States-Mexico border. *Rev Panam Salud Publica*. 2010 Sep;28(3):182-9. PMID: 20963265. **Exclusion reason:** Ineligible study design
1838. Zhao BB, Kilbourne B, Stain SC, et al. Racial disparities and trends in use of colorectal procedures among Tennessee elderly (1996-2000). *Ethn Dis*. 2006;16(2):412-20. PMID: 17682243. **Exclusion reason:** Ineligible study design
1839. Zhao G, Okoro CA, Li J, et al. Health Insurance Status and Clinical Cancer Screenings Among U.S. Adults. *Am J Prev Med*. 2018 Jan;54(1):e11-e9. doi: 10.1016/j.amepre.2017.08.024. PMID: 29102459. **Exclusion reason:** Ineligible study design
1840. Zhou H, Tsoh JY, Grigg-Saito D, et al. Decreased smoking disparities among Vietnamese and Cambodian communities - Racial and Ethnic Approaches to Community Health (REACH) project, 2002-2006. *MMWR: Morbidity & Mortality Weekly Report - Supplement*. 2014 Apr 18;63(1):37-45. PMID: 24743665. **Exclusion reason:** Ineligible setting
1841. Zhou J, Enewold L, Peoples GE, et al. Trends in cancer screening among Hispanic and white non-Hispanic women, 2000-2005. *J Womens Health*. 2010 Dec;19(12):2167-74. doi: 10.1089/jwh.2009.1909. PMID: 21039233. **Exclusion reason:** Ineligible outcome
1842. Zhu K, Hunter S, Bernard LJ, et al. An intervention study on screening for breast cancer among single African-American women aged 65 and older. *Prev Med*. 2002 May;34(5):536-45. doi: 10.1006/pmed.2002.1016. PMID: 11969355. **Exclusion reason:** Ineligible setting
1843. Zhu SH, Cummins SE, Wong S, et al. The effects of a multilingual telephone quitline for Asian smokers: a randomized controlled trial. *J Natl Cancer Inst*. 2012 Feb 22;104(4):299-310. doi: 10.1093/jnci/djr530. PMID: 22282542. **Exclusion reason:** Ineligible setting
1844. Zhu SH, Gardiner P, Cummins S, et al. Quitline utilization rates of African-American and white smokers: the California experience. *Am J Health Promot*. 2011 May-Jun;25(5 Suppl):S51-8. doi: 10.4278/ajhp.100611-QUAN-185. PMID: 21510787. **Exclusion reason:** Ineligible study design

1845. Zhu SH, Hebert K, Wong S, et al. Disparity in smoking prevalence by education: can we reduce it? *Global Health Promotion*. 2010 Mar;17(1 Suppl):29-39. doi: 10.1177/1757975909358361. PMID: 20595352. **Exclusion reason:** Ineligible population
1846. Zhu S-H, Wong S, Stevens C, et al. Use of a smokers' quitline by Asian language speakers: Results from 15 years of operation in California. *Am J Public Health*. 2010 May;100(5):846-52. doi: 10.2105/AJPH.2009.168385. PMID: 20299658. **Exclusion reason:** Ineligible setting
1847. Ziebarth D, Healy-Haney N, Gnadt B, et al. A community-based family intervention program to improve obesity in Hispanic families. *WMJ*. 2012 Dec;111(6):261-6. PMID: 23362702. **Exclusion reason:** Ineligible setting
1848. Ziegahn L, Styne D, Askia J, et al. Strategies to prevent and reduce diabetes and obesity in Sacramento, California: the African American Leadership Coalition and University of California, Davis. *Prev Chronic Dis*. 2013 Nov 14;10:E187. doi: 10.5888/pcd10.130074. PMID: 24229570. **Exclusion reason:** Ineligible outcome
1849. Ziemer DC, Berkowitz KJ, Panayiotou RM, et al. A simple meal plan emphasizing healthy food choices is as effective as an exchange-based meal plan for urban African Americans with type 2 diabetes. *Diabetes Care*. 2003 Jun;26(6):1719-24. PMID: 12766100. **Exclusion reason:** Ineligible intervention
1850. Zimmerman RK, Tabbarah M, Trauth J, et al. Predictors of lower endoscopy use among patients at three inner-city neighborhood health centers. *J Urban Health*. 2006 Mar;83(2):221-30. PMID: 16736371. **Exclusion reason:** Ineligible study design
1851. Zinser MC, Pampel FC, Flores E. Distinct beliefs, attitudes, and experiences of Latino smokers: relevance for cessation interventions. *Am J Health Promot*. 2011 May-Jun;25(5 Suppl):eS1-15. doi: 10.4278/ajhp.100616-QUAN-200. PMID: 21510796. **Exclusion reason:** Ineligible study design
1852. Zoellner J, Connell C, Madson MB, et al. HUB city steps: a 6-month lifestyle intervention improves blood pressure among a primarily African-American community. *J Acad Nutr Diet*. 2014 Apr;114(4):603-12. doi: 10.1016/j.jand.2013.11.020. PMID: 24534602. **Exclusion reason:** Ineligible setting
1853. Zoellner J, Motley M, Wilkinson ME, et al. Engaging the Dan River Region to reduce obesity: application of the Comprehensive Participatory Planning and Evaluation process. *Fam Community Health*. 2012 Jan-Mar;35(1):44-56. doi: 10.1097/FCH.0b013e3182385cd9. PMID: 22143487. **Exclusion reason:** Ineligible publication type
1854. Zoellner JM, Connell CC, Madson MB, et al. H.U.B city steps: methods and early findings from a community-based participatory research trial to reduce blood pressure among African Americans. *Int J Behav Nutr Phys Act*. 2011 Jun 10;8:59. doi: 10.1186/1479-5868-8-59. PMID: 21663652. **Exclusion reason:** Ineligible setting
1855. Zorogastua K, Erwin D, Thelemaque L, et al. Intrinsic Factors of Non-adherence to Breast and Cervical Cancer Screenings Among Latinas. *J Racial Ethn Health Disparities*. 2016 Dec;3(4):658-66. PMID: 27294758. **Exclusion reason:** Ineligible study design
1856. Zunker C, Cox TL, Wingo BC, et al. Using formative research to develop a worksite health promotion program for African American women. *Women Health*. 2008;48(2):189-207. doi: 10.1080/03630240802313514. PMID: 19042216. **Exclusion reason:** Ineligible population

Appendix D. Study Design Algorithm

Figure D-1. Study design algorithm

Appendix E. Criteria for Assessing Quality and External Validity of Individual Studies

USPSTF Criteria for Assessing Quality

Randomized Controlled Trials and Cohort Studies*

Criteria:

- Initial assembly of comparable groups:
- For randomized controlled trials (RCTs): Adequate randomization, including first concealment and whether potential confounders were distributed equally among groups
- For cohort studies: Consideration of potential confounders, with either restriction or measurement for adjustment in the analysis; consideration of inception cohorts
- Maintenance of comparable groups (includes attrition, cross-overs, adherence, contamination)
- Important differential loss to followup or overall high loss to followup
- Measurements: equal, reliable, and valid (includes masking of outcome assessment)
- Clear definition of interventions
- All important outcomes considered
- Analysis: adjustment for potential confounders for cohort studies or intention-to treat analysis for RCTs

Definition of ratings based on above criteria:

Good: Meets all criteria: Comparable groups are assembled initially and maintained throughout the study (followup $\geq 80\%$); reliable and valid measurement instruments are used and applied equally to all groups; interventions are spelled out clearly; all important outcomes are considered; and appropriate attention to confounders in analysis. In addition, intention-to-treat analysis is used for RCTs.

Fair: Studies are graded “fair” if any or all of the following problems occur, without the fatal flaws noted in the “poor” category below: Generally comparable groups are assembled initially, but some question remains whether some (although not major) differences occurred with followup; measurement instruments are acceptable (although not the best) and generally applied equally; some but not all important outcomes are considered; and some but not all potential confounders are accounted for. Intention-to-treat analysis is used for RCTs.

Poor: Studies are graded “poor” if any of the following fatal flaws exists: Groups assembled initially are not close to being comparable or maintained throughout the study; unreliable or invalid measurement instruments are used or not applied equally among groups (including not masking outcome assessment); and key confounders are given little or no attention. Intention-to-treat analysis is lacking for RCTs.

USPSTF Criteria for Assessing External Validity*

Each study that is identified as providing evidence to answer a key question is assessed according to its external validity (generalizability), using the following criteria.

Study population: The degree to which a study's subjects constitute a special population—either because they were selected from a larger eligible population or because they do not represent persons who are likely to seek or be candidates for the preventive service. The selection has the potential to affect the following:

- **Absolute risk:** The background rate of outcomes in the study could be greater or less than what might be expected in asymptomatic persons because of the inclusion/exclusion criteria, nonparticipation, or other reasons.
- **Harms:** The harms observed in the study could be greater or less than what might be expected in asymptomatic persons.

The following are features of the study population and the study design that may cause a participant's experience in the study to be different from what would be observed in the U.S. primary care population:

- **Demographic characteristics (i.e., age, sex, ethnicity, education, income):** The criteria for inclusion/exclusion or nonparticipation do not encompass the range of persons who are likely to be candidates for the preventive service in the U.S. primary care population.
- **Comorbid conditions:** The frequency of comorbid conditions in the study population does not represent the frequency likely to be encountered in persons who seek the preventive service in the U.S. primary care population.
- **Special inclusion/exclusion criteria:** There are other special inclusion/exclusion criteria that make the study population not representative of the U.S. primary care population.
- **Refusal rate (i.e., ratio of included to not included but eligible participants):** The refusal rate among eligible study subjects is high, making the study population not representative of the U.S. primary care population, even among eligible enrollees.
- **Adherence (i.e., run-in phase, frequent contact to monitor adherence):** The study design has features that may increase the effect of the intervention in the study more than would be expected in a clinically observed population.
- **Stage or severity of disease:** The selection of subjects for the study includes persons at a disease stage that is earlier or later than would be found in persons who are candidates for the preventive service.
- **Recruitment:** The sources for recruiting subjects for the study and/or the effort and intensity of recruitment may distort the characteristics of the study subjects in ways that could increase the effect of the intervention as it is observed in the study.

Study setting: The degree to which the clinical experience in the setting in which the study was conducted is likely to be reproduced in other settings:

- **Health care system:** The clinical experience in the system in which the study was conducted is not likely to be the same as that experienced in other systems (e.g., the system provides essential services for free when these services are only available at a high cost in other systems).

- **Country:** The clinical experience in the country in which the study was conducted is not likely to be the same as that in the United States (e.g., services available in the United States are not widely available in the other country or vice versa).
- **Selection of participating centers:** The clinical experience in which the study was conducted is not likely to be the same as in offices/hospitals/settings where the service is delivered to the U.S. primary care population (e.g., the center provides ancillary services that are not generally available).
- **Time, effort, and system cost for the intervention:** The time, effort, and cost to develop the service in the study is more than would be available outside the study setting.

Study providers: The degree to which the providers in the study have the skills and expertise likely to be available in general settings:

- **Training to implement the intervention:** Providers in the study are given special training not likely to be available or required in U.S. primary care settings.
- **Expertise or skill to implement the intervention:** Providers in the study have expertise and/or skills at a higher level than would likely be encountered in typical settings.
- **Ancillary providers:** The study intervention relies on ancillary providers who are not likely to be available in typical settings.

Global Rating of External Validity (Generalizability; Applicability)

External validity is rated “good” if:

- The study differs minimally from the U.S. primary care population/setting/providers and only in ways that are unlikely to affect the outcome; it is highly probable (>90%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

External validity is rated “fair” if:

- The study differs from the U.S. primary care population/setting/providers in a few ways that have the potential to affect the outcome in a clinically important way; it is moderately probable (50% to 89%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

External validity is rated “poor” if:

- The study differs from the U.S. primary care population/setting/providers in many ways that have a high likelihood of affecting the clinical outcome; probability is low (<50%) that the clinical experience with the intervention observed in the study will be attained in the U.S. primary care setting.

*Reference: U.S. Preventive Services Task Force Procedure Manual. December 2018. Accessed at <https://www.uspreventiveservicestaskforce.org/Page/Name/methods-and-processes>

Appendix F. Evidence Tables

Table F-1. Key Question 2 study characteristics

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Ahluwalia et al., 2002	Tobacco smoking cessation	African Americans	Secondary data analysis of a physician counseling intervention study for smoking cessation to examine the effect of having a regular source of healthcare on smoking behaviors (879)	Intervention vs. Control Mean age (SD): 44.1 ±13.2 vs. 43.2 ±12.5 Male: 47% vs. 53% Race/ethnicity: African American: 100%	Large inner-city hospital; geographic location not reported	Secondary data analysis of a physician counseling intervention study for smoking cessation to examine the effect of having a regular source of healthcare on smoking behaviors	Having regular source of healthcare (202) vs. not having usual source of care (677)	Cross sectional analysis at posttest time point
Bacio et al., 2014	Tobacco smoking cessation	African American	Secondary data analysis of baseline data for an RCT before participants were randomized to smoking cessation medication. Eligible participants were non-treatment seeking daily smokers (smoked ≥10 cigarettes per day) who were also heavy drinkers (≥14 drinks/week for men; ≥7 for women). (314)	Mean age: 36.29 (SD 10.7) Female: 31% Race/ethnicity: African American: 155 White: 159	Community sample; geographic location not reported	Mediation OLS and logistic regression analyses to identify potential smoking motive (WISDM scale) mediators in racial and ethnic differences in smoking patterns	Mediation analyses testing whether smoking motives as measured by WISDM subscales explain higher rates of failed quit attempts reported by Black (155) compared to White (159) regular smokers.	Mediation analysis of larger RCT

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Beach et al., 2007	Breast, cervical, colorectal cancer screening	Spanish-speaking women	RCT (1,346) subgroup analysis of Dietrich, 2006	Age: NR Female: 100% Race Latina: 71.2% Non-Latina Black: 19.7% Other: 9.1% Language Spanish-speaking: 63% English-speaking: 37%	11 Federally Qualified Community/Migrant Health Centers New York City, NY	Prevention care management intervention using a care manager who made reminder calls to women overdue for targeted screenings, helped overcome screening barriers, provided emotional support, and scheduled appointments (breast cancer n=670; cervical cancer n=491; colorectal cancer n=528)	Usual care (breast cancer n=677; cervical cancer n=476; colorectal cancer n=542)	Duration: 18 months Followup: 18 months (end of intervention)

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Bock et al., 2005	Tobacco smoking cessation	Latinos	Before-after study (615)	Age, mean $\pm$ SD: 39 $\pm$ 11.5 Female: 68% Race/ethnicity Non-Latino White: 67.8% Latino: 32.2% -More acculturated: 12.4% -Less acculturated: 19.8% Acculturation measured by language fluency	3 Urban hospital-based primary care clinics; New England	Brief smoking cessation intervention using '5 A's' model. Participants who decided to quit received 2 followup counseling calls, free NRT patch, behavioral skills training, a self-help manual, community resource guide, and additional followup calls; others received two followup counseling calls. Analyses included binary logistic regression for primary smoking outcomes and moderator analysis following the Baron and Kenny model for testing acculturation as a moderator between cognitive and psychosocial variables and smoking cessation outcomes (615)	Pre-post (615) Comparisons between racial/ethnic groups	Duration: 6-months Followup: 3 and 6 months post-baseline
Clark et al., 2009	Breast cancer screening	African American women	Before-after study (437)	Mean age: 51 (SD 8.5) Female: 100% African American: 100%	Community health centers and primary care clinics; Boston, MA	Multipronged case management intervention provided tailored services designed to address barriers to screening	Women as own comparators over time: changes in screening uptake after the intervention (437)	5 years (January 2002-February 2007)

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Clark et al., 2011	Cervical cancer screening	African American women	Before-after study (732)	Mean age NR Age 18 to 49: 78% Age ≥50 22% Female: 100% African American: 100%	Community health centers and primary care clinics; Boston MA	Multipronged case management intervention provided tailored services designed to address barriers to screening	Women as own comparators over time: changes in screening uptake after the intervention (732)	5 years (January 2002-February 2007)
Fang et al., 2017	Cervical cancer screening	Korean American women	2-arm group randomized RCT. Mixed-methods logistic regression analyses at 12-months after the program to examine patient-level effects for factors that were not balanced in the randomization. (705)	Mean age±SD control: 53.9±11.6 intervention: 51.9±9.5 Female: 100% Korean American: 100%	Churches (community setting); Southeastern PA and NJ	Multicomponent program that includes navigation services and bilingual community health educators to address individual beliefs and expectations on cervical cancer screening including perceived risks, perceived benefits, perceived barriers, and cultural norms. (347)	Information-only control group: bilingual community health educators deliver general information on health, cancer education, screening guidelines (358)	Duration: February 2009 to December 2014 Followup: 12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Guillaume et al., 2017a	Breast cancer screening	Rural and/or Low-Income Women	Longitudinal cohort study (64,102)	Mean age NR ≤54: 42.22% 55 to 59: 17.52% 60 to 64: 13.21% 65 to 69: 13.51% 70+: 13.54% Female: 100%	Orne, France	Assess the efficacy of mobile mammography in reducing social and geographic inequalities in breast cancer screening using multilevel mixed logistic models with random effects. Estimated the following: the screening participation rate according to deprivation and remoteness in both groups and in the total population; differences observed in the only RO group (reflecting screening without MM); and those observed in the total population (reflecting access to MM among specific populations).	Two groups: women invited to screening through their radiologist office (RO group) (35,804) and women invited to screening through their radiologist office or the mobile mammography van (MM or RO group) (28,298)	September 2003 to December 2012

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Hendren et al., 2014	Colorectal and breast cancer screening	Low-income	RCT (366) CRC screening: 240 Mammography: 191	<p>Control vs. Intervention</p> <p><u>CRC Screening</u> Age 50 to 59: 61.1% vs. 62.3% 60+: 38.9% 37.7% Race Black: 36.3% vs. 43.0% White: 54.9% vs. 52.0% Other: 8.8% vs. 5.0% Female: NR</p> <p><u>Mammography</u> Age 40 to 49: 45.6% vs. 59.4% 50 to 59: 23.3% vs. 25.7% 60+: 31.1% vs. 14.9% Race Black: 45.8% vs. 41.1% White: 47.0% vs. 47.8% Other: 7.2% vs. 11.1% Female: NR</p>	Large safety net primary care practice; Rochester NY	Using EHR record review patients past due for CRC screening and/or mammography were randomized to a multi-modal intervention including: 1) letters; 2) automated telephone calls; 3) point-of-care prompts reminding clinicians and patients the patient was past due for the service; 4) mailing of home test kit for CRC screening patients (185) Type of CRC screening: colonoscopy, FIT, FOBT	Control group (181)	Duration: 6 months Followup: 1 year

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Jandorf et al., 2014	Breast and cervical cancer screening	Latinas	Cluster randomized study (1,333) Univariate and multivariate analyses of adherence to screening (CBE, mammography, Pap). Multivariate generalized linear-mixed model controlling for demographic, geographic, barriers to screening (yes/no), and navigation characteristics (e.g., number of calls).	Mean age NR Female: 100% Latina: 100%	Community-based settings in Arkansas, Buffalo, and NYC	Faith-based intervention using of peer/lay health workers (LHA, promotoras) (803)	Diabetes prevention education group vs. breast and cervical cancer education group (530)	Duration: 2007 to 2009 Followup: 2 months, 8 months
Lee-Lin et al., 2015	Breast cancer screening	Low-income Chinese-American immigrant women	RCT (300)	Mean age: 58.8 (range 40 to 85) Female: 100% Chinese immigrant: 100%	Chinese communities in Portland, OR	The two-part culturally-targeted educational intervention consisted of group teaching with targeted, theory-based messages followed by individual counseling sessions (147)	Control received a mammography screening brochure published by the National Cancer Institute (153)	Duration: April 2010 to September 2011 Followup: 3, 6, 12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Miller, Jr. et al., 2011	Colorectal cancer screening	Socioeconomically disadvantaged population	RCT (264)	Age, mean: 57.8 Female: 67.0% African American: 73.1	Community-based, university-affiliated internal medicine practice in Winston-Salem, North Carolina	A. Communicating Health Options through Interactive Computer Education (CHOICE) interactive, web-based decision aid delivered immediately before a healthcare provider visit. Subanalysis of patients with limited health literacy and adequate health literacy (132)	B. Control group receiving web-based program about prescription drug refills and safety delivered immediately before a healthcare provider visit (132)	Duration, median: 10.1 minutes (IQR, 7.7 to 13. minutes) Followup: 24 weeks
Paskett et al., 2006	Breast cancer screening	Rural, low-income women	RCT (851)	Age, mean: 55.08 years (95% CI, 54.33 to 55.83) Female: 100% Race African American: 33% Native American: 42% White: 25%	Federally funded consortium of four community health centers Robeson County, North Carolina	A. Lay health advisor intervention consisting of 3 in-person visits with educational materials and followup phone calls/mailings after each visit (433)	B. Control group receiving National Cancer Institute brochure about cervical cancer screening (418)	Duration: 9 to 12 months Followup: 12 to 14 months
Roetzheim et al., 2004	Breast, cervical, colorectal cancer screening	Insurance status	Cluster RCT (1,196) 8 Practices	Age 50 to 56: 37.1% 57 to 63: 33% 64 to 75: 29.8% Female: 78.2% Race AA/Black: 29.1% White: 48.4% Hispanic: 22.5%	8 clinics; Hillsborough County FL	Cancer screening checklist completed by patients, stickers to designate whether screening was ordered/completed. (600) Type of CRC screening: FOBT	Usual care (596)	12 months and 24 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Smith et al., 2017 (Blumenthal et al., 2010)	Colorectal cancer screening	African American	Secondary analysis of participants who did not receive screening in a RCT (257)	Mean age: NR Gender: NR Race/ethnicity: African American: 100%	Community (no details provided in this publication)	Randomized to one of the following: 1. Reduced out of pocket cohort: members reimbursed for personal expenses incurred in screening (63) 2. One-on-one education cohort: members met with health educator in 3 weekly sessions (67) 3. Group education cohort: members met with health educator in four weekly sessions (65) Type of CRC Screening: any type of CRC screening	B) Control cohort: members received no intervention (62)	Duration: 6 months Followup at 3 and 6 months; losses not reported
Studs et al., 2012	Cervical cancer screening	Rural, low income	Single-blind (data collectors and investigators) RCT (345)	Age: mean not reported; 40% <50 years Female: 100% Race/ethnicity: White: 95.1% Black: 4.6% American Indian: 0.3%	Recruitment: Churches initially then replaced with snowball sampling in which staff personally contacted church representatives Intervention: In-home Geographic region: Appalachian KY: Harlan, Knott, Letcher, and Perry counties	Trained lay health advisors (LHA) similar in characteristics to participants delivered tailored home visits and newsletters that addressed participant-identified barriers from baseline assessment (176) All participants attended an educational lunch program that delivered information on cervical cancer screening and prevention	Wait list (deferred) until post followup at 8 months; between 8-month followup and end of study all participants received intervention (169)	Duration: 14 months Followup: 4, 8, 14 months; 96% followup overall (95% in treatment, 97% in intervention)

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Intervention (n) /Analyses	Comparison (n)	Duration; Followup
Wang et al., 2018	Breast cancer screening	Rural women	Retrospective chart review (8,347)	Age 50-64: 68.2% >64: 31.8% Female: 100% Race Non-Hispanic White: 83.9% Non-Hispanic Black: 0.3% Hispanic: 4.3% Other: 11.5%	8 rural ACO primary care clinics Nebraska	Generalized estimating equations model and multi-level logistic regression models assessing receipt of mammogram (5,054)	Patients not receiving bi-annual mammogram (3,293)	Duration: NA Followup: NA
White et al., 2012	Cervical and breast cancer screening	Latina immigrants	Before-after study (782) Pap smear: 782 Mammogram: 229	Age Median: 33 years 19-39 years: 70.7% 40-49 years: 19.4% 50-88 years: 9.9%	Public hospital, private non-profit hospital, local health department, community health clinic. Birmingham, AL	Low-cost pap smears, no-cost mammograms offered to attendees at educational luncheons	Pre-post (782)	6 years (2003-2009)

Abbreviations: ACO = accountable care organization; AOR = adjusted odds ratio; CBE = clinical breast exam; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; CRC = colorectal cancer; FIT = fecal immunochemical test; FOBT = fecal occult blood test; GED = general equivalency diploma; IQR = interquartile range; ITT = intention to treat; LHA = lay health advisor MM = mobile mammography; NR = not reported; NRT = nicotine replacement therapy; NS = not significant; OLS = ordinary least squares; OR = odds ratio; RCT = randomized controlled trial; RO = radiologist office; RR = relative risk; SD = standard deviation; WISDM = Wisconsin Index of Smoking Dependence Motive

Table F-2. Key Question 2 results

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Ahluwalia et al., 2002	<p>Multivariate analysis of the effect of regular source of healthcare on smoking related behavior adjusted for history of diabetes, hypertension, age group, gender, and experimental group, AOR (95% CI):</p> <p>Quit attempts in the past year: 0.98 (95% CI, 0.69 to 1.41), p=0.94</p> <p>Intent to quit in the next 6 months: 0.90 (95% CI, 0.61 to 1.32), p=0.59</p> <p>Intent to quit in the next 30 days: 1.46 (95% CI, 1.04 to 2.05), p=0.03</p> <p>Ever receiving physician advice to quit: 1.46 (95% CI, 1.02 to 2.10), p=0.04</p> <p>Light smoking (≤ 10 cig/day): 1.42 (95% CI, 1.00 to 2.03), p=0.05</p>	NA	<p>Fair</p> <p>1. Exclusive population of African-American smokers in one geographically confined community setting</p>
Bacio et al., 2014	<p>Race had a significant indirect effect on failed quit attempts through following motives:</p> <p>Negative reinforcement (indirect effect $b=0.05$, SE 0.02; 95% CI, 0.02 to 0.11)</p> <p>Positive reinforcement (indirect effect $b=0.05$, SE 0.02; 95% CI, 0.17 to 0.12)</p> <p>Taste/sensory processes (indirect effect $b=0.06$, SE 0.3; 95% CI, 0.02 to 0.12)</p> <p>Behavioral choice and craving were not significant mediators of the relationship between race and failed quit attempts</p> <p>Specifically, Black, compared to White, daily smokers were less motivated to smoke to experience the positive reinforcement, negative reinforcement, and taste/sensory processes related to smoking. However, endorsing lower motivation to smoke did not appear to be sufficient to help Black daily smokers successfully quit smoking</p> <p>Results suggest that smoking cessation interventions may help reduce tobacco-related health disparities by recognizing that lower endorsement of some smoking motives are less consistently linked to quit attempts in Black, compared to White, smokers</p>	NA	<p>Fair</p> <p>1. Exclusive population consisting of a community sample of non-treatment seeking daily smokers who drank heavily and responded to an ad.</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Beach et al., 2007	<p>Intervention vs. usual care</p> <p>Breast cancer screening up-to-date at followup</p> <p>Spanish-speaking: 72% (310/431) vs. 58% (243/417), AOR 1.86 (95% CI, 1.39 to 2.50), p<0.001</p> <p>English-speaking: 60% (144/239) vs. 56% (144/259), AOR 1.23 (95% CI, 0.85 to 1.78), p=NR</p> <p>Interaction, Spanish language/study group: AOR 1.51 (95% CI, 0.94 to 2.42), p=NR</p> <p>Cervical cancer screening up-to-date at followup</p> <p>Spanish-speaking: 76% (237/310) vs. 60% (173/289), AOR 2.18 (95% CI, 1.52 to 3.13), p<0.001</p> <p>English-speaking: 59% (106/181) vs. 53% (100/187), AOR 1.25 (95% CI, 0.81 to 1.91), p=NR</p> <p>Interaction, Spanish language/study group: AOR 1.75 (95% CI, 1.00 to 3.06), p=NR</p> <p>Colorectal cancer screening up-to-date at followup</p> <p>Spanish-speaking: 54% (184/338) vs. 37% (126/338), AOR 2.12 (95% CI, 1.54 to 2.90), p<0.001</p> <p>English-speaking: 50% (95/190) vs. 39% (79/204), AOR 1.62 (95% CI, 1.08 to 2.45), p=NR</p> <p>Interaction, Spanish language/study group: AOR 1.31 (95% CI, 0.78 to 2.19)</p> <p>Up-to-date ≥ 1 screening test at followup</p> <p>Spanish-speaking: 87% (215/246) vs. 76% (182/241), OR 2.28 (95% CI, 1.38 to 3.77), p<0.01</p> <p>English-speaking: 80% (117/146) vs. 77% (111/144), OR 1.32 (95% CI, 0.73 to 2.40), p=NR</p> <p>Interaction, language/study group: AOR 1.73 (95% CI, 0.79 to 3.77), p=NR</p> <p>Up-to-date ≥2 screening tests at followup</p> <p>Spanish-speaking: 74% (181/246) vs. 54% (129/241), AOR 2.44 (95% CI, 1.65 to 3.63), p<0.001</p> <p>English-speaking: 56% (82/146) vs. 46% (66/144), AOR 1.57 (0.97 to 2.54), p=NR</p> <p>Interaction, language/study group: AOR 1.56 (95% CI, 0.84 to 2.90), p=NR</p> <p>Up-to-date on all tests at followup</p> <p>Spanish-speaking: 40% (98/246) vs. 25% (61/241), AOR 1.98 (95% CI, 1.33 to 2.95), p<0.001</p> <p>English-speaking: 29% (42/146) vs. 19% (27/144), AOR 1.89 (95% CI, 1.08 to 3.33), p<0.05</p> <p>Interaction, language/study group: AOR 1.05 (95% CI, 0.53 to 2.09)</p>	Fair 1. Unclear whether clinicians were masked. 2. Subjects not blinded	Fair 1. Population: Multi-site study, but in a single state w/similar population 2. Intervention: Specific training/resource s required.

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Bock et al., 2005	<p>7-day point-prevalence abstinence</p> <p><u>At 3 months</u></p> <p>Non-Latino White: 23.5% (98/417)</p> <p>Latino, more acculturated: 19.7% (15/76)</p> <p>Latino, less acculturated: 33.6% (41/122)</p> <p><u>At 6 months</u></p> <p>Non-Latino White: 12.9% (54/417)</p> <p>Latino, more acculturated: 9.2% (7/76)</p> <p>Latino, less acculturated: 21.3% (26/122)</p> <p>Moderator analysis of acculturation and 6-month cessation</p> <p><u>Step 1, logistic regression</u></p> <p>Non-Latino White: Reference</p> <p>Latino, more acculturated: OR 0.82 (95% CI, 0.37 to 1.79)</p> <p>Latino, less acculturated: OR 2.15 (95% CI, 1.74 to 5.02)</p> <p><u>Step 2, identifying variables predictive of cessation</u></p> <p>Nicotine dependence ($p<0.01$), confidence in ability to quit ($p<0.01$), and endorsement of the cons of smoking ($p<0.05$) were significantly predictive of cessation</p> <p><u>Step 3, interaction of terms using predictive variables and acculturation</u></p> <p>Acculturation interaction term with confidence and nicotine dependence ($p<0.001$ for both) significantly predictive of cessation</p> <p>Difference in confidence scores between those who quit at 6 months vs. those who did not:</p> <p>Non-Latino White: 0.57, $p=0.05$ compared with other 2 groups</p> <p>Latino, more acculturated: 0.12</p> <p>Latino, less acculturated: 0.19</p> <p>Difference in nicotine dependences scores between those who quit at 6 months vs. those who did not:</p> <p>Non-Latino White: -0.56</p> <p>Latino, more acculturated: -1.11, $p=0.05$ compared with other 2 groups</p> <p>Latino, less acculturated: -0.59</p> <p>A final logistic regression was conducted that included these three interaction terms. Results indicated that the acculturation interaction term with confidence ($p<0.01$) and nicotine dependence ($p<0.01$) were significantly predictive of cessation, suggesting that acculturation moderates the relationship between smoking cessation and both confidence and nicotine dependence.</p>	NA	<p>Fair</p> <p>1. Intervention is replicable, but results may only reflect the specific population</p> <p>2. Relatively small sample size in one group</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Clark et al., 2009	<p>Patient related predictors of mammography uptake among women age 40+ for women who had at least one mammogram Women ≥ 40 (n=437) No regular provider: AOR 0.20 (95% CI, 0.07 to 0.62), p<0.05 Housing concerns at baseline: AOR 0.40 (95% CI, 0.21 to 0.77), p<0.05 Having public insurance (Medicare/Medicaid): AOR 0.98 (95% CI, 0.45 to 2.12), NS Uninsured relative to being privately insured: AOR 2.08 (95% CI, 0.73 to 5.91), NS</p> <p>Women ≥ 50 (n=223) Housing concerns at baseline: AOR 0.65 (95% CI, 0.21 to 2.03), NS Having public insurance (Medicare/Medicaid): AOR 1.34 (95% CI, 0.39 to 4.61), NS Uninsured relative to being privately insured: AOR 2.25 (95% CI, 0.47 to 10.77), NS</p> <p>Patient related predictors of repeated (longitudinal) mammography screening among women Women ≥ 40 (n=390) Public insurance: AOR 0.72 (95% CI, 0.50 to 1.05), NS Housing concerns at baseline: AOR 0.85 (95% CI, 0.61 to 1.18), NS Uninsured: AOR 0.54 (95% CI, 0.35 to 0.85), p<0.05 Family history of breast cancer: AOR 0.64 (95% CI, 0.44 to 0.94), p<0.05 Recent mammogram at baseline: AOR 2.16 (95% CI, 1.51 to 3.09), p<0.05 Non-U.S. born: AOR 1.68 (95% CI, 1.15 to 2.47), p<0.05</p> <p>Women ≥ 50 (n=196) Public insurance: AOR 0.85 (95% CI, 0.47 to 1.54), NS Housing concerns at baseline: AOR 0.86 (95% CI, 0.51 to 1.45), NS Uninsured: AOR 0.42 (95% CI, 0.20 to 0.87), p<0.05 Family history of breast cancer: AOR 0.74 (95% CI, 0.42 to 1.32), NS Recent mammogram at baseline: AOR 1.94 (95% CI, 1.07 to 3.52), p<0.05 Non-U.S. born: AOR 2.41 (95% CI, 1.29 to 4.49), p<0.05</p>	NA	Fair 1. Used request for proposal process to identify intervention sites (large community health centers servicing large numbers of women of African descent).

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Clark et al., 2011	<p>Barriers defined by the study included social and healthcare system barriers: insurance coverage, lacking a regular provider, concerns communicating with provider, poor self-rated health, educational attainment, housing concerns, and social support for childcare.</p> <p>Barriers to receiving Pap smear screening</p> <p>Lacking a regular clinical provider: AOR 0.20 (95% CI, 0.11 to 0.37)</p> <p>Concerns communicating with clinical providers: AOR 0.45 (95% CI, 0.27 to 0.74)</p> <p>Poor self-rated health: AOR 0.71 (95% CI, 0.52 to 0.96)</p> <p>Low educational attainment-less than high school: AOR 0.54 (95% CI, 0.30 to 0.99)</p> <p>Low educational attainment-high school/GED: AOR 0.50 (95% CI, 0.28 to 0.88)</p> <p>Impact of case management on obtaining repeated, longitudinal Pap smear screenings at recommended intervals</p> <p>Having social support for childcare:</p> <p>All participants due for screening: AOR 1.94 (95% CI, 1.28 to 2.93), p<0.05</p> <p>Did not have a Pap smear at baseline: AOR 3.52 (95% CI, 1.28 to 9.69), p<0.05</p> <p>Did have a Pap smear at baseline: AOR 1.57 (95% CI, 0.98 to 2.5), p<0.06</p> <p>Insurance status-Public insurance (Medicare/Medicaid)</p> <p>All participants due for screening: AOR 0.65 (95% CI, 0.38 to 1.09)</p> <p>Did not have a Pap smear at baseline: AOR 1.11 (95% CI, 0.32 to 3.85)</p> <p>Did have a Pap smear at baseline: AOR 0.51 (95% CI, 0.27 to 0.97), p<0.05</p> <p>No other barriers were statistically significant in models.</p>	NA	Fair 1. Used request for proposal process to identify intervention sites (large community health centers servicing large numbers of women of African descent).

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Fang et al., 2017	<p>Barriers identified in paper: language and access barriers, lack of insurance, lack of familiarity with the U.S. healthcare system</p> <p>Receipt of cervical cancer screening: Intervention: OR 25.9; 95% CI, 10.1 to 66.1, $p<0.001$ Receipt of cervical cancer screening, covariate adjusted model (age, marital status, prior pap receipt, insurance coverage, usual source of care): Intervention: AOR 35.8; 95% CI, 11.1 to 114.9, $p<0.001$ Being insured: AOR 0.440; 95% CI, 0.22 to 0.90; $p=0.03$ Having a regular physician: AOR 0.93; 95% CI, 0.46 to 1.86; $p=0.85$ Authors note that fewer intervention group participants were insured or had a usual source of care compared to controls.</p> <p>Unscreened women were asked to descriptively provide reasons for not obtaining screening Intervention group (81 women): Perception that they were healthy or had no health problems (72 women, 80.9%), no time or being too busy (42 women; 47.2%), lack of insurance (18 women; 20.2%), physician did not mention screening (1 woman), no transportation (1 woman), and forgetting (1 woman). Control (268 women): Healthy or had no problems (97; 36.2%), lack of insurance (70; 26.1%), not knowing where to go or how to obtain screening (20 women; 7.4%), lack of time (18 women; 6.7%), did not like the Pap test (3 women), forgetting to obtain screening (1 woman), being too shy to undergo screening (2 women), and not having a physician (1 woman)</p>	Fair 1. Differences in groups at baseline	Fair 1. Exclusive population consisting of only Korean American women
Guillaume et al., 2017a	<p><u>RO group</u> Individual participation was associated with deprivation quintile Lowest in deprived areas: Q4, aOR 0.83 (95% CI, 0.71 to 0.96); Q5, aOR 0.81 (95% CI, 0.69 to 0.95) Individual participation was associated with distance to an RO: Participation decreasing with remoteness: 5 to 10km, aOR 0.91 (95% CI, 0.81 to 1.01); 10 to 15km, aOR 0.75 (95% CI, 0.66 to 0.85); 15 to 20km, aOR 0.61 (95% CI, 0.53 to 0.70); 20 to 25km, aOR 0.47 (95% CI, 0.40 to 0.56); 25 to 30km, aOR 0.47 (95% CI, 0.39 to 0.57); >30km, aOR 0.54 (95% CI, 0.42 to 0.69)</p> <p><u>MM or RO group</u> Participation was not significantly associated with deprivation quintile or distance to an RO.</p> <p><u>Total population</u> Influence of deprivation quintile and remoteness on participation was markedly lower than in the RO population. Influence of deprivation was significant only for the extreme most deprived quintile (Q5, AOR 0.85 [95% CI, 0.75 to 0.97]). After adjustment, MM invitation was associated with statistically significant increase in individual participation (aOR 2.9; 95% CI, 2.7 to 3.03).</p>	Fair 1. Groups were not similar at baseline. 2. Unclear allocation concealment.	Fair 1. Geographic-level study of one regional area in France

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Hendren et al., 2014	<p>Mammography</p> <p><u>Insurance</u></p> <p>Private: OR 1.50 (95% CI, 0.36 to 6.19)</p> <p>Medicare: OR 6.24 (95% CI, 1.23 to 31.61), p<0.05</p> <p>Medicaid: OR 2.57 (95% CI, 0.57 to 11.59)</p> <p>None: reference</p> <p><u>Household income:</u></p> <p>>\$40,000: OR 2.65 (95% CI, 0.84 to 8.43)</p> <p>\$30,000 to \$39,000: OR 1.44 (95% CI, 0.49 to 4.29)</p> <p><\$30,000: reference</p> <p>CRC screening</p> <p><u>Insurance</u></p> <p>Private: OR 1.58 (95% CI, 0.38 to 6.53)</p> <p>Medicare: OR 3.61 (95% CI, 0.83 to 15.55)</p> <p>Medicaid: OR 2.53 (95% CI, 0.57 to 11.21)</p> <p>None: reference</p> <p><u>Household income</u></p> <p>>\$40,000: OR 1.88 (95% CI, 0.69 to 5.09)</p> <p>\$30,000 to \$39,000: OR 1.98 (95% CI, 0.83 to 4.76)</p> <p><\$30,000: reference</p>	Fair 1. Care providers not masked, unclear if patients masked, attrition and loss to followup not reported	Good

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Jandorf et al., 2014	<p>Barriers: lack of money and lack of time, although other demographic factors were considered. Only significant associations were reported in the paper, therefore it was not possible to report results of non-significant findings for the barriers of interest.</p> <p>Mammography adherence Baseline to 2-month assessment: OR 2.16; 95% CI, 1.69 to 2.76 Baseline to 8 months: OR 8.56; 95% CI, 5.85 to 12.53 2 months vs. 8 months: OR 3.97; 95% CI, 2.70 to 5.82 Residing in NYC vs, Western NY: OR 0.55; 95% CI, 0.37 to 0.80 No significant differences between living in AR and NYC or AR vs. WNY Puerto Rican ethnicity were marginally more likely to be adherent than those born in countries outside the USA or Puerto Rico. Having health insurance: OR 2.48 95% CI, 1.67 to 3.70 Pap adherent at baseline: OR 5.85; 95% CI, 4.24 to 8.06</p> <p>Pap adherence Baseline to 2-month assessment: OR 2.14; 95% CI, 1.87 to 2.45 Baseline to 8 months: OR 2.35; 95% CI, 2.00 to 2.76 2 months vs. 8 months: OR 1.78; 95% CI, 1.52 to 2 Participants of Puerto Rican ethnicity vs. born elsewhere, adherent at 2 and 8 months: OR 1.35; 95% CI, 1.09 to 1.67</p> <p>Significant time by program type interaction (Wald chi-square=6.10; p=0.0472). Baseline: no significant difference in adherence between groups 2-month assessment- women in cancer group were less likely to be adherent: OR 0.74; 95% CI, 0.59 to 0.94 8-month assessment- no adherence differences</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Allocation concealment not reported. 2. Unclear whether groups were similar at baseline. 	<p>Fair</p> <ol style="list-style-type: none"> 1. Exclusive population consisting of only Latinas
Lee-Lin et al., 2015	<p>Barriers: older age, lower education and income, poor cancer knowledge, lack of time, absence of symptoms, lower perceived susceptibility to breast cancer, and limited ability to communicate in English</p> <p>Controlled for: marital status, age of participant, and age at migration to US</p> <p>When variables were controlled together, women in the intervention group were nine times more likely to complete a mammogram at 6 months post intervention, the highest point of the intervention effect 3-month: aOR 8.81, 95% CI, 4.83 to 16.05, p<0.001 6-month: aOR 9.10, 95% CI, 3.50 to 23.62, p<0.001 12-month aOR 4.61, 95% CI, 1.59 to 13.37, p<0.001</p> <p>None of the included covariates were significant in the multivariable model. Overall, education, employment, income, English proficiency, having a regular healthcare provider, reporting healthcare provider recommendation, and having mammography insurance coverage were not significant predictors in this study.</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Poor reporting re: allocation concealment, randomization 2. Unclear whether ITT was used or post randomization exclusions to synthesis. 	<p>Fair</p> <ol style="list-style-type: none"> 1. Exclusive population consisting of only Chinese American immigrant women

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Miller, Jr. et al., 2011	<p>Completed CRC screening A. 19% (25/132) B. 14% (18/132) AOR 1.7, 95% CI, 0.88 to 3., p=0.12</p> <p><u>Limited literacy vs. Adequate literacy</u> Completed CRC screening A. 21% (15/73) vs. 17% (10/59) B. 16% (12/74) vs. 10% (6/58) Limited literacy aOR 1.7 (95% CI, 0.69 to 4.4), p=NR Adequate literacy aOR 1.9, 95% CI, 0.70 to 5.0, p=NR</p> <p>Increased readiness for screening (only for participants in precontemplation and contemplation stages at baseline) A. 60% (24/40) vs. 42% (14/33) B. 24% (8/33) vs. 15% (4/27) Limited literacy aOR 4.9, 95% CI, 1.4 to 16.4, p≤0.01 Adequate literacy aOR 5.7, 95% CI, 1.1 to 30.2, p≤0.001</p>	Fair 1. Randomization method not reported 2. Allocation concealment not reported	Fair 1. Patients recruited from a single clinic

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Paskett et al., 2006	<p>A vs. B Completed mammography 42.5% (184/433) vs. 27.3% (114/418) RR 1.56 (95% CI, 1.29 to 1.87), p<0.001</p> <p>By race African American: RR 1.54 (95% CI, 1.11 to 2.14), p=0.008 Native American: RR 1.58 (95% CI, 1.18 to 2.13), p=0.002 White: RR 1.54 (95% CI, 1.05 to 2.25), p=0.024</p> <p>By baseline factors Composite barrier score (0 to 10), 1 unit increase: OR 0.93 (95% CI, 0.87 to 1.00) Composite belief score (0 to 10), 1 unit increase: OR 1.04 (95% CI, 0.98 to 1.10) Higher vs. lower socioeconomic status: RR 0.93 (95% CI, 0.73 to 1.19) White vs. African American: RR 0.99 (95% CI, 0.78 to 1.26) Native American vs. African American: RR 0.98 (95% CI, 0.79 to 1.21) Health insurance, No vs. Yes: RR 1.04 (95% CI, 0.85 to 1.27)</p> <p>Individual barriers Too hard to find time: RR 0.77 (95% CI, 0.59 to 1.02), p=NR Do not know where to get a mammogram: RR 0.44 (95% CI, 0.24 to 0.82), p=0.008 No insurance: RR 0.96 (95% CI, 0.83 to 1.10), p=NR Too hard to get to the doctor's office: RR 1.01 (95% CI, 0.71 to 1.45) Doctors and nurses do not treat me with respect: RR 0.43 (95% CI, 0.11 to 1.65) Cost is a barrier: RR 0.83 (95% CI, 0.70 to 0.97), p=0.022</p>	Fair 1. Unclear randomization technique and allocation 2. Unclear masking of patients	Poor 1. Population composition unique to setting 2. Potentially time-intensive intervention

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Roetzheim et al., 2004	<p>Mammography Health insurance County: reference Medicare: OR 0.77 (95% CI, 0.57 to 1.06), p=0.11 Medicaid: OR 0.89 (95% CI, 0.64 to 1.26),p= 0.52 Other: OR 0.86 (95% CI, 0.57 to 1.31), p=0.48</p> <p>Pap smear Health insurance County: reference Medicare: OR 0.63 (95% CI, 0.43 to 0.92), p=0.02 Medicaid: OR 0.73 (95% CI, 0.48 to 1.09),p= 0.12 Other: OR 1.04 (95% CI, 0.63 to 1.72), p=0.89</p> <p>CRC/FOBT Health insurance County: reference Medicare: OR 0.73 (95% CI, 0.54 to 0.998), p=0.047 Medicaid: OR 0.83 (95% CI, 0.60 to 1.16), p=0.28 Other: OR 0.82 (95% CI, 0.54 to 1.23), p=0.34</p>	Fair 1. No info about randomization/allocation	Fair 1. Population - NY vs. other states

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Smith et al., 2017 (Blumenthal et al., 2010)	<p>Overall 64/257 (24.7%) screened A1: 14/63 (22.2%) A2: 17/67 (25.4%) A3: 22/65 (33.9%) B: 11/62 (17.7%) A3 vs. B, p=0.039; all other interventions did not significantly change screening vs. control</p> <p>Post-intervention among those in group A3, psychological and attitudinal testing for those who sought screening were compared with those who did not screen; mean scores on the Attitudes, Benefits, and Barriers Assessment approached significance (screened: mean score 19.0, SD 3.5 vs. not screened: mean score 16.0, SD 4.8; p=0.0816); in logistic regression model, this scale demonstrated statistical significance (p=0.0276); fatalism, perceived stress, and self-esteem scores were not associated with screening; social support and social network diversity were greater among those who screened vs. not screened, but this difference was not statistically significant</p> <p>Group: OR 1.168 (95% CI, 0.837 to 1.611), p=0.3437 Fatalism Scale: OR 1.168 (95% CI, 0.965 to 1.196), p=0.1883 Attitudes, Barriers, and Beliefs Scale: OR 1.121 (95% CI, 1.013 to 1.242), p=0.0276 Rosenberg Self-esteem Scale: OR 1.002 (95% CI, 0.925 to 1.087), p=0.9523 Social Support Scale: OR 1.004 (95% CI, 0.986 to 1.021), p=0.6718 Social Network Diversity Scale: OR 1.009 (95% CI, 0.814 to 1.249), p=0.9364</p> <p>Note: Attitudes, Benefits, Barriers Assessment was constructed by research team to get perspective of participants on cancer screening. References 2-3 may have more information on how the scale is coded.</p>	NA	Fair 1. Exclusive population consisting of only African American immigrant women

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Studts et al., 2012	<p>Intervention vs. Control Pap at 4-month followup, n (%): 12 (6.8%) vs. 11 (6.5%)</p> <p>Pap at 8-month followup (primary outcome): 31 (18%) vs. 19 (11%); AOR1 2.56, 95% CI, 1.03 to 6.38, p=0.04; AOR2 2.73, 95% CI, 1.08 to 6.89, p=0.03 AOR1: adjusted for effect of church AOR2: adjusted for church and participant characteristics (age, marital status, perceived health status, baseline screening status) Excluding 23 participants who obtained Pap test between 4-and 8-months: 19 (11.6%) vs. 8 (5.1%); OR 2.59 (95% CI, 1.04 to 6.46), p=0.04</p> <p>Pap at 14-month followup (including only women who were still need of a Pap: 20/145 (13.8%) vs. 40/158 (25.3%) Among controls, women obtaining Pap between baseline and 8-month followup vs. post-8-month followup and end of study increased from 8 (5.1%) to 40 (25.3%); McNemar's X² 21.3 (1 df, n=158), p<0.001</p> <p>Factors associated with getting Pap Women age 55 to 59 years were less likely than those age 40-44 years to get a Pap; OR 0.41 (95% CI, 0.20 to 0.86) p<0.05 Women who had Pap smear >1 year and <5 years ago were more likely than those with Pap >5 years ago to get a Pap; OR 2.50 (95% CI, 1.47 to 4.25), p<0.001</p> <p>No other factors were statistically significant including race, marital status, education, employment status, annual household income, perceived financial status, health insurance, perceived health status (all adjusted for treatment group and church)</p>	Good	Fair 1. Limited to rural Appalachian women in Kentucky
Wang et al., 2018	<p>Multivariate analysis of receipt of biennial mammogram, adjusting for patient, provider, and county characteristics</p> <p>Race/ethnicity Hispanic: OR 0.85 (95% CI, 0.56 to 1.28), p=0.79 Non-Hispanic Black: OR 0.32 (95% CI, 0.14 to 0.75), p<0.01 Other: OR 0.76 (95% CI, 0.61 to 0.94), p<0.01 Non-Hispanic White: Reference</p> <p>Preferred language is English: OR 1.02 (95% CI, 0.74 to 1.43), p=0.89</p> <p>Health insurance status Uninsured: OR 0.22 (95% CI, 0.10 to 0.46), p<0.01 Public: OR 0.83 (95% CI, 0.69 to 1.00), p>0.05 Private: Reference</p> <p>County of residence has mammogram facility: OR 0.89 (95% CI, 0.66 to 1.20), p=0.43</p>	NA	Fair 1. Healthcare system may not be applicable in other places 2. Population limited to Nebraska

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
White et al., 2012	<p>Scheduled Pap smear: 80% Of those scheduling Pap (N=626), attended appointment: 65%</p> <p>Multivariable-adjusted prevalence ratio, % Scheduled a Pap Smear: Prior screening <1 year: 70%, 1.00 Prior screening in past 1 to 3 years: 87.5%, 1.18 (95% CI, 1.09 to 1.28), p<0.001 Prior screening ≥ 3 years ago or does not remember: 1.16 (95% CI, 1.05 to 1.28), p<0.01 No prior screening: 1.01 (95% CI, 0.88 to 1.17) Does not know where to get screening: 87.7%, 1.00 Does know where to get screening: 73.6%, 0.90 (95% CI, 0.83 to 0.96), p<0.01 Has not lived in Alabama ≥5 years: 82.9%, 1.00 Has lived in Alabama ≥5 years: 75.4%, 0.96 (95% CI, 0.89 to 1.03) Does not have health insurance: 82.2%, 1.00 Does have health insurance: 50.9%, 0.64 (95% CI, 0.50 to 0.84), p<0.01</p> <p>Scheduled mammogram (analytic sample only includes women ≥40 years; n=229): 77.7% Of those scheduling mammogram (N=178), attended appointment: 79.2%</p> <p>Multivariable-adjusted prevalence ratio, % Scheduled a mammogram: Prior screening <1 year: 41%, 1.00 Prior screening in past 1 to 3 years: 88%, 2.09 (95% CI, 1.46 to 3.00), p<0.001 Prior screening ≥3 years ago or does not remember: 76%, 1.77 (95% CI, 1.17 to 2.67), p<0.01 No prior screening: 85.6%, 1.90 (95% CI, 1.31 to 2.76), p<0.01 Does not know where to get screening: 81.4%, 1.00 Knows where to get screening: 69.1%, 1.07 (95% CI, 0.92 to 1.24) Has not lived in Alabama ≥ 5 years: 25.5%, 1.00 Has lived in Alabama ≥ 5 years: 81.7%, 1.09 (95% CI, 0.96 to 1.24) Does not have health insurance: 81.8%, 1.00 Has health insurance: 35%, 0.45 (95% CI, 0.26 to 0.78), p<0.01</p>	NA	<p>Poor</p> <ol style="list-style-type: none"> 1. Study population (demographics, inclusion / exclusion criteria) 2. Study setting (healthcare system, time, effort) 3. Study providers (training, ancillary providers)

Abbreviations: ACO = accountable care organization; AOR = adjusted odds ratio; CBE = clinical breast exam; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; CRC = colorectal cancer; FIT = fecal immunochemical test; FOBT = fecal occult blood test; GED = general equivalency diploma; IQR = interquartile range; ITT = intention to treat; LHA = lay health advisor; MM = mobile mammography; NR = not reported; NRT = nicotine replacement therapy; NS = not significant; OLS = ordinary least squares; OR = odds ratio; RCT = randomized controlled trial; RO = radiologist office; RR = relative risk; SD = standard deviation; WISDM = Wisconsin Index of Smoking Dependence Motive

Table F-3. Key Question 3 study characteristics

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Ahmed et al., 2010	Breast cancer screening	Low-income women	RCT (2,357)	<p>Very low-income insured women Mean age, in years (SD) Control: 52.8 (9.8) Intervention, simple: 52.9 (9.9) Intervention, stepwise: 52.8 (9.8)</p> <p>Race/ethnicity, % (n) White Control: 32.8 (349) Intervention, simple: 33.7 (358) Intervention, stepwise: 33.5 (356) Black Control: 33.7 (340) Intervention, simple: 32.8 (331) Intervention, stepwise: 33.4 (337) Hispanic Control: 33.3 (97) Intervention, simple: 33.4 (96) Intervention, stepwise: 32.8 (94)</p>	Tennessee Coordinated Care Network	<p>A1. Simple intervention: reminder letters from managed care organization medical director (785)</p> <p>A2. Stepwise intervention: Reminder letters from managed care organization medical director, if noncompliant (meaning no mammography within 3 months), a second prompt letter from primary care doctor, and if still noncompliant, counseling from lay health workers (786)</p>	B. Usual care, which included monthly newsletters, health pamphlets, and access to Community Health Outreach workers (786)	1999 to 2001 end of 1 year intervention period
Aragones et al., 2010	Colorectal Cancer Screening	Latino, Urban	RCT (65)	<p>Mean age: 56.6 vs. 58.9 years Gender: 52% vs. 50% female Race/ethnicity: 100% Latino</p>	New York City, large teaching hospital	A. Spanish language CRC educational video developed by national alliance for Hispanic health; brochure in Spanish with key information; patient-delivered one page reminder for the physician (31)	B. No educational material, brochure, or letter (34)	15 months; 3-month post-intervention follow up

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Bastani et al., 2015	Colorectal Cancer Screening	Unscreened first-degree relatives of people with colorectal cancer; Latino, African American, Asian, white	RCT (1,280)	Mean age: 51 years Gender: 56% female Race/ethnicity: 35% Latino, 27% Asian, 25% White, 19% African American	California Cancer Registry/Community	A. Culturally-tailored printed educational materials sent 2 weeks after baseline, as well as barriers counseling via telephone at 6 months in those still unscreened (670)	B. No educational material or counseling (telephone followup only to ascertain use of screening) (610)	12 months
Christie et al., 2008	Colorectal Cancer Screening	Hispanic, African American	RCT (21)	Mean age: 58 years Gender: 75% female Race/ethnicity: 71% Hispanic, 21% African American, 8% other	Community Health Center; New York, New York	A. Patient navigator assigned to coordinate scheduling of colonoscopy and discuss risks and benefits (13)	B. No patient navigator (8)	6 months
Curry et al., 2003	Tobacco smoking cessation in adults	Low income women	RCT (303)	Mean age: 34.2 vs. 33.6 years Gender: 100% female Race/ethnicity: 62 vs. 63% African American; 33 v 32% European American; 2 vs. 5% Hispanic Annual household income <10k 67 vs. 64% Finished high school 74 vs. 76%	Urban, university based clinics, Seattle, WA	A. Brief motivational message from child's clinician during scheduled clinic visit, self help guide to quitting smoking, in-person motivational interview with clinic nurse or study interventionist; up to 3 outreach telephone counseling calls from nurse or interventionist (156)	B. No message, educational material, outreach or motivational interview (147)	3 and 12 month follow up surveys after initial enrollment
Lasser et al., 2011	Colorectal Cancer Screening	Low-income	RCT (465)	Mean age: 61 years Gender: 62% female Ethnicity: White 47%, Black 27%, other 18%, unknown 8%	Community Health Centers; Cambridge, Massachusetts	A. Patient navigator assigned to coordinate scheduling of colonoscopy and discuss risks and benefits (235)	B. Usual care (230)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Margolis et al., 1998	Breast and Cervical Cancer Screening	Low-income women	Non- randomized controlled trial (1,693)	<u>Breast cancer screening</u> Age, mean $\pm$ SD A. 54.5 $\pm$ 11.2 B. 55.9 $\pm$ 12.0 Gender: 100% Female Race, %, A vs. B White: 61 vs. 64 African American: 20 vs. 17 Native American: 12 vs. 14 Other: 7 vs. 5 Insurance payer, %, A vs. B Private: 26 vs. 21 Medicaid: 46 vs. 46 Medicare: 20 vs. 27 Self: 8 vs. 5 <u>Cervical cancer screening</u> Age, mean $\pm$ SD A. 53.7 $\pm$ 11.6 B. 54.8 $\pm$ 13.4 Gender: 100% Female Race, %, A vs. B White: 63 vs. 65 African American: 18 vs. 15 Native American: 12 vs. 15 Other: 7 vs. 5 Insurance payer, %, A vs. B Private: 27 vs. 23 Medicaid: 47 vs. 47 Medicare: 19 vs. 25 Self: 8 vs. 6	Outpatient Primary Care Clinics; Minneapolis, Minnesota	A. Reminders from lay health aides of screenings due, with referral to a culturally sensitive Women's Cancer Screening Clinic (874)	B. No additional contact until followup (819)	12 months from latest screening due date (12 months for those due at baseline)

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Martin et al., 2006 and 2008	Obesity management	Low-income, African American women	RCT (137)	Mean age: 41.8±12.0 Mean baseline weight: 101.95±19.37kg 100% African American women	Outpatient Primary Care Clinics; Baton Rouge, Louisiana	A. Tailored weight loss intervention delivered by primary care provider including 5 physician counseled office visits on a monthly basis. Included information on weight loss, ways to decrease dietary fat, ways to increase physical activity, barriers to weight loss, healthy food alternatives when eating out or shopping. Total intervention time = 90 minutes (68)	B. Standard care: usual obesity management conducted during a typical office visit (69)	9 to 18 months
Schroy et al., 2012	Colorectal Cancer Screening	Low-income	RCT (825)	Mean age: <65 year 83% vs. 87% Gender: 58% vs. 61% female Ethnicity: 94% vs. 96% non-Hispanic Race: 61% vs. 59% Black; 35% vs. 36% White; 1% vs. 3% Asian Medicare/Medicaid/free care: 64% vs. 60%	Urban, ambulatory care settings, Boston MA	A1. Decision aid alone (269) A2. Decision aid + personalized risk assessment tool with feedback (280)	B. Usual care with modified online version of "9 ways to stay healthy" generic lifestyle changes other than screening for preventable diseases (276)	12 months
Siddiqui et al., 2011	Colorectal Cancer Screening	African Americans	RCT (1,430)	Mean age: NR (67% were younger than 60 years and 33% were aged 60 or older) Gender: 67% female Ethnicity: 100% African American	Academic primary care practice; Philadelphia, Pennsylvania	A1. Mailed educational intervention-screening invitation, informational booklet, stool blood test, and a reminder letter (362) A2. Mailed educational intervention plus 2 tailored messages addressing personal barriers to screening (349) A3. Mailed educational intervention, tailored messages, and a reminder call (358)	B. Usual care (361)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Thompson et al., 2017	Cervical cancer screening	Latina, rural	RCT (443)	Mean age (SD) A1. 43.8 (10.4) A2. 43.2 (9.3) B. 44.6 (9.6)	FQHC in the Yakima area, WA- Yakima Valley Farm Workers Clinic (YVFWC)	A1. Low-intensity intervention: Spanish- language video that was sent to participants' homes, informed women of importance of cervical cancer screening (150) A2. High intensity intervention: promotora- led educational session at participants' homes as well as viewing the low- intensity video (146)	B. Usual-care (147): had access to information about cervical cancer and the importance of Pap testing via public health education and from health care provider at FQHC	September 2011 to April 2015; 7 months after randomization

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age; Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Wang et al., 2010	Cervical cancer screening	Low income Chinese-American women	Cohort (134)	Mean age (SD) A: 51.35 (14.82) B: 59.35 (12.72), p<0.01	Community-based organizations (CBO), New York, NY	<p>A. 2 CBOs that offered cervical cancer education combined with patient navigation (80)</p> <p>Education - two education sessions designed to increase knowledge and enhance attitudes towards cervical-cancer screening; participated in an open discussion with a Chinese-speaking physician; received handouts on cervical cancer; watched a Chinese-language video on the subject; and received information about healthcare sites that provided free cervical-cancer screening</p> <p>Patient navigation assistance - arranging Pap test appointments, language translation, transportation assistance, paperwork for obtaining free or low-cost screening</p>	B. 2 CBOs that acted as the control (54) - women received two education sessions on general health and cancer education, received written materials on general health and cancer screening guidelines, and information on healthcare sites that provided free cervical cancer screening	NR; 12 months

Abbreviations: aOR = adjusted odds ratio; CBO = community-based organization; CI = confidence interval; CRC = colorectal cancer; FQHC = Federally Qualified Health Center; ITT = intention to treat; NR = not reported; OR = odds ratio; RCT = randomized control trial; RR = relative risk; SD = standard deviation

Table F-4. Key Question 3 results

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Ahmed et al., 2010	Completion of screening mammography extracted from medical records Mammograms completed, % (n) A1: 16% (126) A2: 27% (213) B: 13% (105) RR A1 vs. B: 1.20 (95% CI, 0.95 to 1.53) RR A2 vs. B: 2.03 (95% CI, 1.64 to 2.51), $p \leq 0.001$	Good	Good
Aragones et al., 2010	Completed CRC screening, A vs. B: 15 (55%) vs. 6 (18%); AOR 5.4 (95% CI, 1.6 to 18.5)	Fair 1. Unclear blinding of outcome assessors 2. Unclear ITT analysis	Poor 1. Spanish speaking immigrant population 2. Very small sample size
Bastani et al., 2015	6 months, A vs. B Screening rate, total sample: 15% vs. 10%; OR 1.6 ($p=0.006$) Screening rate, whites: 15% vs. 10%; OR 1.5 ($p=0.182$) Screening rate, Latinos: 14% vs. 8%; OR 1.7 ($p=0.117$) Screening rate, African Americans: 12% vs. 10%; OR 1.3 ($p=0.684$) Screening rate, Asians: 18% vs. 10%; OR 2.0 ($p=0.073$) 12 months, A vs. B Screening rate, total sample: 26% vs. 18%; OR 1.6 ($p=0.001$) Screening rate, whites: 30% vs. 20%; OR 1.7 ($p=0.045$) Screening rate, Latinos: 24% vs. 14%; OR 1.9 ($p=0.027$) Screening rate, African Americans: 23% vs. 22%; OR 1.1 ($p=0.906$) Screening rate, Asians: 28% vs. 17%; OR 1.9 ($p=0.039$)	Fair 1. Unclear randomization and concealment. 2. Unclear whether groups are similar at baseline.	Fair 1. 1st degree relatives of CRC patients randomized
Christie et al., 2008	Screening rate, A vs. B 53.8% vs. 13.0%, $p=0.058$ RR 4.31 (95% CI, 0.64 to 28.84) Refused screening, A vs. B 23% vs. 63%, $p=NR$ RR not calculable (reported percentages do not correspond to whole patients)	Poor 1. Randomization not reported. 2. Unclear allocation concealment. 3. Not powered to assess outcome	Poor 1. Patient navigation intervention is resource intensive and may not be plausible in all health systems. 2. Implemented in a specific population and with a small sample size - may not be applicable in larger, more diverse groups.

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Curry et al., 2003	<p>Self-reported 7-day prevalent abstinence at the 3- and 12-month followup, ITT: Serious attempt to quit, month 12: 61% vs. 51%; AOR 1.53 (95% CI, 0.96 to 2.44) Prevalent abstinence, 3 months: 8% vs. 3%, AOR 2.40 (95% CI, 0.85 to 1.80) Prevalent abstinence, 12 months: 14% vs. 7%, AOR 2.77 (95% CI, 1.24 to 6.60) Sustained abstinence: 2% vs. 1%; AOR 2.39 (95% CI, 0.29 to 14.30) <u>Self-reported 7-day prevalent abstinence at the 3- and 12-month followup, COMPLETED Cases analysis:</u> Serious attempt to quit, month 12: 79% vs. 60%, AOR 2.62 (95% CI, 1.47 to 4.80) Prevalent abstinence, 3 months: 10% vs. 4%, AOR 2.43 (95% CI, 0.80 to 8.30) Prevalent abstinence, 12 months: 17% vs. 8%, AOR 3.47 (95% CI, 1.52 to 8.50) Sustained abstinence: 3% vs. 2%; AOR 2.39 (95% CI, 0.38 to 19.10)</p>	<p>Fair 1. Unclear if groups remained comparable 2. Unclear/no masking 3. Unclear post-randomization exclusions</p>	<p>Fair 1. Women only 2. Intervention in pediatrician office, aimed at parents (mothers) of patients to improve child health/increase smoking cessation rates</p>
Lasser et al., 2011	<p>Screening rate, A vs. B % (n) 33.6% (79) vs. 20.0% (46) RR 1.68 (95% CI, 1.23 to 2.30)</p>	<p>Fair 1. Unclear allocation concealment.</p>	<p>Fair 1. Patient navigation intervention is resource intensive and may not be plausible in all health systems.</p>
Margolis et al., 1998	<p>Breast cancer screening rates, A vs. B Overall: 69.3% vs. 62.9%, p=0.009 Due at baseline: 59.9% vs. 50.3%, p=0.006 Up-to-date at baseline: 79.4% vs. 82.1%, p=0.37 Age 40-59 years: 56% vs. 48% Age ≥60 years: 68% vs. 54%, p=0.003 Whites: 55% vs. 55%, p=0.900 African American: 70% vs. 57%, p=0.110 Native American: 55% vs. 33%, p=0.010 Other: 76% vs. 40%, p=0.007, summary p=0.01</p> <p>Cervical cancer screening rates, A vs. B Overall: 70.3% vs. 62.9%, p=0.02 Due at baseline: 63.2% vs. 50.3%, p=0.002 Up-to-date at baseline: 80.5% vs. 84.3%, p=0.33 Age 40-59 years: 65% vs. 56% Age ≥60 years: 59% vs. 41%; p=0.002 Whites: 62% vs. 51%, p=0.020 African Americans: 66% vs. 71%, p=0.230 Native Americans: 56% vs. 37%, p=0.060 Others: 76% vs. 45%, p=0.040, summary p=0.004</p>	<p>Fair 1. Randomization not adequate. 2. Unclear allocation concealment.</p>	<p>Fair 1. Intervention is resource intensive and may not be plausible in all health systems.</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Martin et al., 2006 and 2008	Weight loss at 9, 12, 18 month followups, A vs. B 9 months: -1.52±3.72kg vs. 0.61±3.37kg, p=0.01 12 months: -1.38±3.72kg vs. -0.16±3.63, p=0.10 18 months: -0.49±3.33kg vs. +0.07±3.75kg, p=0.39	Fair 1. Unclear allocation concealment.	Fair 1. Implemented in a specific population and geographic region, may not be applicable elsewhere.
Schroy et al., 2012	Screening test completed: 6 months, A1 vs. B: 34.2% vs. 26.4%; p=0.049 12 months: A1 vs. B: 43.1% vs. 34.8%, p=0.046 6 months A2 vs. B: 34.2 vs. 30%, p=0.292 12 months A2 vs. B: 43.1 vs. 37.1%, p=0.153	Poor: 1. Lack of provider blinding 2. Unclear blinding of outcome assessors	Fair 1. Implemented in a single geographic location 2. Expertise needed for intervention
Siddiqui et al., 2011	Screening rates, Whites vs. African Americans A1+A2+A3: 53% (230/432) vs. 43% (273/637); AOR 1.44 (95% CI, 1.12 to 1.86) B: 33% (48/146) vs. 32% (69/215); AOR 1.01 (95% CI, 0.64 to 1.61) A1: 55% (86/156) vs. 41% (84/206); AOR 1.68 (95% CI, 1.10 to 2.58) A2: 50% (68/135) vs. 40% (86/214); AOR 1.42 (95% CI, 0.92 to 2.21) A3: 54% (76/141) vs. 47% (103/217); AOR 1.25 (95% CI, 0.81 to 1.92)	Poor 1. Unclear randomization. 2. Unclear allocation concealment. 3. Unclear whether groups were similar at baseline.	Poor 1. Intervention is resource intensive and may not be plausible in all health systems.
Thompson et al., 2017	Completion of a Pap test within the 7 months after randomization % (n) A1. 38.7% (58) A2. 53.4% (78) B. 34% (50) A2 vs. B, p<0.001 A2 vs. A1, p<0.01 A2 vs. B, p=0.40	Fair 1. Unclear randomization. 2. Unclear allocation concealment.	Fair 1. The at home promotora visit may not be plausible in all health systems (resource heavy)
Wang et al., 2010	Received screening 12 months after intervention, % (n) A: 70% (56) B: 11.1% (6), p<0.001	Poor 1. Did not enroll consecutive or random sample. 2. Groups were not comparable at baseline. 3. Unclear whether accurate methods were used for confounders and outcomes.	Good

Abbreviations: aOR = adjusted odds ratio; CBO = community-based organization; CI = confidence interval; CRC = colorectal cancer; FQHC = Federally Qualified Health Center; ITT = intention to treat; NR = not reported; OR = odds ratio; RCT = randomized control trial; RR = relative risk; SD = standard deviation

Table F-5. Key Question 4 study characteristics

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Bennett et al., 2012	Obesity management	Racial and ethnic minorities	RCT (365)	Age, mean: 54.5 Female: 68.5% Race Non-Hispanic Black: 71.2% Non-Hispanic White: 3.6% Hispanic: 13.2% >1 race: 8.5% Medicaid: 33.7% Medicare: 20.5%	Three urban community health centers serving predominantly racial and ethnic minorities in Boston, MA	A. Multi-modal intervention including: 1) 3 tailored behavioral change goals with new goals at 13-week intervals; 2) Patient self- monitoring of progress and receipt of real-time feedback through website or interactive voice response system; 3) Counseling calls delivered by community health educators and optional monthly group sessions; 4) ≥1 brief standardized message from primary care provider; 5) Behavioral skills training materials, information on community resources and a walking kit with pedometer and maps (180)	B. Usual care (185)	Duration: 24 months Followup: 24 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Bennett et al., 2013	Obesity management	Black women	RCT (185)	Age, mean $\pm$ SD: 35.4 (5.5) Female: 100% Black: 100%	6 community health centers in a nonprofit, federally qualified community health center system in central North Carolina	Shape program, Interactive obesity treatment approach using 1) tailored behavior change goals (beginning with 3 goals identified through a computer algorithm with personalized progress reports and updated goals every 2 months); 2) weekly self- monitoring via IVR telephone calls; 3) 12 monthly counseling calls with dietitian; 4) tailored skills training materials; 5) 12 month YMCA membership (91)	B. Usual care (94)	Duration: 12 months Followup: 6 months after trial
Haas et al., 2015	Tobacco smoking cessation	Low- socioeconomic status	RCT (707)	A vs. B Age, median: 49 vs. 51 Female: 67.9% vs. 68.5% Race Hispanic: 21.3% vs. 18.8% White: 61.4% vs. 62.0% Black: 26.8% vs. 28.9% Other: 13.8% vs. 11.7%+E8	13 primary care practices in a large health care delivery system in greater Boston, Massachusetts	Smokers identified through practice EHR and recruited through an automated Interactive voice response outreach call to receive a multimodal intervention consisting of 1) telephone- based motivational counseling calls with a tobacco treatment specialist; 2) free NRT patches; 3) personalized community-based referrals to reduce social mediators of tobacco; 4) integration of all components through updated documentation in EHR (399)	B. Smokers identified and recruited through same process, but received usual care (308)	Duration: 8 to 10 weeks of calls, 6 weeks of NRT Followup: 9 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Hendren et al., 2014	Colorectal and breast cancer screening	Low-income	RCT (366; CRC screening=240; mammography=191)	<p>A vs. B</p> <p>CRC Screening</p> <p>Age</p> <p>50 to 59: 62.3% vs. 61.1%</p> <p>60+: 37.7% vs. 38.9%</p> <p>Race</p> <p>Black: 43.0% vs. 36.3%</p> <p>White: 52.0% vs. 54.9%</p> <p>Other: 5.0% vs. 8.8%</p> <p>Female: NR</p> <p>Mammography</p> <p>Age</p> <p>40 to 49: 59.4% vs. 45.6%</p> <p>50 to 59: 25.7% vs. 23.3%</p> <p>60+: 14.9% vs. 31.1%</p> <p>Race</p> <p>Black: 41.1% vs. 45.8%</p> <p>White: 47.8% vs. 47.0%</p> <p>Other: 11.1% vs. 7.2%</p> <p>Female: NR</p>	Large safety net primary care practice; New York	<p>A. Multi-modal intervention including: 1) letters; 2) automated telephone calls; 3) point-of-care prompts reminding clinicians and patients the patient was past due for the service; 4) mailing of home test kit for CRC screening patients (185)</p> <p>Type of CRC screening: colonoscopy, FIT, FOBT</p>	B. Control group (181)	Duration: 6 months Followup: 1 year
Miller, Jr. et al., 2011	Colorectal cancer screening	Socio-economically disadvantaged population	RCT (264)	<p>Age, mean: 57.8</p> <p>Female: 67.0%</p> <p>African American: 73.1</p> <p>Insured: 61.7%</p>	Community-based, university-affiliated internal medicine practice in Winston-Salem, North Carolina	A. Communicating Health Options through Interactive Computer Education (CHOICE) interactive, web-based decision aid delivered immediately before a healthcare provider visit (132)	B. Control group receiving web-based program about prescription drug refills and safety delivered immediately before a healthcare provider visit (132)	Duration, median: 10.1 minutes (IQR, 7.7 to 13. minutes) Followup: 24 weeks

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Miller, Jr. et al., 2018	Colorectal cancer screening	Vulnerable patients	RCT (450)	Age, median (range): 57 (50 to 74) Female: 54% Race/ethnicity Non-Hispanic White: 57% African American: 38% Hispanic/Latino: 2% Uninsured: 14% Publicly insured: 42% Income <\$20,000: 53%	Six community-based primary care practices within a large health system in North Carolina	A. Mobile Patient Technology for Health-CRC (mPATH-CRC) used an iPad to deliver an 8.6-minute decision aid about CRC screening followed by ability of patient to order screening tests, and if ordered, then patients received followup electronic messages to help complete screening procedures (223)	B. Usual care, receiving a 4.3-minute CDC video about diet and exercise and no option for self-ordering screening tests (227)	Duration: 4.3 to 8.6 minutes for iPad; variable and unclear how long for followup electronic messages Followup: 24 weeks
Muller et al., 2017	Colorectal cancer screening	Alaska Native and American Indian People	RCT (808)	Age: 50 to 75 Female: 57.4% Race: 100% Alaska Native and American Indian	Tribally owned and operated healthcare organization offering primary care; Alaska	A. Text message reminders for CRC screening. All patients received screening reminders via telephone, mail, and physicians during in-person visits (404) Type of CRC screening: FIT, FOBT, or colonoscopy	B. Standard reminders (404)	Duration: 2 months (up to 3 messages) Followup: 6 months
Richter et al., 2015	Tobacco smoking cessation	Rural, Low-income	RCT (566)	Age, mean $\pm$ SD: 47.4 $\pm$ 12.9 Female: 64.8% Race Caucasian: 82.9% Hispanic/Latino: 9.0%	20 primary care clinics; Kansas	A. Four counseling sessions delivered in the primary care office through telemedicine. Eligible patients in both groups were assisted in applying for cessation medication from pharmacy assistance programs (280)	B. Usual care - telephone cessation counseling (286)	Duration: 3 months (4 sessions) Followup: 6 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Russell et al., 2010	Breast cancer screening	Low-income, African-American Women	RCT (179)	Age, mean: 51.2 Female: 100% Black: 100% Insured: 55.4%	FQHC in Indianapolis, Indiana	A. 1) Interactive computer program providing algorithm of tailored messages to identify views of breast cancer; to assess health beliefs, self-efficacy, and barriers to screening; and to assess stage of readiness for breast cancer screening; and 2) lay health advisor assisting in patient navigation services including barriers counseling, referrals to low- or no-cost mammograms, assistance scheduling appointments, and assistance with transportation (89)	B. Low-dose group receiving culturally appropriate pamphlet about breast cancer and screening coupled with a lay health advisor recommendation to schedule a mammography. Also, received mailed postcards with general nutrition information periodically (90)	Duration: Unclear, appears to be 18 weeks Followup: 6 months
Simon et al., 2001	Breast cancer screening	Low-income women	RCT (1,717)	Clinic 1 vs. Clinic 2 Age, range: 40-65+ Female: 100% Race: NR Insurance status Medicaid: 12% vs. 16% Medicare: 12% vs. 12% Commercial: 11% vs. 16% None: 64% vs. 57%	Two Detroit Health Department primary care clinics; Michigan	A1. Letter 1- a physician referral letter, was directed women due for mammography to visit primary care physicians for a mammogram referral (559) A2. Letter 2- a direct access letter, instructed women to arrange a mammogram directly (591)	B. Usual care - no letter (567)	Duration: 1 year Followup: 1 year

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Valdez et al., 2018	Cervical cancer screening	Low-income, Latina women	RCT (943)	Age, mean $\pm$ SD: 39.1 $\pm$ 11.8 Female: 100% Latina: 100% Foreign-born: 20% Insured: 51% Education, mean $\pm$ SD: 8.2 $\pm$ 3.8 years	Community clinics in Los Angeles, San Jose, and Fresno, CA	A. Interactive modules delivered in English or Spanish via an electronic, touch-screen kiosk to address cervical cancer knowledge, risk factors, and screening procedures (480)	B. Control group, receiving Spanish or English-language educational material in the mail (463)	Duration: 24 to 28 minutes, mean Followup: 6 months

Abbreviations: aOR = adjusted odds ratio; CDC = Centers for Disease Control and Prevention; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; CRC = colorectal cancer; EHR = electronic health record; FIT= fecal immunohistochemistry test; FOBT = fecal occult blood test; FQHC = federally qualified health center; HR = hazard ratio; IQR = interquartile range; ITT = intention to treat; IVR = interactive voice response; mPATH = mobile patient technology; NA = not applicable; NR = not reported; NRT= nicotine replacement therapy; OR = odds ratio; RCT = randomized controlled trial; RR = risk ratio; SD = standard deviation; SE = standard error

Table F-6. Key Question 4 outcomes

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Bennett et al., 2012	BMI Baseline, mean (SE) A. 37.04 (4.96) B. 36.99 (5.24) Change from baseline at 24 months, mean (SE) A. -0.58 (0.14); AUC: -0.54 (0.12) B. -0.20 (0.13); AUC: -0.13 (0.11) Difference between arms: -0.41 (95% CI, -0.73 to -0.09) Adverse events A. 1 serious musculoskeletal injury B. 1 cardiovascular event, 2 cases of bladder disease	Fair 1. Allocation not concealed 2. Blinding not possible 3. Unclear if baseline differences exist	Fair 1. Intervention components difficult to replicate elsewhere 2. Population likely to be different in other locations 3. Settings and clinical experience likely to differ

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Bennett et al., 2013	<p>Weight change, mean (SE)</p> <p><u>6 months</u></p> <p>A. -1.0 (0.4)</p> <p>B. 0.1 (0.4)</p> <p>Difference, mean: -1.1 (95% CI, -2.3 to 0.04)</p> <p><u>12 months</u></p> <p>A. -1.0 (0.5)</p> <p>B. 0.5 (0.5)</p> <p>Difference, mean: -1.4 (95% CI, -2.8 to -0.1), p=0.04</p> <p><u>18 months</u></p> <p>A. -0.9 (0.6)</p> <p>B. 0.8 (0.6)</p> <p>Difference, mean: -1.7 (95% CI, -3.3 to -0.2), p=0.03</p> <p>BMI change, mean (SE)</p> <p><u>6 months</u></p> <p>A. -0.3 (0.2)</p> <p>B. 0.1 (0.2)</p> <p>Difference, mean: -0.4 (95% CI, -0.8 to 0.03)</p> <p><u>12 months</u></p> <p>A. -0.3 (0.2)</p> <p>B. 0.3 (0.2)</p> <p>Difference, mean: -0.6 (95% CI, -1.1 to -0.1), p=0.02</p> <p><u>18 months</u></p> <p>A. -0.2 (0.2)</p> <p>B. 0.4 (0.2)</p> <p>Difference, mean: -0.6 (-1.2 to -0.1), p=0.03</p> <p>Serious adverse events</p> <p>A. 6 (2 gynecological surgeries, 1 knee replacement, 1 breast abscess, 1 musculoskeletal injury, 1 cancer diagnosis)</p> <p>B. NR</p>	<p>Fair</p> <p>1. Allocation not concealed</p> <p>2. Blinding not possible</p>	<p>Fair</p> <p>1. Specific population</p> <p>2. Expertise/staffing requirements may be difficult to replicate elsewhere</p> <p>3. Settings and clinical experience likely to differ</p>
Haas et al., 2015	<p>7-day tobacco abstinence</p> <p>A. 17.8% (71/399)</p> <p>B. 8.1% (25/308)</p> <p>OR 2.5 (95% CI, 1.5 to 4.0), p<0.001</p>	<p>Fair</p> <p>1. Allocation concealment NR</p> <p>2. Unclear masking</p> <p>3. High loss-to-followup</p>	<p>Good</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Hendren et al., 2014	<p>CRC screening Unadjusted rates A. 37.7% B. 16.7%, p=0.0002 Adjusted OR: 3.22 (95% CI, 1.65 to 6.30)</p> <p>Mammography Unadjusted rates: A. 29.7% B. 16.7%, p=0.034 Adjusted OR: 1.96 (95% CI, 0.87 to 4.39)</p> <p>Sub-analysis based on race Black vs. White vs. Other CRC Screening Unadjusted rates A: 44.19% vs. 34.62% vs. 20.00% B: 14.63% vs. 16.13% vs. 30.00% Mammography Unadjusted rates A: 27.03% vs. 25.58% vs. 60.00% B: 10.53% vs. 20.51% vs. 33.33%</p>	<p>Fair 1. Care providers not masked, unclear if patients masked, attrition and loss to followup not reported</p>	<p>Good</p>
Miller, Jr. et al., 2011	<p>Completed CRC screening A: 19% (25/132) B: 14% (18/132) AOR: 1.7 (0.88 to 3.2), p=0.12</p> <p>Increased readiness for screening after program (only for participants in precontemplation and contemplation stages at baseline) A: 52% (38/73) B: 20% (12/61) Adjusted OR: 4.7 (95% CI, 1.9 to 11.9), p=0.0001</p>	<p>Fair 1. Randomization method not reported 2. Allocation concealment not reported</p>	<p>Fair 1. Patients recruited from a single clinic</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Miller, Jr. et al., 2018	<p>Overall CRC screening rates: A. 30.0% (67/223) B. 15.0% (34/227) Percent difference: 15% (95% CI, 7 to 23) Adjusted odds ratio (usual care=reference): 2.5 (95% CI, 1.6 to 4.0)</p> <p>CRC screening rate by income: <\$20,000/yr vs. ≥\$20,000/yr A. 24.6% (29/118) vs. 37.5% (36/96) B. 15.0% (17/113) vs. 15.5% (17/110) Percent difference: 9.6% (95% CI, -1 to 20) vs. 22.0% (95% CI, 10 to 34)</p> <p>CRC screening rate by race/ethnicity Non-Hispanic White vs. other race/ethnicity A. 27.2% (34/125) vs. 33.7% (33/98) B. 12.0% (16/133) vs. 19.1% (18/94) Percent difference: 15.2% (95% CI, 6 to 25) vs. 14.6% (95% CI, 2 to 27)</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear if groups were similar at baseline 2. Unclear masking of care provider 3. Unclear if authors used intention-to-treat analysis 	<p>Good</p>
Muller et al., 2017	<p>Completed CRC screening A. 15.6% B. 11.1% HR: 1.42, 95% CI, 0.97 to 2.09, p=0.07</p>	<p>Good</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Tailored messaging targeted to specific population in Alaska 2. Patients are 'customer-owners' of the clinic 3. Patients receive screening at no cost 4. Sampling frame is of participants who opted in to receive text messages and participate in studies
Richter et al., 2015	<p>7-day point prevalence smoking cessation A. 9.8% B. 12.0%, p=0.406 Prolonged abstinence A. 8.1% B. 7.6%, p=0.839 Pharmacotherapy use A. 55.9% B. 46.1%, p=0.03</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. No blinding of patients or providers 2. Blinding of outcome assessors unclear 	<p>Fair</p> <ol style="list-style-type: none"> 1. Clinic capacity in terms of costs, staffing, and space to implement intervention may not be replicable

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Russell et al., 2010	<p>Mammography adherence A: 50.6% (45/89) B: 17.8% (16/90) adjusted RR: 2.7 (95% CI, 1.8 to 3.7), $p < 0.0001$ AOR: 4.3 (95% CI, 2.1 to 9.0), $p < 0.0001$</p> <p>Forward movement in stage of screening adoption A: 76.3% (61/89) B: 38.5% (25/90) adjusted RR: 2.0 (95% CI, 1.5 to 2.3), $p < 0.0001$ AOR: 4.9 (95% CI, 2.3 to 10.4), $p < 0.0001$</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Allocation not concealed 2. Patients and interventionists not masked 	<p>Fair</p> <ol style="list-style-type: none"> 1. Specific population 2. Patients recruited from a single clinic 3. Expertise needed for implementation of intervention
Simon et al., 2001	<p>Receipt of mammogram A1: AOR 1.10 (95% CI, 0.77 to 1.56) A2: AOR 1.28 (95% CI, 0.92 to 1.82) B: Reference (77/567) Receipt of mammogram, Clinic 1 A1: 19% A2: 20% B: 17%, $p = 0.743$ Clinic 2 A1: 11% A2: 14% B: 11%, $p = 0.376$</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Randomization, allocation concealment, and blinding not described 2. Unclear if groups were similar at baseline. 	<p>Fair</p> <ol style="list-style-type: none"> 1. Insurance requirements may make the intervention difficult to implement in some places
Valdez et al., 2018	<p>Appointment or receipt of Pap test within 6 months A: 79.8% (383/480) B: 74.3% (344/463) AOR of patients receiving pap test ($n = 727$): Intervention group OR 1.14 (95% CI, 0.84 to 1.55)</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Blinding of patients and outcome assessors not reported 2. Attrition and post-randomization exclusions not reported 	<p>Fair</p> <ol style="list-style-type: none"> 1. Sample derived within clinics and intervention targeted to specific population 2. Followup procedures may not be replicable everywhere

Abbreviations: aOR = adjusted odds ratio; CDC = Centers for Disease Control and Prevention; CHOICE = Communicating Health Options through Interactive Computer Education; CI = confidence interval; CRC = colorectal cancer; EHR = electronic health record; FIT = fecal immunohistochemistry test; FOBT = fecal occult blood test; FQHC = federally qualified health center; HR = hazard ratio; IQR = interquartile range; ITT = intention to treat; IVR = interactive voice response; mPATH = mobile patient technology; NA = not applicable; NR = not reported; NRT = nicotine replacement therapy; OR = odds ratio; RCT = randomized controlled trial; RR = risk ratio; SD = standard deviation; SE = standard error

Table F-7. Key Question 5 study characteristics

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Abood et al., 2005	Breast cancer screening	Low income	Cluster RCT (1,104)	A vs. B: Mean age: 56.8 vs 53.8 White: 81% vs 94%, p=0.0105 Black: 19% vs 6%	County Health Departments, Florida	A. Loss/risk framed messages (incoming calls) (112)	B. Standard messages (992)	6 months
Allen & Bazargan- Hejazi, 2005	Breast cancer screening	African Americans and Hispanic	RCT (430)	Mean age: 51.9 years Gender: 100% female Race/ethnicity: 45% Hispanic, 38% African American, 17% other	Community Health Center in Los Angeles, California	A. Culturally-tailored telephone counseling to overcome barriers (219)	B. No telephone counseling (211)	6 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Arnold et al., 2016a Arnold et al., 2016b	Colorectal cancer screening	Underserved (FQHC)	Group-randomized trial (961)	<p>*Note: significantly different groups by age ($p=0.014$), race ($p<0.001$) (and others, see Table 1)</p> <p>A1. Intervention-Nurse Age, mean (SD): 59.2 years (7.5) Female: 77% Race Black: 83% White/Hispanic: 17%</p> <p>A2. Intervention-Education Age, mean (SD): 57.8 years (6.5) Female: 79% Race Black: 40% White/Hispanic: 60%</p> <p>B. Enhanced usual care Age, mean (SD): 57.7 years (7.5) Female: 75% Race Black: 72% White/Hispanic: 28%</p>	Printed material, telephone at FQHC; Louisiana	<p>A. Clinic nurse provided education and FOBT kit, plus tailored telephone problem solving of barriers, mailed materials, and assistance with scheduling. (404)</p> <p>A2. Research assistant provided education, printed materials, and FOBT kit during clinic visit, plus yearly mailed reminders and kit (282)</p>	<p>B. Enhanced usual care - research assistant provided a recommendation for screening and FOBT kit during clinic visit, plus yearly mailed reminders and kit (275)</p>	<p>Duration: 3 years</p> <p>Followup A1. Followup within 2 weeks and then 1 month if no appointment scheduled, plus yearly mailed reminders</p> <p>A2 and B. Yearly mailed reminders</p>

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Baker et al., 2014	Colorectal cancer screening	Underserved (FQHC)	RCT (450)	A. Intervention Age, mean (SD): 59.5 years (6.1) Female: 70.2% Race Latino/Hispanic: 87.6% Other: 12.4% B. Usual care Age, mean (SD): 59.6 years (5.7) Female: 72.9% Race Latino/Hispanic: 91.1% Other: 8.9%	FQHC; Chicago, Illinois	A. Mailed FOBT/FIT kit, letter from PCP, followed by automated call and text message; second call and text 2 weeks later for non-responders; patient navigation 3 months later for non-responders (225)	B. Usual care - computerized reminders, standing orders for medical assistants to give patients home FIT, and clinician feedback on CRC screening rates (225)	Duration: 2 years 2 weeks and then 3 months for those not responding to FOBT/FIT
Battaglia et al., 2012	Cervical cancer screening	Low income racial and ethnic minority	Non- randomized trial (1,763)	Age 18-20: 11% 21-30: 57% 30+: 32% Female: 100% Race African American: 32% Hispanic: 31% White: 30% Other: 7%	6 FQHCs; Boston, MA	A. Patient navigators contacted patients with abnormal screens by phone. Identified barriers to care, timely completion of diagnostic evaluation. Followup by phone, mail, in-person. PNs were language matched to patients. (3 FQHCs with 959 eligible patients)	B. Usual care (3 FQHCs with 804 eligible patients)	1 year

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Berkowitz et al., 2015	Colorectal cancer screening	Socio- economically disadvant- aged	Before-after (49,733)	Age, mean years (SD) A. 62.5 (6.8) B. 61.7 (6.4), p<0.001 Female A. 56.6% B. 55%, p=0.001 <u>Race</u> White A. 68.5% B. 89.5% Black A. 9% B. 4.2% Hispanic A. 15% B. 2.3% Asian/other A. 7.4% B. 3.8% All p<0.001	18 primary care practice sites Boston, MA	Health IT platform and population management workforce: (1) electronic identification of eligible patients overdue for screening, and (2) workflow to contact and track patients, including initial reminder letter with educational and contact information, plus assignment to a patient delegate; after 4 months, if not screened (or if high risk patient), referred to PN for individualized counseling and education, assistance identifying and managing barriers such as transportation or accompanying to visits. A. ≤HS education, indicating socioeconomic disadvantage (14,693) B. >HS education (35,040)	After platform/workforce implemented	Duration: 1 year Followup: 3 years

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Blumenthal et al., 2010	Colorectal cancer screening	African Americans	RCT (369)	A1. Intervention-financial support Age, mean (SD): 65.6 years (10.4) Female: 72.6% A2. Intervention-one on one education Age, mean (SD): 69.2 years (9.1) Female: 76.5% A3. Intervention-group education Age, mean (SD): 68.6 years (11.5) Female: 66.7% B. Control Age, mean (SD): 69.5 years (10.3) Female: 76.1%	Community- based organizations; Atlanta, Georgia	A1. Financial support Up to \$500 for out of pocket expenses, health navigator to assist with transportation, scheduling, payment (84) A2. One on one education Three 45-minute sessions with health educator (98) A3. Group education Four 45-minute sessions with health educator (99)	B. Gift bag at introductory session-pamphlet, list of resources (88)	Duration: Up to four weeks of sessions Followup: 3 months, and 6 month followup for those not screened by 3 months
Braun et al., 2015	Breast cancer, cervical cancer, colorectal cancer screening	Native Hawaiian and Filipino	RCT (488)	A vs. B. Age, mean: 68.4 years vs. 66.7 years Female: 52.9% vs. 53.7% Ethnicity Chinese: 0.8% vs. 0.8% Filipino: 37.2% vs. 32.1% Hawaiian: 43.0% vs. 47.2% Japanese: 12.4% vs. 9.8% Other: 7.9% vs. 8.5%	Hospital; Moloka'i, Hawai'i	A. Patient navigation based on <i>Kukui Ahi</i> model (242)	B. Control- relevant education from another healthcare entity (246)	3 years
Byrd et al., 2013	Cervical cancer screening	Hispanic	RCT (613)	NR, but women were of Mexican origin and 21 years or older	Community settings in El Paso and Houston, Texas and Yakima Valley, Washington	1-on-1 delivery of AMIGAS program by promotor, including: A1. Screening contract, games and activities, video on barriers and facilitators, and flip chart to review video (151) A2. All but the video (154) A3. All but the flip chart (155)	B. Usual care at clinic (153) Women in control group who completed study were offered full program (A) after final followup	Followup 6 months post- intervention

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Cole et al., 2017	Colorectal cancer screening	African- American men	RCT (731)	A1. Patient navigation (PN) Age, mean (SD): 57.2 years (6.5) A2. PN plus motivational interviewing Age, mean (SD): 56.9 years (6.0) B. Motivational interviewing Age, mean (SD): 58.2 years (7.1)	Telephone naviga- tion with patients recruited from barbershops; New York City, New York	A1. Patient navigation with 2+ telephone sessions, including assessment of/managing barriers (234) A2. Patient navigation plus motivational interviewing (259)	B. Motivational interviewing (238)	6 months
Coronado et al., 2011	Colorectal cancer screening	Hispanic, underserved socio- economic	RCT (501)	A1 vs. A2 vs. B Age 50-59 years: 56.5% vs. 57.1% vs. 57.5% 60-69 years: 32.7% vs. 33.3% vs. 32.9% 70-79 years: 10.7% vs. 9.5% vs. 11.4% Female: 53% vs. 52.7% vs. 52.7% Race: 100% Hispanic	Community- based clinic; King County, Washington	A1. Mail packet plus outreach: Mailed packet, plus 10-min telephone calls from promoters to remind, educate, and answer questions about screening, followed by 50-min home visits including colon models and flip charts to reinforce education (168) A2. Mail packet only: Mailed packet containing letter signed by medical director, FOBT card, instructions, and stamped envelope to return card (168)	B. Usual care: no formal prompting of CRC screening (165)	9 months
Coronado et al., 2016	Breast cancer screening	Hispanic women	Block RCT (536)	Age: Female: 100% Race: 100% Hispanic	FQHCs, Washington	A. A promotor-led, motivational interviewing intervention that included a home visit and telephone followup. (210)	B. Usual care (326)	12 months
Coronado et al., 2018	Colorectal cancer screening	Underserved	Cluster RCT (41,193)	A vs. B Age, 50-64, median: 80% vs. 83% Female, median: 44% vs. 45% White, median: 93% vs. 91% Other, median: 3% vs. 5%	26 FQHCs; Oregon and California	A. Introductory letter, FIT kit and instructions, reminder letter for patients; process improvement for clinics (13 clinics, 21,134)	B. Usual care (13 clinics, 20,059)	Duration: 18 months Followup: 12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Davis et al., 2013	Colorectal cancer screening	Underserved	Prospective cohort (961)	Age: 58.4 years (7.3) Female: 77% Black: 67% White/Hispanic: 33%	8 FQHC- associated clinics; Louisiana	A1. Nurse provided education, motivational interviewing, followup calls (404) A2. Staff provided education via video, pamphlet, instructions, FOBT kit and SASE (282)	B. Usual care- FOBT kit and SASE (275)	Duration: 1 month Followup: 1 year
DeGroff et al., 2017	Colorectal cancer screening	Low-income	RCT (856; analyzed 840)	A. Intervention Age 50 to 54: 53% 55 to 64: 33.9% 65 to 74: 13.1% Female: 55.4% Race Hispanic: 39.2% NH Black: 40.7% NH White: 15.1% Other: 5.0% B. Control Age 50 to 54: 54.4% 55 to 64: 32.3% 65 to 74: 13.3% Female: 58.9% Race Hispanic: 41.7% NH Black: 40.2% NH White: 13.3% Other: 4.8%	Telephone navigation with patients recruited from EHRs at a hospital and community health center; Boston, Massachusetts	A. Patient navigation to address multilevel patient-defined barriers to CRC screening (419)	B. Computerized reminders, standing orders for medical assistants to give patients home fecal immunochemical tests (FIT), and clinician feedback on CRC screening rates (421)	Followup at 6 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Dietrich et al., 2006	Breast cancer, cervical cancer, colorectal cancer screening	Low income	RCT (1,413) 11 sites	Age: 58.1 (5.25) Female: 100% Language Spanish: 61.8% Haitian Creole: 0.3%	Community and Migrant Health Centers; New York City, New York	A. Telephone intervention by prevention care managers. Subjects received an average of 4 calls over 18 months: confirming screening dates, determining readiness to act, providing motivational support, working to prioritize screening, helping to overcome individual barriers. Care managers also scheduled appointments, made reminder calls, provide directions, helped find transportation.	B. A single telephone call during which trial staff answered questions about preventive care, informed women of their usual care status, advised them to obtain needed preventive care from their primary care clinician, and thanked them for their participation.	18 months
Dietrich et al., 2013	Colorectal cancer screening	Low income women	RCT (2,240)	A. vs. B. Age: 55.8 years vs. 55.8 years Female: 100% Race: NR	3 Medicaid managed care organization plans; New York City, New York	A. Personalized letter, educational materials, list of overdue screenings to share with physician, telephone outreach to address barriers and provide appointment reminders; scheduled appointments only for women requesting help (562)	B. Usual care (1,678)	18 months
Dignan et al., 2014	Colorectal cancer screening	Rural	Before-after study (66 practices with 3,844 patient records, 3751 at followup)	Age: 64.8 at baseline; 64.1 at followup Female: 60.5% at baseline; 60.1% at followup Race: NR	Primary care practices; Appalachian Kentucky	A. Academic detailing for providers: screening efficacy, clinical performance measures, patient counseling, and creating a screening-friendly practice environment. (33 practices)	B. No treatment for 6 months (33 practices), offered intervention after 6-month followup	6 months
Doorenbos et al., 2011	Tobacco smoking cessation Breast cancer, colorectal cancer screening	American Indian / Alaska Native	RCT (5,065)	Age group, years 13-39: 51% vs. 47% 40-49: 24% vs. 25% 50-64: 19% vs. 21% 65-93: 7% vs. 7% p=0.04 Female: 56% vs 55% AI/AN: 100%	Community Health Clinic Seattle, WA	A. Calendar with cancer health-reacted messages (2,805)	B. Calendar without messages (2,800)	15 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Enard et al., 2015	Colorectal cancer screening	Low Income, Hispanic	RCT (303)	Age 50 to 64: 75 (24.7%) 65 to 75: 228 (75.3%) Female: 54.8% 100% Hispanic	Telephone navigation with patients recruited from Medicare list and contacts at community-based organizations; Texas	A. Bilingual Tailored Patient Navigation: needs, barriers, services assessed; education about screening guidelines and Medicare's coverage, navigation around barriers. CMS Demonstration Project (135)	B. Mailed educational materials about screening and risk factors (168)	March 2007 to December 2010 Followup: adherence during observation period
Fang et al., 2017	Cervical cancer screening	Korean American women	RCT (705)	Mean age control: 53.9 (± 11.6) Mean age intervention: 51.9 (± 9.5) Female: 100% Korean American: 100%	Churches (community setting); Southeastern Pennsylvania and New Jersey	A. Intervention group: multicomponent program that includes navigation services and bilingual community health educators to address individual beliefs and expectations on cervical cancer screening including perceived risks, perceived benefits, perceived barriers, and cultural norms. (347)	B. Information-only control group: bilingual community health educators deliver general information on health, cancer education, screening guidelines (358)	Duration: February 2009 to December 2014 Followup: 12 months
Fiscella et al., 2011	Breast cancer, colorectal cancer screening	Low-income	RCT (469; CRC screening=323 mammography=271)	A vs. B <u>CRC Screening</u> Age 50-59 :63.8% vs. 61.3% ≥ 60 : 36.2% vs. 38.8% Race Black: 18.9% vs. 30.8% White: 68.6% vs. 59.8% Other: 12.6% vs. 9.4% Female: 54.6% vs. 58.1% <u>Mammography</u> Age 40 to 49: 36.6% vs. 40.9% 50 to 59: 42.5% vs. 38.7% ≥ 60 : 20.9% vs. 20.4% Race Black: 25.8% vs. 33.1% White: 66.6% vs. 55.2% Other: 7.6% vs. 11.8%	Large safety net primary care practice; New York	A. Multi-modal intervention delivered by a patient navigator including: 1) Outreach consisting of two letters and a phone call; 2) Mailed kits for insured patients needing CRC screening who did not respond to outreach; 3) Point-of-care prompt sheets for patients and clinicians (CRC screening, n=163; mammography, n=134)	B. Control group (CRC screening, n=160; mammography, n=137)	Duration: 1 year followup: 1 year lookback

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Ford et al., 2006	Colorectal cancer screening	Older African- American men	RCT (703)	Age, mean: 63.2 African American: 100% Female: 0%	Adherence trial conducted at 1 of 10 screening centers within the context of the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial Detroit, Michigan	A. Case management - 2 case managers provided referrals to community services and agencies and provided at least monthly calls; both calls and referrals were intended to address sociocultural, economic, and individual barriers (352)	B. Usual care consisting of yearly calls to schedule annual screening exams (351)	Duration: 3 years Followup: 3 years
Fortuna et al., 2014	Breast cancer, colorectal cancer screening	Low-income Racial/ethnic minority	Pragmatic RCT (1,008; breast cancer screening=624; CRC screening n=629)	See Tables 1 and 2; rough estimates below <u>Breast cancer screening</u> Age 49% age 40-49 years 51% 50+ 100% Female Race 39% Black 15% Other including Hispanic 46% White <u>CRC screening</u> Age 63% aged 50-59 years 37% 60+ 54% female Race 35% Black 14% Other including Hispanic 51% White	Urban academic internal medicine safety-net practice Rochester, New York	A. Bilingual letter with scheduling information, contact for outreach worker and information on free screening, personal call from outreach worker with motivational interviewing and navigation (appointment scheduling, logistic assistance) (breast cancer: 153, CRC: 158) B. Bilingual letter with scheduling information, contact for outreach worker and information on free screening, automated message to call outreach worker, paper prompts for physician during patient's point of care (breast cancer: 156, CRC: 158) C. Bilingual letter with scheduling information, contact for outreach worker and information on free screening, automated message to call outreach worker (breast cancer: 158, CRC: 157)	D. Bilingual letter with scheduling information, contact for outreach worker, and information on free screening (breast cancer: 157, CRC: 156)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Friedman & Borum, 2007	Colorectal cancer screening	African American	Before-after study (248)	NR, but African Americans 50 years or older were recruited	Resident clinic; Washington, D.C.	Educational intervention for internal medicine residence: didactic seminars, observation of screening modalities, exam, charting A. Post-intervention (132)	B. Preintervention (116)	Followup of screening rates during 6 months post intervention
Friedman et al., 2001	Colorectal cancer screening	Low-income African American	RCT (160)	Age, mean years (SD): 61 (7.24) Female: 84.4% Race African American: 87.5% Caucasian: 5% Hispanic: 5% Other: 2.5%	Medical outpatient community clinic Houston, TX	A. Educational video and questionnaire; ACS brochure and order for FOBT kit to give to physician; FOBT kit, instructions from nurse, appointments for FOBT return to lab and followup visit (110)	B. Questionnaire only; ACS brochure and order for FOBT kit to give to physician; FOBT kit, instructions from nurse, appointments for FOBT return to lab and followup visit (50)	3 months
Glasgow et al., 2000	Tobacco smoking cessation	Low socio-economic status females	RCT (1,154)	A vs. B Age, mean years (SD): 24 (5) vs. 24 (5) Caucasian: 90% vs. 88%	Four Planned Parenthood clinics Portland, OR	A. Nine-minute video, 12 to 15 min behavioral counseling with staff, 20-second quit message from physician, supportive phone calls in following month (578)	B. Generic stop smoking brochure (Smart Moves) and 20-second quit smoking message from physician. (576)	Duration: Brief intervention Followup: 6 weeks and 6 months
Goldberg et al., 2004	Colorectal cancer screening	Low-income African American	Nonrandomized controlled trial (119)	A vs. B Age, mean years: 64.2 vs. 64.0 Female: 71.2% vs. 76.7% Race African American: 83.1% vs. 81.7% Caucasian: 6.8% vs. 11.7% Hispanic: 5.1% vs. 1.7% Other: 5.1% vs. 5.0%	Comprehensive general medicine clinic Chicago, IL	A. Personalized and signed letter with reminders and instructions 2 weeks prior to appointment, mailed 3 FOBT cards (59)	B. Usual care (60)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Goldman et al., 2015	Colorectal cancer screening	Underserved	RCT (420)	Age: 57.3 (6.2) Female: 66% Latino: 62.1% White: 15.7% Black: 16.4%	Federally Qualified Community Health Center; Chicago, IL	A. Fecal immunochemical tests (FIT) outreach: mailed to home, followed by calls, texts. 3 months later call from patient navigator. Patient navigator help with appointments for positive FIT (210)	B. Usual care (210)	12 months
Gordon et al., 2010	Tobacco smoking cessation	Low-income Racial/ethnic minority	RCT (2,637)	Age, mean years (SD): 40.5 (12.6) Female: 57.2% NH African American: 45.8% NH White: 32.2% Hispanic: 15.8%	14 federally funded community health center dental clinics NY, MS, OR	A. Brief office-based counseling using 5 As model, NRT, tailored print materials, local tobacco quit line number (1,434)	B. Usual care (1,203)	7.5 months (6 months plus 6 week grace period)
Guillaume et al., 2017b De Mil, 2018	Colorectal cancer screening	Low socio-economic	Cluster RCT (16,267) *Navigable population only	A vs. B Age, mean (SD): 58.6 years (6.9) vs. 58.8 years (7) Female: 51.5% vs. 51.3% Race: NR	Urban and rural strata of deprivation and affluence; France	A. Introductory letter, telephone calls to address barriers, FOBT kit, potential for home visit (8121)	B. Usual care; FOBT kit (8146)	9 months
Gupta et al., 2013	Colorectal cancer screening	Underserved	RCT (5,994)	Age, mean: 59 years Female: 64% White: 41% Black: 24% Hispanic: 29% Other: 7%	Safety-net system; Texas	A1. Colonoscopy: mailed invitation, 2 automated reminder phone calls, 2 'live' reminder phone calls, assistance with scheduling and prep (480) A2. FIT: same as (A1), plus mailed FIT kit (1,600)	B. Usual care - gFOBT, colonoscopy, barium enema, or sigmoidoscopy (3,914)	1 year

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Hendren et al., 2014	Breast cancer, colorectal cancer screening	Low-income	RCT (366; CRC screening n=240; mammography n=191)	<p>A vs. B</p> <p><u>CRC Screening</u></p> <p>Age 50 to 59: 62.3% vs. 61.1% 60+: 37.7% vs. 38.9%</p> <p>Race Black: 43.0% vs. 36.3% White: 52.0% vs. 54.9% Other: 5.0% vs. 8.8% Female: NR</p> <p><u>Mammography</u></p> <p>Age 40 to 49: 59.4% vs. 45.6% 50 to 59: 25.7% vs. 23.3% 60+: 14.9% vs. 31.1%</p> <p>Race Black: 41.1% vs. 45.8% White: 47.8% vs. 47.0% Other: 11.1% vs. 7.2% Female: NR</p>	Large safety net primary care practice; Rochester, New York	<p>A. Multi-modal intervention including: 1) letters; 2) automated telephone calls; 3) point-of-care prompts reminding clinicians and patients the patient was past due for the service; 4) mailing of home test kit for CRC screening patients (185)</p> <p>Type of CRC screening: colonoscopy, FIT, FOBT</p>	B. Control group (181)	Duration: 6 months Followup: 1 year
Hirst et al., 2018	Colorectal cancer screening	Low socio-economic status Racial/ethnic minority	Post-intervention multiple time series (4,423,734)	Age of participants restricted to 60 to 64 years; no other information reported	Population-based screening via local NHS bowel cancer screening programme hub England	Biennial invitations, gFOBT kit and instructions, prepaid envelope; reminder letter after 4 weeks non-response	Quintiles of deprivation (Q5 most deprived) and area-based ethnic diversity (Q5 most diverse) (n NR)	Duration: 5 years biennial invitations
Hoffman et al., 2017	Colorectal cancer screening	African American	RCT (89)	<p>A vs. B</p> <p>Age, mean years (range, SD): 57.7 (49-73, 7.4) vs. 57.4 (49-71, 5.9) Female: 66% vs. 72%</p>	Internal/family medicine outpatient clinics at 3 tertiary care centers Houston, TX	A. Tailored, entertainment-education decision aid video (30 minutes) (59)	B. Generic hypertension education video (11 minutes) (30)	3 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Honeycutt et al., 2013	Colorectal cancer screening	Underserved	Prospective cohort (809)	Age, mean: 55.8 years Female: 67.1% White: 37.1% Black: 62.9%	13 FQHCs; Georgia	A. Four clinics with Community Cancer Screening Program: health navigators conduct chart audits, manage provider reminder systems, coordinate screening and followup, provide patient education and appointment reminders, assist in overcoming barriers to screening, coordinate provider feedback on referral patterns (289)	B. Nine comparison clinics - no Community Cancer Screening Program (520)	18 months
Horne et al., 2015	Colorectal cancer screening	African Americans	RCT (1,691)	A vs. B Age 65-69: 49.8% vs. 50.3% 70-75: 50.2% vs. 49.7% Female: 72.8% vs. 72.3%	Unclear; CMS- funded multisite trial, with this site in Baltimore associated with Johns Hopkins	A. Patient navigation to identify and overcome barriers to screening, plus printed education materials (578) Type of CRC screening: FOBT or colonoscopy / flexible sigmoidoscopy	B. Printed educational materials from CMS and ACS on general cancer information and Medicare services (642)	Duration: 4 years Followup: 1 year (FOBT), any point within prior 10 years (C/FS)
Inadomi et al., 2012	Colorectal cancer screening	Low socio- economic status Racial/ethnic minority	Cluster RCT (997)	Age, mean years (median, SD): 58.4 (57, 6.9) Female: 53% Race African American: 18% White: 15% Latino: 34% Asian: 30% Other: 4%	Community health network San Francisco, CA	Physician recommendation of either: A. Colonoscopy (332) B. FOBT (344) in patient's preferred language; if selected B, scheduled for procedure and offered ride home	C. Patient choice of FOBT or colonoscopy (PCP discussed options but no recommendation) (321)	12 months
Jandorf et al., 2005	Colorectal cancer screening	Underserved	RCT (78)	Age, mean (SD): 61.2 years (7.8) Female: 74.4% Hispanic: 82.1%	1 FQHC; New York City, New York	A. Telephone patient navigation by research assistant: patient education, assessment of barriers, followup (38)	B. Usual care- not navigated (40)	6 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Jandorf et al., 2014	Breast cancer, cervical cancer screening	Latinas	Cluster RCT (1,333)	Mean age NR Female: 100% Latino: 100%	Community based settings in Arkansas, Buffalo, and New York City	A. Faith-based intervention using of peer/lay health workers (LHA, promotor) (803)	B. Diabetes prevention education group vs. breast and cervical cancer education group (530)	Duration: 2007 to 2009 Followup: 2 months, 8 months
Jean-Jacques et al., 2012	Colorectal cancer screening	Low-income Racial/ethnic minority	RCT (202)	A vs. B Age, mean years (SD): 60 (7) vs. 60 (8) Female: 64% vs. 59% Race White: 29% vs. 24% Black: 27% vs. 28% Hispanic: 19% vs. 21% Asian: 15% vs. 12% Other: 8% vs. 14%	FQHC Chicago, IL	A. Personalized and signed letter encouraging screening, fact sheet, gFOBT kit and instructions; if no response after 2 weeks, up to 3 reminder calls from bilingual lay health educators; if no response after 6 weeks, another mailed letter and kit (104)	B. Usual care (98)	4 months (12 months post-hoc)
Jibaja-Weiss et al., 2003	Breast cancer, cervical cancer screening	Low income	RCT (1,574)	A vs. B vs. C Age, mean years (SD): 39.1 (12.9) vs. 40.8 (13.3) vs. 40.8 (13.6) Female: 100% AA/Black: 43.5% vs. 38% vs. 40.3% Mexican American: 39.7% vs. 44.8% vs. 40.9% Non-Hispanic White: 16.8% vs. 17.2% vs. 18.8%	Community Health Centers Houston, TX	A1. Personalized Tailored Letter - specific breast and cervical risk factor info from EMR (age, race/ethnicity, family history, parity, BMI, smoking status)... "you are at risk because..." (581) A2. Personalized Form Letter - risk factors, importance of screening, encouragement to schedule screening. (494)	B. Control - no communication regarding screening services (499)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Katz et al., 2007	Cervical cancer screening	Rural, low income	RCT (897)	Age, mean (SD): 54.95 years (11.1) Female: 100% AA/Black: 32% AI/AN: 42% White: 25%	Community Health Centers Robeson County, NC	A. Mammogram intervention- Lay Health Advisors Individualized health education program that consisted of three home visits with educational materials, followup phone calls, and tailored mailings. Addressed barriers to completing mammography. Participants received small gifts (mugs, calendars). (453) Baseline and follow up surveys included questions about cervical cancer.	B: Physician letter/brochure focused on pap exams. (444)	Duration: 14 months Followup: 6 months
Katz et al., 2012	Colorectal cancer screening	Low socio- economic status Racial/ethnic minority	RCT (270)	A vs. B Age, median years: 55.7 vs. 56.3 Female: 66.7% vs. 60.6% African American: 75.4% vs. 68.9%	FQHC Columbus, OH	A. Theory-based educational video (12 minutes) with communication training, CRC prevention brochure, communication tips brochure; if no response in 1 month, telephone barriers counseling to ask PCP for CRC screening (138)	B. Generic educational video (10 min) on CRC screening, CRC prevention brochure (132)	2 months
Kim & Sarna, 2004	Breast cancer screening	Korean Americans	Cluster RCT (141)	Mean age: 48 years Gender: 100% female Ethnicity: 100% Korean American	Churches in Los Angeles County, California	A1. Peer-group education about breast cancer screening and access to free or low-cost mobile mammography service (47) A2. Mobile mammography access only (48)	B. Cholesterol education with low-cost blood chemistry and osteoporosis screening (46)	2 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Kumanyika et al., 2002	Obesity screening and manage- ment	African American	RCT (585)	Age, mean years (SD) Black women: 65.5 (4.8) Black men: 65.4 (4.4) White women: 65.8 (4.5) White men: 65.2 (4.3) Female: 52.3% Black: 28% White: 72%	Four academic medical centers MD, TN, NJ, NC	Group (60 minutes) and individual sessions at varying frequency throughout followup with counseling and education focused on: A. Weight loss (147) B. Sodium reduction (144) C. A+B (147)	D. Usual care; quarterly group educational sessions on unrelated health topics (147)	15 to 36 months
Kumanyika et al., 2005	Obesity screening and manage- ment	African American	RCT (237)	Phase 1, Phase 2 Age, mean years (SD): 43.4 (10.5), 45.4 (10.2) Female: 89.9%, 90.6% Weight (kg) mean (SD): 102.7 (17.2), 99.9 (16.9) BMI (kg/m2) mean (SD): 38.0 (5.3), 37.0 (5.5)	Family practice department in university health system Philadelphia, Pennsylvania	Culturally adapted Healthy Eating and Lifestyle Program beginning with 10 weekly weight loss classes (Phase 1), followed by randomization into Phase 2: A. Group counseling, with 1 hour classes and individualized help by request (43) B. Staff-facilitated self-help, with individual monthly calls to provide coaching, kit with local resources on diet and exercise, pedometer, ad hoc telephone support (43)	C. Usual care (42)	21 months (3 months after Phase 1, 18 months after randomizatio n into Phase 2)
Lasser et al., 2017	Tobacco smoking cessation	Low socio- economic status Racial/ethnic minority	RCT (352)	Age, mean years (SD): 50 (11) Female: 54.3% NH Black: 56% Hispanic: 11% NH White: 22% Other: 10%	Safety net hospital Boston, MA	A. Patient navigation (up to 4 hours over 6 months) to assess contextual factors in cessation, connection to cessation resources (quit line, support group), connection with physicians for prescriptions, counseling, financial incentives for biochemical confirmation of cessation (177)	B. Enhanced usual care (low- literacy smoking cessation brochure, list of hospital and community resources for cessation) (175)	12 months
Lee-Lin et al., 2015	Breast cancer screening	Low-income, Chinese American	RCT (300)	Age 58.8 (40 to 85) 100% Female 100% Chinese	Asian health clinic in Portland, Oregon metro area	A. Culturally responsive targeted breast health educational program (147)	B. Brochure control (153)	Duration: NR Followup: 3, 6, 12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Leone et al., 2013	Colorectal cancer screening	Medicaid	Cluster nonrandomized trial (416)	Age, mean years (SE) A. 56.5 (0.34) B. 56.2 (0.26) Female A. 57% B. 57.5% Black A. 62% B. 40.8% White A. 31% B. 52.9% p<0.001 for race Mean clinics baseline CRC screening (range) A. 35.6% (30 to 52%) B. 46% (25.9 to 52.1%)	12 managed care network-affiliated primary care practices North Carolina	A. Six intervention clinics: mailed packet with study invitation from physician or navigator, survey, and CHOICE decision aid (11-min educational DVD); after one month, follow up telephone call from PN to address barriers, assist with appointment scheduling and (242)	B. Six control clinics (174)	Duration: 6 months Followup: 12 months
Levy et al., 2013	Colorectal cancer screening	Rural	RCT (743)	Mean age: 61.1 years Female: 52% Race: 98.7% White, 0.5% Black, 0.8% unknown	Rural family medicine clinics (n=16); Iowa	A. All materials in (A2) and (A3), plus structured telephone call providing education, assessment and addressing of barriers (187) B. Chart reminder, plus educational materials, fridge magnet, FIT with SASE (186) C. Chart reminder - paper or electronic, depending on clinic system (185)	D. Usual care (185)	15 months
Ma et al., 2009	Colorectal cancer screening	Korean Americans	Non-randomized trial (167)	Mean age: 63 years Gender: 59% female Ethnicity: 100% Korean American	Churches; Los Angeles, CA	A. Small group colorectal cancer screening education and patient navigation (84)	B. Small group general health and primary prevention education, without navigation (83)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Marshall et al., 2016	Breast cancer screening	African American older adults	RCT (1,358)	>75: 29.3% ≤ 75: 70.7% Female: 100% AA/Black: 100%	Community settings (senior centers, health fairs); Baltimore City, MD	A. CMS developed Patient Education Materials plus Navigation -phone call to address screening status, materials, perceptions/beliefs, barriers; helped arrange appointments and accompanied when necessary. Coached patients on questions to ask providers, Navigators also worked to enhance the patient- provider interaction by coaching patients on potential questions to ask their providers. Phone and in-person contact, minimum quarterly. (638)	B. CMS developed patient education materials (720)	Duration: NR Followup, mean: 17.8 months

Mehta et al., 2016	Colorectal cancer screening	Racial and ethnic minority	Before-after study (868,934)	<p>A1. Post-program 2010 to 2013</p> <p>Age</p> <p>50 to 55: 34.8%</p> <p>56 to 60: 24.6%</p> <p>61 to 65: 17.5%</p> <p>66 to 70: 12.9%</p> <p>71 to 75: 10.1%</p> <p>Female: 54.6%</p> <p>Race</p> <p>NH white: 59.4%</p> <p>NH black: 8.2%</p> <p>Hispanic: 13.3%</p> <p>API: 14.4%</p> <p>Native American: 0.5%</p> <p>Multiple: 4.1%</p> <p>A2: Post-program 2007-2009</p> <p>Age</p> <p>50 to 55: 35.7%</p> <p>56 to 60: 25.8%</p> <p>61 to 65: 16.1%</p> <p>66 to 70: 12.2%</p> <p>71 to 75: 10.3%</p> <p>Female: 54.1%</p> <p>Race</p> <p>NH white: 60.9%</p> <p>NH black: 8.1%</p> <p>Hispanic: 12.5%</p> <p>API: 13.7%</p> <p>Native American: 0.5%</p> <p>Multiple: 4.3%</p> <p>B. Pre-program 2004 to 2006</p> <p>Age</p> <p>50 to 55: 54.8%</p> <p>56 to 60: 15.6%</p> <p>61 to 65: 12.2%</p> <p>66 to 70: 10.6%</p> <p>71 to 75: 6.8%</p> <p>Female: 54.1%</p> <p>Race</p> <p>NH white: 63.1%</p> <p>NH black: 7.9%</p> <p>Hispanic: 11.5%</p> <p>API: 12.6%</p>	Mail, community-based healthcare system; Kaiser Permanente Northern California	<p>Mailed FIT kits to overdue patients (outreach), EMR prompts during clinic visits (in-reach)</p> <p>A1. After program: 2010 to 2013 (665,268)</p> <p>A2. After program: 2007 to 2009 (654,633)</p> <p>Note: cohorts overlap</p>	<p>Screening status pre-program implementation, screening status immediately after program implementation</p> <p>B. Before program: 2004 to 2006 (662,872)</p> <p>Note: cohorts overlap</p>	<p>Duration: 10 years</p> <p>Followup: between 1-10 years</p>
--------------------	-----------------------------	----------------------------	------------------------------	---	--	---	---	---

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
				Native American: 0.5% Multiple: 4.5%				
Miller et al., 2013	Cervical cancer screening	Low-income, racial and ethnic minority women	RCT (211)	<p>A1. Tailored telephone Age, mean (SD): 28.5 years (8.5) Race White: 5.2% Black: 86.2% Hispanic: 8.6% Other: 0%</p> <p>A2. Tailored print Age, mean (SD): 30.7 years (12.0) Race White: 1.4% Black: 84.7% Hispanic: 12.5% Other: 1.4%</p> <p>B. Enhanced standard Age, mean (SD): 30.6 years (11.0) Race White: 6.9% Black: 76.4% Hispanic: 15.3% Other: 1.4%</p>	University- affiliated clinic serving low- income minority women in Philadelphia, Pennsylvania	<p>A1. Tailored telephone (61) A2. Tailored printed messaging (76)</p> <p>Interventions based on identified cognitive-affective barriers</p>	B. Enhanced standard care- baseline surveys, barriers assessment, mail and telephone appointment reminder (73)	Screening to 6- and 12- month followup appointments ; followed up to 15 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Mitchell, Andrews, & Schenker, 2015	Obesity screening and manageme nt	Latino, low- income, immigrant	RCT (254; analyzed 178)	A. Intervention Age, mean (SD): 32.3 y (7.6) BMI: 29.1 kg/m ² (0.3) B. Control Age, mean (SD): 32.5 y (7.9) BMI: 27.7 kg/m ² (0.4) Female, entire population: 72.0%	Worksite- sponsored clinic on berry farms in California	Nine 90-minute educational sessions and one final review on PA, healthy weight, healthy diet, lifestyle, plus 15-20 min per session for guided PA (112 analyzed) A1. Intervention high attendance-8 to 10 sessions (86) A2. Intervention low attendance- 3 to 7 sessions (26)	B. Control group- no information, contacted only once to maintain communication (66 analyzed)	12 to 14 weeks
Murphy et al., 2005	Tobacco smoking cessation	Medicaid (low-income)	RCT (608)	Age, mean years (SD), median (range): 35.8 (9.8), 36 (18-62) (p=0.01 across arms) Female: 72.9% White: 42.9% Black: 42.4% Hispanic: 7.6% Other: 7.1%	Department of Social Services Eric County, NY	A. Case management, including verbal information on Medicaid pharmacotherapy benefit, self- help materials, and patient navigation (schedule appointments for prescription, followup reminder calls, vouchers for childcare or transportation) (206) B. Self-help, including verbal information on Medicaid pharmacotherapy benefit, plus self-help materials (205)	C. Minimal intervention, including verbal information on Medicaid pharmacotherapy benefit (197)	3 months
Murray et al., 2001	Tobacco smoking cessation	African American	RCT (3,068)	Black vs. White Age, mean years (SD): 48.7 (7.3) vs. 48.6 (6.8) Female: 46% (0.5) vs. 37% (0.48) (p=0.01) Black: 6.5% White: 93.5%	6 Lung Health Study participating clinical centers MD, AL, OH, MI, CA, PA	A. Group program, including physician quit message focused on pulmonary function, 12 week group program, NRT (2,047)	B. Usual care (1,021)	Yearly for 5 years

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Myers et al., 2014	Colorectal cancer screening	African American	RCT (764)	A. Tailored intervention Age 50 to 59: 75.1% 60+: 24.9% Female: 72.7% B. Comparison Age 50 to 59: 67.3% 60+: 32.7% Female: 64.1%	University and network affiliated primary care clinics; Philadelphia, Pennsylvania	A. Tailored intervention - mailed CRC screening booklet, personalized message based on identified barriers, colonoscopy contact number or SBT kit, patient navigation (384; analyzed: 382; navigated: 293)	B. Standard - mailed CRC screening booklet, personalized letter, colonoscopy number, SBT kit, no patient navigation (380; analyzed: 379)	Duration: 45 days Followup: 6 and 12 months
Myers et al., 2019	Colorectal cancer screening	Hispanic	RCT (400)	A vs. B Age, mean years (SD): 57.2 (6.4) vs. 57.5 (6.5) Female: 59.4% vs. 58.1%	Five primary care practices in large health system PA	A. Decision Support and Navigation, including mailed bilingual information on and instructions for SBT and colonoscopy, SBT kit, and telephone navigation (identify preferred test, develop plan, scheduled prescreen visit for colonoscopy or review for kit return, added plan to EHR) (197)	B. Standard Intervention, including bilingual information on and instructions for SBT and colonoscopy, SBT kit (203)	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Nash et al., 2006	Colorectal cancer screening	Low income racial and ethnic minority	Before-after study (1767)	Age <50 A: 12% B: 15% 50 to 54 A: 17% B: 16% 55 to 59 A: 21% B: 17% 60 to 64 A: 20% B: 15% 65 to 69 A: 15% B: 16% 70 to 74 A: 9% B: 11% >75 A: 6% B: 9% Female A: 61% B: 59% Race/ethnicity NH Black A: 6% B: 17% Hispanic A: 69% B: 79% Other/unknown A: 25% B: 5%	Public hospital; New York City, NY	A. After intervention- August 2003 to February 2004 Patient navigator, direct endoscopic referral system, GI suite enhancements (1297)	B. Before intervention - April to July 2003 (470)	Duration: March 2003 to February 2004 Followup: same time period (11 months)

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Navarro et al., 1998	Breast cancer, cervical cancer screening	Low income Hispanic	RCT (512)	Age: 34 (18 to 72) Female: 100% Hispanic: 100%	Community Settings in San Diego County, California	A. Lay Health Worker: identified "consejeras" or "natural helpers" in the community. Consejeras led weekly education sessions to women in their social networks. Culturally appropriate educational materials. (274)	B. Control - Consejeras led weekly "Community Living Skills" education. (238)	12 weeks
Nguyen et al., 2015	Colorectal cancer screening	Vietnamese American	RCT (640)	Age 50 to 64: 67.8% vs 75% 65 to 74: 32.2% vs 25% Female: 50% Vietnamese: 100%	Community-based organizations; Santa Clara County, California	A. Navigation- lay health workers provided CRC education using a flip chart created for the intervention in Vietnamese. Followup calls, in person visits, referrals to low cost screening, assistance with making appointments, accompanying subject to appointment at times. (320)	B. Lay health worker education about healthy eating, physical activity, followup calls/visits to remind them to exercise and eat healthy. (320)	6 months
Paskett et al., 2011	Cervical cancer screening	Rural	RCT (286)	Age, mean years: 47.3 Female: 100% White: 95.4%	Community health clinic Appalachia Ohio	A. Lay Health Worker: two in-person visits, two telephone calls, and four postcards from an LHA over 10 months (145)	B. Letter from their physician and a National Cancer Institute brochure that encouraged them to have a Pap test (141)	10 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Paskett et al., 2006	Breast cancer screening	Low-income Racial/ethnic minority	Block RCT (851)	Age, mean years (95% CI) A. 54.5 (53.5 to 55.5) B. 55.7 (54.6 to 56.8) African American A. 33% B. 33% Native American A. 42% B. 42% White A. 24% B. 25% Low SES A. 80% B. 84%	Community health center Robeson County, NC	A. Lay health advisor: trained community members delivered individualized intensive education program through three home visits (45-60 minute first visit, 30-45 minute otherwise), two phone calls, two postcard mailings to educate, assess and manage barriers to screening, and assist with scheduling (453)	B. Letter: Letter and NCI brochure on importance of cervical cancer screening; after study completion, invitation to mammography screening and NCI brochure (444)	12 months
Percac-Lima et al., 2009	Colorectal cancer screening	Low income minority	RCT (1,223)	Age, mean: 63 years Female: 60% White: 47% Latino: 40% Black: 5% Asian: 2%	Hospital-affiliated primary care clinic; Chelsea, Massachusetts	A. Patient navigation: introductory letter, educational materials, assessment and addressing of barriers to screening, appointment scheduling and reminders, bowel prep assistance, transportation and appointment attendance as needed (409)	B. Usual care; patients given access to (A) after study completion (814)	9 months
Percac-Lima et al., 2012	Breast cancer screening	Serbo-Croatian (Bosnian) speaking self-identified	Before-after study (91)	Age, mean (range): 54 years (40-78) Female: 100% Race: NR Serbo-Croatian speaking: 100%	Hospital-affiliated Community Health Center, Chelsea, MA	Culturally tailored patient navigation. In person, phone, organized educational group sessions in community setting. Explored barriers, talked about preventive care. Arranged transportation, reminder calls, scheduling appointments, resolving insurance issues, accompanying patients to appointments when needed. A. After intervention (91)	B. Before intervention (91)	1 year

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Percac- Lima et al., 2014	Colorectal cancer screening	Latino Non-English speakers, non-Latino	Before-after study (3,115)	Age, mean (SD): 61.4 years (6.7) Female: 57.1% Race/ethnicity Asian: 1.8% Black: 5.2% Latino: 39.5% White: 49.6% Other: 4.0%	Hospital-affiliated community health center; Philadelphia, Pennsylvania	Culturally tailored patient navigation, including assessment/ management of barriers A. After intervention (NR)	B. Before intervention (NR)	Duration:5 years Followup: 12 months
Percac- Lima et al., 2018	Lung cancer screening	Low-income	RCT (1,200)	Age, mean: 62.2 Female: 52.5% Race Asian: 3.3% Black: 3.6% Hispanic: 5.6% White: 81.4% Other: 6.1%	Five community health centers in Massachusetts	A. Patient navigation consisting of helping with identifying and overcoming barriers to screening, introduction of shared decision making, improving patient-provider communication, communicating abnormal CT results to ordering provider, and arranging appropriate followup (400)	B. Usual care, consisting of provider initiated shared decision making and ordering of CTs without the use of a patient navigator (800)	Duration: 11 months Followup: 11 months
Phillips et al., 2011	Breast cancer screening	Low-income, racial and ethnic minority women	RCT (3,895) Note: randomized at the provider level	A vs. B Age, mean (SD): 60 years (5) vs. 60 years (5) Race White: 28% vs. 30% Black: 51% vs. 45% Hispanic: 7% vs. 14% Other: 14% vs. 12%	Safety-net hospital-affiliated internal medicine clinics in Boston, Massachusetts	A. Patient navigation as part of the primary care team, including assessment of/ addressing individual barriers to care (1,817)	Concurrent comparison group- received intervention at end of study (2,078)	9 months, followed until receipt of mammogram or end of protocol

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Potter et al., 2011	Colorectal cancer screening	Low-income Racial/ethnic minority	Group RCT (1,372)	A vs. B Age, mean years (SD): 59.9 (6.4) vs. 60.1 (6.6) Female: 43.7% vs. 46.6% African American: 37.7% vs. 36.5% Asian American: 11.5% vs. 10.6% Latino: 19.7% vs. 21.1% White: 28.9% vs. 30.1%	Six community-based primary care clinics San Francisco, CA	A. Nurse reminder sheet, visual aids explaining FOBT test and prep, simple multilingual written instructions, video instructions, and stamped envelopes to return kits (695)	B. Usual care (677)	18 weeks
Powell et al., 2005	Breast cancer screening	Rural African Americans	Cluster RCT (192)	Mean age: NR (75% were younger than 65 years and 25% were 65 years or older) Gender: 100% female Ethnicity: 100% African American	Churches, Greene County, AL	A1. Full program - educational intervention, including videos, group discussion (partial and full intervention groups), and a home visit by a home health educator (full intervention group only) (75) A2. Partial program - educational intervention, including videos and group discussion (partial and full intervention groups) only (71)	B. Delayed intervention (44)	3 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Racette et al., 2001	Obesity screening and management	African American	Prospective cohort (69)	A vs. B Age, mean year (SD): 47 (1) vs. 48 (1) Female: 84% vs. 88% Weight, mean kg (SD): 105 (3) vs. 110 (5) BMI, mean kg/m2 (SD): 39 (1) vs. 41 (2)	University medical center St. Louis, MO	A. Provided meals (energy restricted diet) for 1 week; lifestyle modification program to reduce fat intake (educational materials, utensils, personalized guidance, monthly telephone calls, newsletters, optional bimonthly group meetings and individual meetings, food diaries) and recommendation to increase physical activity (handouts, access to cardio equipment at hospital, exercise prescriptions, individual exercise orientation sessions, logbooks) (45)	B. Matched control (24)	Duration: 12 months Assessments at 4 and 12 months
Reuland et al., 2017	Colorectal cancer screening	Low-income, racial and ethnic minority	RCT (265)	Mean age: 58 years (50-75) Female: 65% Race Latino: 62% Non-Latino White: 15% Non-Latino Black/Mixed: 23%	2 community health centers, one each in Albuquerque, New Mexico and Charlotte, North Carolina	A. Tailored patient navigation using CRC screening decision aid videos regarding FOBT/FIT or colonoscopy, distribution of FOBT/FIT kits (133)	B. Food safety videos (attention control), usual care (132)	6 months
Rodriguez-Torre, 2019	Breast cancer screening	Refugees	Post-intervention multiple time series (1,664)	Age, mean years (SD) A. 53.62 (9.2) B. 54.9 (9.1) Language (among n=126 refugees) Arabic: 23% Serbo-Croatian (Bosnian): 59.5% Somali: 17.6% Baseline screening prior to PN program: 64%	Hospital-affiliated primary care clinic Chelsea, MA	A. Refugees provided culturally tailored patient navigation in person, phone, group session with education, barrier assessment and management; program ended 2012, study ended 2016 (126)	B. English-speaking patients over same period (1,538)	5 years

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Roetzheim et al., 2004 and 2005	Breast cancer, cervical cancer, colorectal cancer screening	Low income	Cluster RCT (1,196) 8 Practices	Age 50 to 56: 37.1% 57 to 63: 33% 64 to 75: 29.8% Female: 78.2% Race AA/Black: 29.1% White: 48.4% Hispanic: 22.5%	8 clinics; Hillsborough County, Florida	A. Cancer screening checklist completed by patients, stickers to designate whether screening was ordered/completed. (600) Type of CRC screening: FOBT	B. Usual care (596)	12 months and 24 months
Rosas et al., 2015	Obesity screening and manageme nt	Low income, Latino	RCT (207)	Age, mean (SD): 47.1 years (11.1) Female: 76.8% Race: 100% Latino	1 health system- affiliated community health center; Fair Oaks, California	A1. Case management plus community health worker: (A2) plus fostering family support, building skills for navigating obesogenic environment, mapping neighborhood walking routes, modified photo voice activities to track and manage food and physical activity and goals. (A2) group and individual sessions, plus five home visits first year, two home visits second year. (82) A2. Case management: motivational interviewing, goal setting, cooking and PA demonstrations, fostering self- efficacy, identifying community resources, coordinating with primary care. First year 12 (2-hr) group and 4 (30-min) individual sessions; second year 3 group and 1 individual session. (84)	B. Usual care, with potential for referral to lifestyle counseling in specialized diabetes clinic; access to modified (A2) at study completion. (41)	2 years

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Russell et al., 2010	Breast cancer screening	Low-income, African-American Women	RCT (179)	Age, mean: 51.2 Female: 100% Black: 100% Insured: 55.4%	FQHC in Indianapolis, Indiana	A. Interactive computer program providing algorithm of tailored messages to identify views of breast cancer; to assess health beliefs, self-efficacy, and barriers to screening; and to assess stage of readiness for breast cancer screening; and 2) lay health advisor assisting in patient navigation services including barriers counseling, referrals to low or no-cost mammograms, assistance scheduling appointments, and assistance with transportation (89)	B. Low-dose group receiving culturally appropriate pamphlet about breast cancer and screening coupled with a lay health advisor recommendation to schedule a mammography. Also, received mailed postcards with general nutrition information periodically (90)	Duration: Unclear, appears to be 18 weeks Followup: 6 months
Singal et al., 2016 Singal et al., 2017	Colorectal cancer screening	Underserved	RCT (5,999)	Mean age: 56 years Female: 62% White: 22% Hispanic: 49% Black: 24%	Safety-net hospital system; Dallas County, Texas	A. Mailed letter with invitation, telephone call reminder for nonresponders, phone number to call for scheduling, mailed bowel prep, appointment reminder phone call for colonoscopy (2,400) B. Mailed letter with invitation, telephone call reminder for nonresponders, FIT kit and SASE, instructions (2,400)	C. Usual care for colonoscopy or FIT (1,199)	3 years; 1 year
Soltero et al., 2019	Obesity screening and management	Latino Underserved	Before-after (59)	Age, mean years (SD): 37.3 (6.5) Female: 92.2%	FQHC, YMCA, diabetes program, academic research center Phoenix, AZ	A. 12 week lifestyle intervention including nutritional education and behavioral skills training (60 minute 1x/week), physical activity classes (60 minute, 3x/week) (59)	B. Post-intervention (NA)	12 weeks

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Staten et al., 2004 Arizona WISEWOMAN	Obesity screening and management	Hispanic, underserved	RCT (217)	Mean age (SD): 57.2 years (4.8) Female: 100% Race White: 25% Hispanic: 74% AA/Black: 1%	2 national Breast and Cervical Cancer Early Detection Program clinics; Tucson, Arizona	A1. PC+HE+CHW (67): (A2) and (B), plus semiweekly to monthly communication with a community health worker providing advice on healthy diet and exercise, behavior change, and invitations to bimonthly walks in community. A2. PC+HE (73): (B), plus two health education classes (one on nutrition, one on physical activity), monthly health newsletter for 12 months, reminder calls at 6 months.	B. PC (77): provider counseling (active control), including brochures, benefits of physical activity and healthy diet, behavior change prescription tailored to individual	12 months
Stoddard et al., 2004 Massachusetts WISE-WOMAN	High blood pressure screening	Underserved	RCT (1,443)	Age, years (50-64): 82.9% Age, years (≥65): 17.1% Female: 100% Race White: 79.4% AA/Black: 2.7% Hispanic: 11.7% Other: 6.2%	10 Massachusetts Breast and Cervical Cancer Initiative project sites; Massachusetts	A. Enhanced intervention including (B) plus lifestyle interventions focused on nutrition and physical activity to reduce CVD risk through one-to-one assessment and counseling, individual and group education, activities in the community (n=NR)	B. Minimal intervention including screening for breast and cervical cancer, CVD risk factors, multiple risk factors, counseling and education, referrals, and follow up; low-literacy fact sheets on preventive services	12 months

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Taplin et al., 2008	Breast cancer, cervical cancer, colorectal screening	Underserved	Before-after study (97,433) 4 Sites	Female: 49.5% Race Asian: 1.6% AA/Black: 14.6% AI/AN: 0.3% White: 21.2% Hispanic: 58.9%	4 FQHCs; U.S. nationwide	“Care process leaders,” worked with primary care teams to plan and implement practice changes. FQHCs monitored progress: self-management goal setting; number and percent screened for breast, cervical, and colorectal cancer; percent timely results notification; and percent abnormal screens evaluated within 90 days. Create local communities of practice (LCOP) involving community resources to support cancer screening. Type of CRC screening: colonoscopy, sigmoidoscopy, FOBT A. After intervention (NR)	B. Before intervention (NR)	15 months
Tu et al., 2006	Colorectal cancer screening	Chinese Americans	RCT (210)	A vs. B Age 50-64: 59.1% vs. 49.5% 65+: 40.9% vs. 50.5% Female: 63.8% vs. 61.9% Race: 100% Chinese American	1 community clinic serving primarily Asians; Seattle, Washington	A. CRC screening education from health educator, video, and pamphlet, FOBT kit with instructions, plus SASE (105)	B. Usual care (105)	6 months
Tu et al., 2014	Colorectal cancer screening	Limited English Vietnamese	Before-after 1,016 baseline 1,260 post	Baseline vs. followup Age, 50-64 years, Intervention: 75% vs. 78% Age, 50-64 years, Control: 75% vs. 75% Female, Intervention: 67% vs. 65% Female, Control: 68% vs. 69%	Two primary care community health centers Seattle, WA	A. Educational DVD and pamphlet promoting CRC translated into Vietnamese, given to eligible patients by medical assistant (604 baseline, 746 post)	B. Control clinic (412 baseline, 514 post)	2 years

Author, Year (See Appendix B for full citation)	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions (n)	Comparison (n)	Duration; Followup
Weber & Reilly, 1997	Breast cancer screening	Low-income, racial and ethnic minority	RCT (376)	A vs. B Age, mean: 63 years vs. 63 years Race White: 39.8% vs. 43.7% Black: 39.2% vs. 33.2% Hispanic: 4.3% vs. 9.5% Asian: 3.8% vs. 4.2%	6 hospital- affiliated primary care practices; Rochester, New York	A. Mailed personalized letter from PCP, mailed personalized letter from community health worker 2 weeks later, CHW navigation (telephone, home visit, mail, office visits; education, appointment reminders, assessment and management of barriers, appointment scheduling / transport, financial assistance, dependent care) (186)	B. Mailed personalized letter from PCP, usual care (190)	16 weeks
West et al., 2004	Breast cancer screening	Low-income, African- American women	Multi-stage RCT: randomized first to stage 1, then independent of stage 1 group, if not screened they were randomized to stage 2 Stage 1 (320) Stage 2 (237)	Age, mean: 65 years Black: 91%	FQHC in rural Alabama locations	Stepped-care intervention (personalized letter in Stage 1, personalized phone counseling in Stage 2) A1. Stage 1 - letter (159) A2. Stage 2 - counseling call (119)	B1. Stage 1 - usual care (161) B2. Stage 2 - letter (118)	1 year; 6 month followup for each stage
Wu & Lin, 2015	Breast cancer screening	Chinese women	RCT (193)	Age: 54.6 (9.6) Female: 100% Chinese: 100%	Community Settings in Michigan	A. Tailored Intervention: telephone intervention tailored to the results of a baseline survey about barriers, misconceptions, risks. (96)	B. NCI mammography brochure (97)	4 months

Abbreviations: AA = African American; ACA = Affordable Care Act; ACS = American Cancer Society; AI = American Indian; AN = American Native; aOR = adjusted odds ratio; API = Asian Pacific Islander; BMI = body mass index; CMS = Centers for Medicare & Medicaid Services; COL/FS = colonoscopy/flexible sigmoidoscopy; CRC = colorectal cancer; CT = computerized tomography; DVD = digital versatile disc; EMR = electronic medical record; FIT = fecal immunochemical test; FOBT = fecal occult blood test; FQHC = federally qualified health center; FS = flexible sigmoidoscopy; gFOBT = Guaiac Fecal Occult Blood Test; HR = heart rate; ITT = intention to treat; LCOP = local communities of practice; LHA = lay health advisors; NA = not applicable; NCI = National Cancer Institute; NH = Non Hispanic; NHS = National Health Service; NNT = number needed to treat; NR = not reported; NRT = nicotine replacement therapy; NS = not significant; OR = odds ratio; PCP = primary care provider; PN = patient navigation; QoL = Quality of Life; RCT = randomized controlled trial; SASE = self-addressed stamped envelope; SBT = stool blood test; SD = standard deviation; SE = standard error; SES = socioeconomic status; TBHEP = Targeted Breast Health Education Program; YMCA = Young Men's Christian Association

Table F-8. Key Question 5 outcomes

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Abood et al., 2005	Mammogram completion in 6 months (adjusted for race and breast cancer symptoms): AOR 1.914 (95% CI, 1.2 to 3.05), p=0.0063	Poor 1. Randomization not sufficient 2. Not comparable groups at baseline 3. Maintenance of comparable groups unclear 4. No reporting of attrition/Loss to followup unclear 5. ITT unclear 6. Post randomization exclusions unclear	Poor 1. This is a pre ACA study examining participants uninsured for breast cancer screening.
Allen & Bazargan-Hejazi, 2005	Mean screening utilization rate A. 36.8% B. 29.0%, p=NS	Fair 1. Unclear as to whether outcome assessors were masked	Fair 1. Study population (demographics) 2. Study setting (health care system, centers, time, effort)
Arnold et al., 2016a Arnold et al., 2016b	Completion of three FOBT kits A1. 13.6% A2. 11.4% B. 4.7% p=0.005 Screening ratio, A1 vs. A2: 1.11 (95% CI, 0.76 to 1.62), p>0.05 Screening ratio, A1 vs. B: 2.65 (95% CI, 1.47 to 4.77), p=0.001 Screening ratio, A2 vs. B: 2.39 (95% CI, 1.21 to 4.72), p=0.01	Poor 1. Groups not comparable at baseline 2. Unclear whether outcome assessors were masked 3. Unclear whether attrition or loss to followup occurred	Poor 1. Study population (inclusion/exclusion, demographics, adherence) 2. Study setting (system, effort, center) 3. Study providers (training)
Baker et al., 2014	Completion of FOBT within 6 months (2014) A. 82.2% B. 37.3%, p<0.001 NNT: 2.2 Note: in 2015 followup, 88.7% of those in Group A kept up to date on CRC testing	Fair 1. Unclear allocation concealment 2. Unclear masking	Fair 1. Study setting (center, effort) 2. Study providers (ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Battaglia et al., 2012	<p>Baseline period (2004-2005) vs. intervention period (2007-2008)</p> <p>Rate of diagnostic resolution of cervical abnormalities A. 79.1% vs. 87.9%, p=0.0008 B. 80.0% vs. 78.6%, p=0.64</p> <p>Median days to resolution A. 110 vs. 76, p=NR B. 84 vs. 90, p=NR</p> <p>Adjusted HR for time to resolution during intervention time period compared with baseline time period A. 1.45 (95% CI, 1.14 to 1.88), p=0.003 B. reference</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Groups not similar at baseline 2. Unclear masking 	<p>Fair</p> <ol style="list-style-type: none"> 1. Specialized skills of patient navigator 2. Language concordance
Berkowitz et al., 2015	<p>Baseline receipt of any CRC screening (colonoscopy, sigmoidoscopy, barium enema, CT colonography): A. 65.7% B. 74.5%, p<0.001</p> <p>Post-intervention receipt: A. 69.4% B. 76.7%, p<0.001</p> <p>Increase in CRC screening over time A. 3.7% B. 2.2%, p<0.001 (2.7% overall, p<0.001)</p> <p>Decline in CRC screening disparities over time: 0.68%, p<0.001 (gain of 26 life years, or an additional 99 out of 174,693 disadvantaged patients being screened)</p>	NA	Good
Blumenthal et al., 2010	<p>Any type of CRC screening by 6 months (ITT) A1. 16.7% A2. 17.4% A3. 22.2% B. 12.5% *No groups significant vs. control</p> <p>Screening by 6 months, contacted, n=257 A1. 22.2% A2. 25.4% A3. 33.9% B. 17.7% *A3 vs. B, p=0.04</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Unclear whether randomization was adequate 2. Unclear whether allocation concealment was adequate 3. Unclear outcome assessors or care providers were masked 4. Groups not comparable with insurance status at baseline 5. High attrition 	<p>Poor</p> <ol style="list-style-type: none"> 1. Study population (inclusion/exclusion, demographics, adherence, recruitment, refusal) 2. Study setting (system, time, cost, effort, center) 3. Study providers (training, expertise)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Braun et al., 2015	FOBT within past 1 year A. 20.7% B. 12.6%, p=0.02 Endoscopy within past 5 years A. 43.0% B. 27.2%, p<0.001 Pap smear within past 2 years A. 57.0% B. 36.4%, p=0.001 Mammogram within past 1 year A. 61.7% B. 42.4%, p=0.003	Poor 1. Unclear whether allocation concealment was adequate 2. Outcome assessors were not masked 3. No reporting of attrition and loss to followup unclear	Poor 1. Study population (demographics) 2. Study setting (center) 3. Study providers (training, skill, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Byrd et al., 2013	ITT analysis, n=613 Pap test at 6 months followup, self-report A1. 52.3% A2. 45.5% A3. 41.3% B. 24.8% p<0.001 between intervention groups and control group p>0.05 among intervention groups Pap test at 6 months followup, validated by medical records A1. 17.9% A2. 22.7% A3. 19.4% B. 7.2% p=0.008 between intervention groups and control group p>0.05 among intervention groups Pap test at 6 months, El Paso, validated A1. 0% A2. 4.0% A3. 10.0% B. 8.0% p>0.05 for all comparisons Pap test at 6 months, Houston, validated A1. 23.5% A2. 24.1% A3. 12.3% B. 7.2% p=0.03 between intervention groups and control group p>0.05 among intervention groups Pap test at 6 months, Yakima, validated A1. 30.0% A2. 40.0% A3. 37.5% B. 6.4% p<0.001 between intervention groups and control group p>0.05 among intervention groups	Poor 1. Unclear allocation concealment 2. No reporting of baseline characteristics, and unclear whether groups were maintained 3. Unclear masking of outcome assessors, care providers, or patients	Poor 1. Study population (demographics, inclusion/exclusion criteria, recruitment) 2. Study setting (system, centers, time, effort) 3. Study providers (training, expertise, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Cole et al., 2017	<p>Any type of CRC screening at 6 months A1. 17.5% A2. 17.8% B. 8.4%</p> <p>Receipt of screening A1. AOR 2.28 (95% CI, 1.28 to 4.06) A2. AOR 2.44 (95% CI, 1.38 to 4.34) B: Reference</p> <p>Per protocol analysis, likelihood of CRC screening among those completing patient navigation aOR 16.04 (95% CI, 8.32 to 30.93)</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Unclear whether allocation concealment was adequate 2. Outcome assessors were not masked 3. High attrition 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study population (inclusion/exclusion criteria, refusal rate, attrition, recruitment) 2. Study setting (time, effort) 3. Study providers (ancillary providers)
Coronado et al., 2011	<p>FOBT screening: A1. 31% A2. 26% B. 2%</p> <p>A1 vs. B: $p<0.001$ A2 vs. B: $p<0.001$ A1 vs. A2: $p=0.28$</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear allocation concealment 2. Unclear masking of outcome assessors, providers, patients 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study providers (training, ancillary providers) 2. Study setting (time, effort)
Coronado et al., 2016	<p>Percent of women who received a mammogram in the 12 months after randomization: A. 19.6% B. 11%, $p<0.01$</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unequal demographic groups at baseline 2. ITT- comparable groups not assessed. 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study providers (training, ancillary providers) 2. Intervention (resources)
Coronado et al., 2018	<p>FIT completion in 12 months: A. 13.9% B. 10.4% Adjusted MD: 3.4 (95% CI, 0.1 to 6.8), $p=0.05$</p> <p>Any CRC screening (FIT, COL/FS) in 18 months: A. 18.3% B. 14.5% Adjusted mean difference: 3.8 (95% CI, 0.6 to 7.0), $p=0.02$</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Randomization not reported. 2. Allocation concealment unclear. 3. Unclear whether study maintained comparable groups. 4. Unclear whether ITT analysis performed. 	<p>Fair</p> <ol style="list-style-type: none"> 1. Intervention is resource intensive - may not be plausible in all systems.

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Davis et al., 2013	FOBT completion in 12 months: A1. 60.6% A2. 57.1% B. 38.6%, $p<0.0001$ Adjusted screening ratio A1 vs. B: 1.60 (95% CI, 1.06 to 2.42), $p=0.02$ A1 vs. A2: 1.18 (95% CI, 0.97 to 1.42), $p=0.09$ A2 vs. B: 1.36 (95% CI, 0.85 to 2.18), $p=0.20$	Poor 1. Groups not comparable at baseline 2. Unclear blinding	Good
DeGroff et al., 2017	Receipt of colonoscopy within 6 months A. 61.1% B. 53.2% $p=0.021$ OR 1.51 (95% CI, 1.12 to 2.03), $p=0.007$ Hispanics vs. Whites, receipt of screening: OR 2.60 (95% CI, 1.64 to 4.13), $p<0.001$	Fair 1. Unclear allocation concealment 2. Unclear whether outcome assessors were masked	Fair 1. Study setting (serving low-income population) 2. Study providers (training, expertise, ancillary providers)
Dietrich et al., 2006	A. vs. B. Mammogram (% change from baseline): 10% vs. -2% Papanicolaou test (% change from baseline): 7% vs. 0% Any colorectal screening (% change from baseline): 24% vs. 11% Up to date 1+ screening (% change from baseline): 5% vs. 1% Up to date 2+ screening (% change from baseline): 14% vs. 1% Up to date 3+ screening (% change from baseline): 22% vs. 8%	Fair 1. Unclear whether clinicians were masked. 2. Subjects not blinded	Fair 1. Population: Multi-site study, but in a single state w/similar population 2. Intervention: Specific training/resources required.
Dietrich et al., 2013	A vs. B Any CRC screening at 18 months (FOBT, COL/FS, barium enema) A. 36.7% B. 30.6% AOR 1.32 (95% CI, 1.08 to 1.62), $p<0.01$	Fair 1. Allocation concealment unclear 2. Post-randomization exclusions	Good

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Dignan et al., 2014	<p>Change in screening rates from baseline to 6 months</p> <p>FOBT results documented</p> <p>A. 1.0%</p> <p>B. 2.9%, p=0.463</p> <p>Colonoscopy results documented</p> <p>A. 5.0%</p> <p>B. 0.5%, p=0.097</p> <p>Any screening results documented</p> <p>A. 2.2%</p> <p>B. 0.2%, p=0.744</p> <p>When limited to those with documented recommendation, changes in screening rates from baseline to 6 months</p> <p>Change in colonoscopy</p> <p>A. 15.7%</p> <p>B. 2.4%, p=0.01</p> <p>Change in FOBT</p> <p>A. 41.3%</p> <p>B. 46.2%, p=0.82</p> <p>Any screening completed</p> <p>A. 16.7%</p> <p>B. 9.5%, p=0.06</p>	NA	<p>Fair</p> <p>1. Intervention may require additional resources/training</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Doorenbos et al., 2011	<p><u>Smoking cessation</u></p> <p>Nicotine Patch</p> <p>A. 0.6%</p> <p>B. 0.8%, p=0.48</p> <p>Cessation Counseling</p> <p>A. 4.5%</p> <p>B. 4.5%, p=0.99</p> <p>Cessation Counseling Referral</p> <p>A. 0%</p> <p>B. 0.9%, p=0.51</p> <p><u>Colorectal cancer screening</u></p> <p>Stool Occult Blood</p> <p>A. 2.9%</p> <p>B. 3.1%, p=0.81</p> <p>Colonoscopy</p> <p>A. 0.3%</p> <p>B. 0.7%, p=0.20</p> <p><u>Mammogram receipt</u></p> <p>A. 13.6%</p> <p>B. 14.8%, p=0.50</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Unclear allocation 2. Unclear masking 3. No reporting of attrition 4. No ITT analysis 5. Post-randomization exclusions 	<p>Poor</p> <ol style="list-style-type: none"> 1. Intervention requires additional resources / training
Enard et al., 2015	<p>Colonoscopy, flexible sigmoidoscopy, or FOBT screening rates:</p> <p>A. 43.7%</p> <p>B. 32.1%, p=0.04</p> <p>aOR: 1.82, p=0.02</p> <p>Individually, significant difference only for colonoscopy/flexible sigmoidoscopy, but not FOBT.</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Randomization and allocation concealment NR 2. Assessor and clinician masking unclear 3. Differential loss to followup 4. ITT not used. Post randomization exclusions. 	<p>Good</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Fang et al., 2017	<p>Rate of screening at 12 months after intervention, % (n) A. 72.1% (209) B. 10.1% (30) Among uninsured women A. 77.8% (144) B. 6.7% (8) Rate difference between intervention and control groups, among all women: 62% Rate difference between intervention and control groups, among uninsured women: 71.1%</p> <p>Intervention led to significantly higher screening rates OR 25.9 (95% CI, 10.1 to 66.1); p<0.001</p> <p>In the covariate adjusted model (age, marital status, prior pap receipt, insurance coverage, usual source of care): AOR 35.8 (95% CI, 11.1 to 114.9), p<0.001</p> <p>Sensitivity analysis: OR 16.7 (95% CI, 8.1 to 34.4), p<0.001 covariate-adjusted analyses: AOR 21.6 (95% CI, 9.6 to 49), p<0.001</p> <p>Post-hoc analyses to account for update in screening guidelines, n=340. Obtained screening by followup assessment: A. 65.5% (110/168) B. 4.7% (8/172) OR, (95% CI): 546; (73.9 to 4031.5), p<0.001</p>	<p>Fair</p> <p>1. Differences in groups at baseline</p>	<p>Fair</p> <p>1. Exclusive population consisting of only Korean American women</p>
Fiscella et al., 2011	<p><u>CRC screening</u> Unadjusted rates A. 28.8% 10.0% B. 10.0%, p=NR AOR 3.69 (95% CI, 1.93 to 7.08)</p> <p><u>Mammography</u> Unadjusted rates A. 41.0% B. 16.8%, p=NR AOR 3.44 (95% CI, 1.91 to 6.19)</p>	<p>Fair</p> <p>1. Inadequate randomization 2. Allocation concealment not reported 3. Patient masking, attrition, and contamination not reported</p>	<p>Good</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Ford et al., 2006	Adherence to flexible sigmoidoscopy over 3 years Low income (≤ 1.5 x federal poverty level) A. 68.9% (31/45) B. 51.3% (20/39), $p=0.10$ Moderate to high Income A. 53.8% (50/93) B. 62.5% (60/96), $p=0.22$	Poor 1. Randomization and allocation techniques not reported 2. Masking unclear 3. Attrition not reported 4. ITT analysis unclear 5. Unclear post-randomization exclusions	Poor 1. Study population within a pre-existing trial 2. Study setting in single location 3. Study providers (training, ancillary providers)
Fortuna et al., 2014	Mammography screening rates A. 27.5%; aOR 2.2 (95% CI, 1.2 to 4.0) B. 28.2%; aOR 2.1 (95% CI, 1.1 to 3.7) C. 22.8%; aOR 1.3 (95% CI, 0.7 to 2.4) D. 17.8%; reference CRC screening rates A. 21.5%; aOR 2.0 (95% CI, 1.1 to 3.9) B. 19.6%; aOR 1.9 (95% CI, 1.0 to 3.7) C. 15.3%; aOR 1.2 (95% CI, 0.6 to 2.4) D. 12.2%; reference *only one variable appeared significant in CRC screening: Other, including Hispanic vs. White, 25.7% vs. 17.4%, aOR 1.9, (95% CI, 1.0 to 3.7)	Good	Fair 1. Study population 2. Study setting
Friedman & Borum, 2007	Endoscopic procedure A. 59.1% B. 26.7%, $p<0.001$ Rectal exam A. 38.6% B. 41.4%, $p=0.6605$ FOBT A. 37.9% B. 37.7%, $p=0.7748$	NA	Fair 1. Study setting (Demographics) 2. Study setting (time, effort) 3. Study providers (training)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Friedman et al., 2001	Compliance with FOBT screening, intercorrelation with treatment group: 0.07, $p>0.05$	Poor 1. Inadequate randomization 2. Unclear allocation 3. Groups not comparable at baseline 4. Unclear ITT analysis 5. Unclear post-randomization exclusions	Poor 1. Population 2. Setting
Glasgow et al., 2000	7-day abstinence, 6 weeks A. 10.2% B. 6.9 OR 1.52 (95% CI, 1.01 to 2.32), $p<0.05$ 7-day abstinence, 6 months A. 18.3% B. 14.9% OR NR, $p>0.05$ 30-day abstinence, 6 months A. 10.2% B. 7.8%, OR NR, $p=0.15$	Fair 1. Unclear allocation 2. Unclear masking	Fair 1. Population 2. Setting
Goldberg et al., 2004	Rate of return of FOBT card at index appointment A. 35.6% B. 3.3% OR 16.0 (95% CI, 3.5 to 71.4), $p<0.001$ Rate of return of FOBT card after index appointment A. 5.1% B. 1.7% OR 3.2 (95% CI, 0.3 to 31.3), $p=0.36$ Rate of return of FOBT card within 12 months of index appointment A. 40.7% B. 5.0% OR 13.0 (95% CI, 3.6 to 45.5), $p<0.001$	Fair 1. Outcome assessors and analysts were not masked	Good

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Goldman et al., 2015	<u>FOBT completed by week</u> 0 to 2 weeks A. 13.8% B. 2.9%, $p \leq 0.001$ >2 to 13 weeks A. 13.8% B. 4.8%, $p = 0.001$ <u>FOBT completed month</u> 6 months A. 36.7% B. 14.8%, $p < 0.001$ 12 months A. 40% B. 22.4%, $p < 0.001$ <u>Total CRC screening</u> 6 months A. 36.7% B. 15.2%, $p < 0.001$ 12 months A. 40% B. 23.3%, $p < 0.001$	Fair 1. method of randomization and allocation concealment NR	Good

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Gordon et al., 2010	<p>No tobacco use (prolonged abstinence) A. 5.3% B. 1.9%, p<0.01 No tobacco use in past 7 days A. 11.3% B. 6.8%, p<0.05</p> <p>No tobacco use, African American A. 6.5% B. 2.0%, p<0.001 No tobacco use, NH White A. 4.6% B. 2.3%, p<0.05 No tobacco use, Hispanic A. 3.2% B. 1.1%, p=NS</p> <p>No tobacco use, MS A. 6.3% B. 2.1%, p<0.01 No tobacco use, NY A. 4.9% B. 2.1%, p<0.05 No tobacco use, OR A. 4.9% B. 1.4%, p<0.05</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Unclear randomization 2. Unclear allocation 3. Groups not comparable at baseline 4. Unclear masking 5. No ITT analysis 6. Post-randomization exclusions 	<p>Fair</p> <ol style="list-style-type: none"> 1. Population 2. Setting 3. Providers
Guillaume et al., 2017b De Mil, 2018	<p>FOBT within 9 months, overall navigable population A. 24.3% B. 21.1%, p=0.003 OR 1.19, (95% CI, 1.10 to 1.29), p<0.001 FOBT within 9 months, deprived strata A. 22.8% B. 20.2%, p=0.07 FOBT within 9 months, affluent strata A. 26% B. 21.9%, p=0.001</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear allocation concealment 2. Groups not comparable at baseline 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study system (background of universal screening and access in France) 2. Study setting (by geographic strata)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Gupta et al., 2013	<p>CRC screening at 1 year: A1. 24.6% A2. 40.7% B. 12.1% Difference across all groups and between groups: $p < 0.001$ Number needed to invite (NNI): number of patients needed to be invited to accomplish 1 additional screening A1. 8 A2. 3.5</p>	<p>Fair 1. Unclear allocation concealment 2. Unclear loss to followup</p>	Good
Hendren et al., 2014	<p><u>CRC screening, unadjusted rates</u> A. 37.7% B. 16.7%, $p = 0.0002$ aOR 3.22 (95% CI, 1.65 to 6.30)</p> <p><u>Mammography, unadjusted rates</u> A. 29.7% B. 16.7%, $p = 0.034$ aOR 1.96 (95% CI, 0.87 to 4.39)</p> <p>Sub-analysis based on race Black vs. White vs. Other <u>CRC Screening, unadjusted rates</u> A. 44.19% vs. 34.62% vs. 20.00% B. 14.63% vs. 16.13% vs. 30.00%</p> <p><u>Mammography, unadjusted rates</u> A. 27.03% vs. 25.58% vs. 60.00% B. 10.53% vs. 20.51% vs. 33.33%</p>	<p>Fair 1. Care providers not masked, unclear if patients masked, attrition and loss to followup not reported</p>	Good
Hirst et al., 2018	<p>Uptake among adequately screened Female: OR 1.48 (95% CI, 1.46 to 1.51), $p < 0.01$ Deprivation: OR 0.99 (95% CI, 0.98 to 0.99), $p < 0.01$ Ethnic diversity: OR 0.99 (95% CI, 0.99 to 0.99), $p < 0.01$ Year (linear): OR 0.95 (95% CI, 0.95 to 0.95), $p < 0.01$</p> <p>For one unit increase in deprivation, probability of gFOBT kit return: -0.36% For one unit increase in area-based ethnic diversity, probability of gFOBT kit return: -0.21% For every successive year of program, probability of gFOBT kit return: -0.78%</p>	NA	<p>Fair 1. Population 2. Setting</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Hoffman et al., 2017	Completed screening (type NR) at 3 months A. 21% B. 28%, p=0.45	Fair 1. Unclear allocation 2. Unclear masking 3. Post-randomization exclusion	Poor 1. Population 2. Setting 3. Providers
Honeycutt et al., 2013	Guideline compliant at study completion (COL in 10 years, FS in 5 years, FOBT in 1 year): A. 42.6% B. 10.8%, p<0.001, effect 5.9, p<0.001 Effect White vs. Black (reference): 1.23, p>0.05	Fair 1. Groups not comparable at baseline 2. Assessors not blinded	Poor 1. Study setting (time, effort) 2. Study provider (ancillary provider)
Horne et al., 2015	Any CRC screening by exit interview: A. 94% B. 91%, p=0.04 Any CRC screening: AOR 1.56 (95% CI, 1.08 to 2.25), p=0.02 FOBT: AOR 1.09 (95% CI, 0.72 to 1.64), p=0.68 Colonoscopy/sigmoidoscopy: AOR 1.54 (95% CI, 1.08 to 2.20), p=0.02	Fair 1. High attrition 2. Post-randomization exclusions	Fair 1. Unclear what navigation services were offered (or their intensity); trained and certified patient navigator
Inadomi et al., 2012	Completed screening colonoscopy: 38% (referent) Completed screening FOBT: 67%, AOR 3.50 (95% CI, 2.48 to 4.93), p<0.001 Completed screening of either FOBT or colonoscopy (choice): 69%, AOR 3.69 (95% CI, 2.63 to 5.16), p<0.001 (p=0.64, FOBT vs choice) Completed screening, African American: 48% (ref), p=NR for all White: 59%, AOR 1.34 (95% CI, 0.82 to 2.18) Latino: 63%, AOR 1.29, (95% CI, 0.70 to 2.39) Asian: 61%, AOR 1.08, (95% CI, 0.64 to 1.8) Other: 36%, AOR 0.55, (95% CI, 0.25 to 1.22) Among those offered choice, adherence white vs. non-white Colonoscopy: OR 3.2 (95% CI, 1.7 to 6.1) FOBT: OR 0.3 (95% CI, 0.1 to 0.6) Among those offered FOBT, adherence vs. whites Asians: OR 2.6 (95% CI, 1.2 to 5.3) Latinos: OR 2.1 (95% CI, 1.0 to 4.2)	Poor 1. Unclear randomization 2. Unclear allocation 3. Unclear masking of outcome assessor 4. High loss to followup 5. No ITT analysis	Fair 1. Population 2. Setting

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Jandorf et al., 2005	FOBT completion at 3 months A. 42.1% B. 25%, $p>0.05$ Endoscopy completion at 6 months A. 23.7% B. 5%, $p=0.02$	Poor 1. No information on randomization or allocation 2. No information on masking 3. Unclear on attrition and whether ITT occurred	Good
Jandorf et al., 2014	<p><u>Mammography adherence</u> Baseline to 2-month assessment: OR 2.16 (95% CI, 1.69 to 2.76) Baseline to 8 months: OR 8.56 (95% CI, 5.85 to 12.53) 2 months to 8 months: OR 3.97 (95% CI, 2.70 to 5.82) Baseline, 2-month, and 8-month combined A: 56.7% B: 62.2%, $p=0.043$</p> <p><u>Pap adherence</u> Baseline to 2-month assessment: OR 2.14 (95% CI, 1.87 to 2.45) Baseline to 8 months: OR 2.35 (95% CI, 2.00 to 2.76) 2 months to 8 months: OR 1.78 (95% CI, 1.52 to 2.) Baseline, 2 month, 8 month combined A: 62.7% B: 64.6%, $p=NS$</p> <p>Participants of Puerto Rican ethnicity were significantly (OR 1.35; 95% CI, 1.09 to 1.67) more likely to be Pap adherent at 2 and 8 months compared to those born in other countries.</p> <p>Significant time by program type interaction (Wald chi-square=6.10; $p=0.0472$). Baseline: no significant difference in adherence between groups 2-month assessment- women in cancer group were less likely to be adherent: OR 0.74 (95% CI, 0.59 to 0.94) 8-month assessment- no adherence differences</p>	Fair 1. Allocation concealment not reported. 2. Unclear whether groups were similar at baseline.	Fair 1. Study population (inclusion/exclusion criteria, demographics)
Jean-Jacques et al., 2012	Completed any screening (FOBT, sigmoidoscopy, colonoscopy) A. 30% B. 5%, $p<0.001$ Post-hoc analysis, any screening at 12 months A. 38% B. 15%, $p=0.002$	Fair 1. Unclear allocation 2. Unclear masking 3. Unclear ITT analysis	Fair 1. Population 2. Setting

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Jibaja-Weiss et al., 2003	<p>12-month cervical cancer screening A1. 23.7% A2. 43.9% B. 39.9%, p<0.001</p> <p>12 month Breast Cancer Screening A1. 13% A2. 30.5% B. 20.7%, p<0.001</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. No ITT 2. Unclear patient masking 3. Unclear allocation concealment 	<p>Fair</p> <ol style="list-style-type: none"> 1. Intervention set up
Katz et al., 2007	<p>Baseline vs. followup, within pap guidelines A. 51.6% vs. 66.6%, p<0.001 B. 52.9% vs. 63.2%, p<0.001 OR 1.03, 95% CI, 0.80 to 1.32, p=0.81</p> <p>Followup within pap guidelines, A vs. B African American: 70% vs. 64% Native American: 64% vs. 62% White: 67% vs. 65% High SES: 76% vs. 79% Low SES: 65% vs. 61%</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Unclear randomization 2. Unclear allocation 3. No masking of patients, unclear masking of providers 4. No ITT analysis 5. Post-randomization exclusions 6. Unclear attrition 	<p>Poor</p> <ol style="list-style-type: none"> 1. Population 2. Setting (cost)
Katz et al., 2012	<p>CRC screening (FOBT or colonoscopy) at 2 months: A. 19.6% B. 9.9%, aOR 2.35 (95% CI, 1.14 to 5.56), p=0.02</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear allocation 2. Unclear masking 	<p>Fair</p> <ol style="list-style-type: none"> 1. Population 2. Setting
Kim & Sarna, 2004	<p>Screening rate: A1. 87% (41/47) A2. 72% (35/48) A3. 47% (22/46) A1 vs. B, OR 1.82 (95% CI, 1.32 to 2.51) A2 vs. B, OR 1.52 (95% CI, 1.08 to 2.16)</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear as to whether outcome assessors were masked 2. Unclear as to whether attrition or loss to followup occurred 	<p>Poor</p> <ol style="list-style-type: none"> 1. Study population (inclusion/ exclusion criteria, demographics, recruitment) 2. Study setting (health care system and centers, time) 3. Study providers (training, expertise or skill, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Kumanyika et al., 2002	<p>Mean weight change (SE), in kg at 6 months Black, A vs. D: -2.9 (0.4) vs. -0.2 (0.4), p<0.001 White, A vs. D: -6.2 (0.4) vs. -0.2 (0.4), p<0.001 Black vs. White, p<0.001</p> <p>Mean weight (kg) change (SE) after 6 months Black, A vs. D: -0.3 (0.6) vs. -1.0 (0.5), p=NS White, A vs. D: 0.9 (0.4) vs. 0.0 (0.4), p<0.05 Black vs. White, p=0.90</p> <p>Mean weight (kg) change (SE) at last study measurement Black, A vs. D: -3.2 (0.7) vs. -1.2 (0.9), p<0.05 White, A vs. D: -5.2 (0.4) vs. -0.3 (0.5), p<0.001 Black vs. White, p=0.007</p> <p>Mean weight change (SE) at 6 months, A+C vs. B+D Black: -3.2 (0.4) vs. -0.9 (0.3), p<0.001 White: -5.6 (0.3) vs. -1.2 (0.3), p<0.001 Black vs. White, p=0.004</p> <p>Mean weight (kg) change (SE) at last study measurement, A+C vs. B+D Black: -3.3 (0.5) vs. -1.4 (0.4), p<0.01 White: -4.2 (0.4) vs. -0.9 (0.4), p<0.001 Black vs. White, p=0.12</p> <p>Average net weight loss across followup, A+C vs. B+D, Black vs. White: -2.3 vs. -3.9, p=0.03</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. Unclear allocation 2. Unclear masking 	<p>Poor</p> <ol style="list-style-type: none"> 1. Setting 2. Providers
Kumanyika et al., 2005	<p>Mean weight change, kg, final visit minus baseline</p> <p>A. -0.8 (95% CI, -2.5 to 0.9)</p> <p>B. -1.3 (95% CI, -3.4 to 0.9)</p> <p>C. -1.4 (95% CI, -3.5 to 0.7), p=0.90</p>	<p>Fair</p> <ol style="list-style-type: none"> 1. No masking 2. High loss to followup 3. No ITT 	<p>Poor</p> <ol style="list-style-type: none"> 1. Setting 2. Providers

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Lasser et al., 2017	<p>Biochemically confirmed cessation, 6 months A. 9.6% B. 0.6%, p<0.001</p> <p>Biochemically confirmed cessation, 12 months A. 11.9% B. 2.3% AOR 4.89 (95% CI, 1.59 to 15.03), p<0.001</p> <p>Biochemically confirmed cessation at both points A. 7% B. 0%, p<0.001</p> <p>Biochemically confirmed cessation, 12 months, non-White A. 15% B. 3%, p<0.001</p>	Good	Fair 1. Setting 2. Providers
Lee-Lin et al., 2015	<p>Mammogram completion 3 month aOR: 8.81 (95% CI, 4.83 to 1605), p<0.001 6 month aOR: 9.10 (95% CI, 3.5 to 23.62), p<0.001 12 month aOR: 4.61 (95% CI, 1.59 to 13.37), p<0.001</p>	Fair 1. Poor reporting re: allocation concealment, randomization 2. Unclear whether ITT was used or post randomization exclusions to synthesis.	Fair 1. Study providers (training, ancillary providers) 2. Intervention (resources)
Leone et al., 2013	<p>CRC screening, 6 months A. 9.2% B. 7.5%, AOR 1.44 (95% CI, 0.68 to 3.06) CRC screening, 12 months A. 16.3% B. 10.3%, unadjusted OR 1.68 (95% CI, 0.80 to 3.56)</p> <p>In A, reached by PN (n=44, 27.6%) CRC screening in A, reached vs. not reached: OR 3.5 (95% 1.7 to 7.1)</p>	NA	Fair 1. Population 2. Setting

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Levy et al., 2013	<p>A vs. B vs. C vs. D Any CRC completion: 57.2% vs. 56.5% vs. 20.5% vs. 17.8%, $p<0.0001$ A: AOR 6.38 (95% CI, 3.9 to 10.5), $p<0.0001$ B: AOR 6.29 (95% CI, 3.8 to 10.4), $p<0.0001$ C: AOR 1.23 (95% CI, 0.7 to 2.1), $p=0.46$ D. Reference</p> <p>Colonoscopy: 19.3% vs. 22% vs. 17.8% vs. 11.9%, $p=0.07$ A. OR 1.8 (95% CI, 1.0 to 3.1) B. OR 2.1 (95% CI, 1.2 to 3.7) C. OR 1.6 (95% CI, 0.9 to 2.9) D. Reference</p> <p>FOBT: 1.6% vs. 2.2% vs. 2.7% vs. 2.7%, $p=0.875$ Flexible sigmoidoscopy: 0% vs. 0% vs. 0% vs. 0.5%, $p=0.389$ Barium enema: 0% for all</p>	Fair 1. Unclear allocation concealment 2. Unclear as to whether outcome assessors, providers, patients were masked	Good
Ma et al., 2009	<p>Baseline colonoscopy, flexible sigmoidoscopy, or FOBT screening rates A. 13.1% B. 9.6% Colonoscopy, flexible sigmoidoscopy, or FOBT screening rates in 12 months following intervention: A. 77.4% B. 10.8% RR 7.14 (95% CI, 3.81 to 13.37) Screening rate following intervention among those who had not had a previous screening within the past year A. 76.7% (56/73) B. 12% (9/75) RR 6.39 (95% CI, 3.42 to 11.95)</p>	Poor 1. Inadequate randomization. 2. Allocation concealment not reported. 3. Groups dissimilar at baseline.	Poor 1. Specific population 2. Setting - church based 3. Resource intensive intervention
Marshall et al., 2016	<p>Self-reported mammogram status at exit screening: A. 93.3% B. 87.5%, $p<0.001$ AOR 2.26 (95% CI, 1.59 to 3.42; control is reference)</p>	Poor 1. Randomization and concealment not reported. 2. Did not report attrition, crossover, adherence, and contamination.	Fair 1. Specific population 2. Resource intensive intervention

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Mehta et al., 2016	<p>Race/ethnicity and up to date screening, any CRC test, post vs. preprogram</p> <p>A1. RR 2.05 (95% CI, 2.04 to 2.05)</p> <p>A2. RR 1.60 (95% CI, 1.59 to 1.60)</p> <p>B. Reference</p> <p>By race/ethnicity, NH White reference</p> <p>NH Black</p> <p>A1. RR 0.97 (95% CI, 0.96 to 0.97)</p> <p>A2. RR 0.94 (95% CI, 0.93 to 0.95)</p> <p>B. RR 1.04 (95% CI, 1.02 to 1.05)</p> <p>Hispanic</p> <p>A1. RR 0.95 (95% CI, 0.95 to 0.96)*</p> <p>A2. RR 0.92 (95% CI, 0.92 to 0.93)</p> <p>B. RR 0.94 (95% CI, 0.93 to 0.96)</p> <p>API</p> <p>A1. RR 1.02 (95% CI, 1.02 to 1.02)</p> <p>A2. RR 1.03 (95% CI, 1.02 to 1.03)</p> <p>B. RR 1.05 (95% CI, 1.04 to 1.06)</p> <p>Native American</p> <p>A1. RR 0.91 (95% CI, 0.89 to 0.93)*</p> <p>A2. RR 0.87 (95% CI, 0.84 to 0.90)*</p> <p>B. RR 0.88 (95% CI, 0.83 to 0.93)</p> <p>Multiple race</p> <p>A1. RR 1.05 (95% CI, 1.05 to 1.06)</p> <p>A2. RR 1.07 (95% CI, 1.06 to 1.08)</p> <p>B. RR 1.11 (95% CI, 1.09 to 1.13)</p> <p>*RR vs. NH Whites in period C not statistically significant at p=0.01</p>	NA	Good

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Mehta et al., 2016 (continued)	Overall, any CRC screening test (age/sex adjusted rates) 2004: 35.3% 2013: 80.9% NH White, any CRC test 2004: 35.2% 2013: 81.1% NH Black, any CRC test 2004: 35.6% 2013: 78.0% Hispanic, any CRC test 2004: 33.1% 2013: 78.3% API, any CRC test 2004: 36.3% 2013: 83.0% Native American, any CRC test 2004: 29.4% 2013: 74.5% Multiple race, any CRC test 2004: 39.0% 2013: 84.9%	(continued)	(continued)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Miller et al., 2013	<p>Adherence, initial screening A1. 75.4% A2. 61.8% B. 65.6% Adherence, 6 months A1. 70.0% A2. 50.0% B. 61.0% Adherence, 12 months A1. 63.0% A2. 58.6% B. 53.9%</p> <p>*Note A2 and B combined for analysis below for statistical reasons Adherence, initial screening A1. 75.4% A2+B. 63.8% p=0.1027 Adherence, 6 months A1. 70.0% A2+B.: 55.6% p=0.1687 Adherence, 12 months A1: 63.0% A2+B: 56.4% p=0.586</p> <p>Total adherence: all three measures favors telephone, p=0.475</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Allocation concealment unclear 2. Did not maintain comparable groups 3. Unclear outcome, provider, patient-masking 4. No ITT analysis 5. High attrition 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study population (inclusion/ exclusion criteria, adherence) 2. Study setting (health care system and center) 3. Study providers (special training)
Mitchell, Andrews, & Schenker, 2015	<p>BMI, mean kg/m² A1. 27.9 (95% CI, 27.1 to 28.1) A2. 28.3 (95% CI, 27.9 to 28.8) B. 28.6 (95% CI, 28.3 to 28.9), p<0.001</p> <p>Fruits and veg servings per day, mean A1. 6.1 (95% CI, 5.7 to 6.4) A2. 5.6 (95% CI, 5.0 to 6.3) B. 5.4 (95% CI, 5.0 to 5.8), p=0.041</p> <p>Nonwork PA for 30 min, days per week, mean A1. 3.2 (95% CI, 2.8 to 3.7) A2. 2.5 (95% CI, 1.7 to 3.3) B. 2.1 (95% CI, 1.6 to 2.6), p=0.004</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Groups not comparable at baseline 2. High attrition 3. No ITT analysis 	<p>Poor</p> <ol style="list-style-type: none"> 1. Study population (demographics, inclusion/exclusion criteria, adherence, recruitment) 2. Study setting (health care system and center, time, effort) 3. Study providers (training, expertise, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Murphy et al., 2005	Biochemically confirmed cessation at 3 months A. 2.4%, OR 2.43, (95% CI, 0.47 to 12.65) B. 2.0%, OR 1.94, (95% CI, 0.35 to 10.71) C. 1.0% (reference) Biochemically confirmed cessation at 3 months overall: 1.8%	Poor 1. Inadequate randomization 2. Unclear allocation 3. Groups not comparable at baseline 4. No masking 5. No ITT analysis	Fair 1. Population 2. Setting
Murray et al., 2001	A vs. B Validated quitting at 1 year, Black: AOR 1.18 (95% CI, 0.66 to 3.32), p=NS Validated quitting at 1 year, White: AOR 5.99 (95% CI, 4.65 to 7.71), p<0.001 Race x group interaction, quit status: p=0.002 Validated quitting during years 1-5, Black: AOR 1.87 (95% CI, 1.02 to 3.43), p=0.04 Validated quitting during years 1-5, White: AOR 3.34, (95% CI, 2.82 to 3.95), p<0.001 Race x group interaction, quit status: p=0.06 A, Black vs. White Still smoking at 12 months: 23% (0.42) vs. 34% (0.47), p<0.01 Still smoking at 5 years: 30% (0.46) vs. 35% (0.48), p=NS B, Black vs. White Still smoking at 12 months: 15% (0.36) vs. 8% (0.27), p=NS Still smoking at 5 years: 17% (0.38) vs. 20% (0.40), p=NS Percent reduction of cigarettes per day after 1 year, A vs. B Black: 50.9% vs. 25.5% White: 61.2% vs. 22.3% After 5 years Black: 57.9% vs. 42.9% White: 61% vs. 39.8%	Poor 1. Unclear randomization 2. Allocation NR 3. Groups not comparable at baseline 4. Unclear masking 5. High loss to followup 6. No ITT analysis 7. Unclear post-randomization exclusions	Fair 1. Population 2. Setting

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Myers et al., 2014	<p>Any screening, 6 months A. 38.0% B. 23.7% AOR 2.1 (95% CI, 1.5 to 2.9), p=0.001</p> <p>Any screening, 12 months A. 43.4% B. 32.2% AOR 1.7 (95% CI, 1.2 to 2.3), p=0.001</p> <p>Group A, as treated analysis, adherence at 6 months Navigated: 45.7% Not navigated: 12.4% Group A, as treated analysis, adherence at 12 months Navigated: 50.9% Not navigated: 19.1%</p>	Fair 1. Unclear if baseline differences exist 2. Missing data	Fair 1. Study population (demographics) 2. Study setting (time, effort) 3. Study providers (training, ancillary providers)
Myers et al., 2019	<p>Screening adherence, 12 months: A. 77.7% B. 43.3% AOR 4.8 (95% CI, 3.1 to 7.6), p=0.001</p> <p>SBT screening, 12 months: A. 57.4% B. 37.4% AOR 4.2 (95% CI, 2.6 to 6.7), p=0.001</p> <p>Colonoscopy screening, 12 months A. 20.3% B. 5.9% AOR 8.79 (95% CI, 4.1 to 18.7), p=0.001</p>	Good	Fair 1. Population 2. Providers

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Nash et al., 2006	<p>Estimated coverage of screening colonoscopies by hospital among eligible population in local area (average per month, %)</p> <p>A. 65.1 (15.6%)</p> <p>B. 21.8 (5.2%)</p> <p>By race/ethnicity</p> <p>NH Black</p> <p>A. 3.9 (2.4%)</p> <p>B. 2.8 (1.7%)</p> <p>Hispanic</p> <p>A. 47.1 (20.1%)</p> <p>B. 17.5 (7.5%)</p> <p>Other/unknown</p> <p>A. 14.1 (104.5%)</p> <p>B. 1.5 (11.1%)</p> <p>Likelihood of screening colonoscopy at center, RR 3.0 (95% CI, 1.9 to 4.7)</p> <p>Average number of persons screened per month increased from 75.7 to 119.0.</p> <p>Individuals screened on Medicaid 48.4% vs. 17%; p<0.001</p> <p>Estimated coverage of screening colonoscopies by hospital among eligible population in local area (average per month, %)</p> <p>A. 65.1 (15.6%)</p> <p>B. 21.8 (5.2%)</p> <p>By race/ethnicity</p> <p>NH Black</p> <p>A. 3.9 (2.4%)</p> <p>B. 2.8 (1.7%)</p> <p>Hispanic</p> <p>A. 47.1 (20.1%)</p> <p>B. 17.5 (7.5%)</p> <p>Other/unknown</p> <p>A. 14.1 (104.5%)</p> <p>B. 1.5 (11.1%)</p> <p>Likelihood of screening colonoscopy at center: RR 3.0 (95% CI, 1.9 to 4.7)</p> <p>Average number of persons screened per month increased from 75.7 to 119.0.</p> <p>Individuals screened on Medicaid 48.4% vs. 17% p<0.001</p>	NA	<p>Fair</p> <ol style="list-style-type: none"> 1. Study population (inclusion/exclusion criteria) 2. Study setting (Selection of centers, cost of service) 3. Study providers (training, skill, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Navarro et al., 1998	<p>Increase in screening</p> <p>Mammography</p> <p>A. 21.4%</p> <p>B. 7%, p=0.29</p> <p>Cervical</p> <p>A. 23.1%</p> <p>B. 16.2%, p=0.96</p>	<p>Poor</p> <p>1. Randomization and allocation concealment unclear</p> <p>2. Unclear whether comparable groups were maintained</p> <p>3. Outcome assessor, care provider, and patient masking unclear</p> <p>4. No ITT analysis</p> <p>5. Unclear whether post-randomization exclusions occurred</p>	<p>Fair</p> <p>1. Study population (inclusion/exclusion criteria, demographics, recruitment)</p> <p>2. Study providers (training, expertise)</p>
Nguyen et al., 2015	<p>Report of colonoscopy, flexible sigmoidoscopy, or FOBT screening at 6 months</p> <p>A. 56%</p> <p>B. 19%, p<0.001</p> <p>AOR 5.45 (95% CI, 3.02 to 9.82)</p> <p>Intervention was effective in both men and women; no difference by gender.</p>	<p>Poor</p> <p>1. Randomization and allocation concealment unclear</p> <p>2. Outcome assessor and patient not masked</p> <p>3. No ITT analysis</p> <p>4. Unclear whether post-randomization exclusions occurred</p> <p>5. Potential for contamination / cross-over</p>	<p>Poor</p> <p>1. Population - single city, specific racial and ethnic group</p> <p>2. Special skills - language</p> <p>3. Effort - training time, special materials</p>
Paskett et al., 2011	<p>Medical record 12 month pap: OR 1.44 (95% CI, 0.89 to 2.33); p=0.14</p> <p>Self-reported 12 month pap: OR 2.10 (95% CI, 1.22 to 3.61); p=0.008</p>	<p>Good</p>	<p>Fair</p> <p>1. Population</p> <p>2. Setting</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Paskett et al., 2006	<p>Receipt of mammography in past 12 months A. 42.5% B. 27.3% RR 1.56 (95% CI, 1.29 to 1.87), $p < 0.001$</p> <p>Receipt of mammography by race-ethnicity African Americans: RR 1.54 (95% CI, 0.11 to 2.14), $p = 0.008$ Native Americans: RR 1.58 (95% CI, 1.18 to 2.13), $p = 0.002$ White: RR 1.54 (95% CI, 1.05 to 2.25), $p = 0.024$ Change in barriers, intervention vs. control: $b = -0.77$ (95% CI, -1.02 to -0.53), $p < 0.001$ Change in beliefs, intervention vs. control: $b = 0.46$ (95% CI, 0.15 to 0.77), $p = 0.004$ Change in knowledge, intervention vs. control: $b = -0.02$ (95% CI, -0.21 to 0.17) $p = \text{NS}$ Association of baseline barriers with mammography Barrier scale: OR 0.93 (95% CI, 0.87 to 1.00) $p = 0.051$ (one unit increase on barrier scale means slightly lower odds of screening) Intervention group vs. control: AOR 1.57 (95% CI, 1.31 to 1.84) Never smoked, vs. current/former smokers: AOR 1.25 (95% CI, 1.03 to 1.52)</p>	Fair 1. Unclear randomization technique and allocation 2. Unclear masking of patients	Poor 1. Population composition unique to setting 2. Potentially time-intensive intervention
Percac-Lima et al., 2009	<p>CRC screening completion (COL/FS, barium enema, FOBT) A. 27.4% B. 11.9%, $p < 0.001$ Colonoscopy A. 20.8% B. 9.6%, $p < 0.001$</p>	Poor 1. Randomization and allocation concealment unclear 2. Unclear whether outcome assessor or patients were masked	Fair 1. Study providers (training, ancillary provider) 2. Study setting (time, effort)
Percac-Lima et al., 2012	<p>Up to date with mammography A. 67.0% (61/91) B. 44.0% (40/91), $p = 0.001$</p>	NA	Poor 1. Study population is very specific 2. Study setting is in a single clinic
Percac-Lima et al., 2014	<p>Up to date on screening (colonoscopy, sigmoidoscopy, colonography, or barium enema) Before intervention Latinos: 47.5% Non-Latino: 50.4%, $p > 0.05$</p> <p>Up to date on CRC screening after intervention Latinos: 73.5% Non-Latino: 66%, $p < 0.001$ Non-English speaker: 70.6% English speaker: 68%, $p = 0.09$</p>	NA	Fair 1. Study population (demographics) 2. Study setting (health care system, center, time) 3. Study providers (training, skill, ancillary providers)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Percac-Lima et al., 2018	Receipt of CT lung cancer screening A. 23.5% (94/400) B. 8.6% (69/800), p<0.001	Poor 1. Randomization and allocation concealment method NR 2. Unclear masking 3. Large loss to followup	Fair 1. Study population in a single geographic location 2. Study setting in a single healthcare system 3. Expertise and training needed to complete intervention
Phillips et al., 2011	Adherence, post intervention A. 87% B. 76% AOR 2.5 (95% CI, 1.9 to 3.2) Likelihood of adherence by time since last mammogram >24 months: AOR 5.6 (95% CI, 3.9 to 8.2) 18 to 24 months: AOR 6.0 (95% CI, 2.8 to 12.7) 12 to 18 months: AOR 3.5 (95% CI, 1.8 to 6.5) Likelihood of adherence by race White: OR 2.4 (95% CI, 1.5 to 4.0) Black: OR 1.9 (95% CI, 1.4 to 2.6) Hispanic: OR 1.2 (95% CI, 0.8 to 1.8)	Fair 1. Groups not similar at baseline 2. Unclear masking of outcome assessors or analysts 3. High attrition/ loss to followup	Fair 1. Study population (inclusion/ exclusion criteria, adherence) 2. Study setting (health care system and centers, time) 3. Study providers (training, expertise or skill, ancillary providers)
Potter et al., 2011	Any CRC screening (colonoscopy, FS, FOBT) completed during study A. 24.2% B. 13.4%, p<0.001 OR 2.22 (95% CI, 1.24 to 3.95) Any CRC screening completed during last 12 months A. 45.5% B 35.6%, p<0.001 FOBT completed during study A. 21.6% B. 11.8%, p<0.001 OR 2.25 (95% CI, 1.56 to 3.24), p=NR FOBT completed during last 12 months A. 33.8% B. 21.7%, p<0.001	Poor 1. Unclear randomization 2. Allocation NR 3. Unclear masking 4. No ITT analysis	Fair 1. Population 2. Setting

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Powell et al., 2005	Mammography at baseline vs. 3 months A1. 45% vs. 63%, % Change = 38.4% A2. 65% Vs. 70%, % Change = 8.6% B. 57% Vs. 61%, % Change = 8.1% A1 vs. B: p<0.001 A1 vs. A2: p<0.001 A2 vs. B: NS	Fair 1. Unclear as to whether outcome assessors were masked 2. Unclear as to whether attrition or loss to followup occurred	Poor 1. Study population (inclusion/ exclusion criteria, demographics, recruitment) 2. Study setting (health care system and centers, time) 3. Study providers (training, expertise or skill, ancillary providers)
Racette et al., 2001	Mean change in weight, kg (SD), 4 months A. -4.8 (0.7) B. -0.8 (0.6), p<0.001 Mean change in weight, kg (SD), 12 months A. -4.6 (1.0) B. 0.3 (0.8), p<0.001 Note: Group A, p<0.001 vs. baseline at 4 and 12 months	Poor 1. Unclear ascertainment of exposures, potential confounders, and outcomes 2. High loss to followup 3. Study did not perform appropriate analysis on potential confounders	Poor 1. Population 2. Setting 3. Providers
Reuland et al., 2017	Any CRC screening at 6 months A. 68% B. 27%, p=NR Adjusted difference 40 percentage points (95% CI, 29 to 51) Number needed to offer intervention to screen 1 additional patient: 3 FOBT/FIT screening at 6 months A. 54% B. 21%, p=NR Colonoscopy screening at 6 months A. 14% B. 6%, p=NR	Good	Good
Rodriguez-Torre et al., 2019	A vs. B, adjusted screening rates over time 2012: 90.5% vs. 81.9%, p=0.006 2013: 88.7% vs. 82.1%, p=0.31 2014: 77.9% vs. 81.5%, p=0.66 2015: 81.9% vs. 84.6%, p=0.71 2016: 76.5% vs. 80.5%, p=0.46 Trend in screening rates over time, A vs. B: p=0.02	NA	Poor 1. Population 2. Setting 3. Providers

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Roetzheim et al., 2004 and 2005	<p>12 months Intervention increased all screenings: Cervical: OR 1.57 (95% CI, (0.92 to 2.64), p=0.96 Breast: OR 1.62 (95% CI, 1.07 to 9.78), p=0.23 CRC (FOBT): OR 2.56 (95% CI, 1.65 to 4.01), p<0.001</p> <p>24 months Breast: OR 1.26 (95% CI, 1.02 to 1.55), p=0.03 Cervical: OR 0.88 (95% CI, 0.68 to 1.15), p=0.34 FOBT: OR 1.17 (95% CI, 0.92 to 1.48), p=0.19</p> <p>24 months post hoc patient level analysis Breast: OR 1.42 (95% CI, 0.98 to 2.07), p=0.06 Cervical: OR = 2.03 (95% CI, 1.14 to 3.61), p=0.014 FBOT: OR=3.8 (95% CI, 2.05 to 5.23), p<0.001 CRC (FOBT): OR 2.56 (95% CI, 1.65 to 4.01), p<0.001</p>	Fair 1. No information regarding randomization/allocation	Fair 1. Study population (inclusion/exclusion criteria) 2. Study setting (system, effort)
Rosas et al., 2015	<p>A1 vs. A2 vs. B</p> <p>Mean change in BMI at 6 months, kg/m² -0.8 (95% CI, -1.1 to -0.5) vs. -0.6 (95% CI, -1.0 to -0.3) vs. -0.4 (95% CI, -0.7 to 0), p>0.05 for all comparisons Mean change in BMI at 12 months, kg/m² -0.7 (95% CI, -1.1 to -0.3) vs. -0.6 (95% CI, -1.0 to -0.1) vs. -0.3 (95% CI, -0.8 to 0.3), p>0.05 for all comparisons Mean change in BMI at 24 months, kg/m² -0.4 (95% CI, -0.9 to 0.2) vs. -0.4 (95% CI, -1.0 to 0.2) vs. -0.2 (95% CI, -1.1 to 0.7), p>0.05 for all comparisons</p> <p>Mean change in weight at 6 months -2.1 kg (95% CI, -2.8 to -1.3) vs. -1.6 kg (95% CI, -2.4 to -0.7) vs. -0.9 kg (95% CI, -1.9 to 1.1), p=0.05 (A), p>0.05 (B) vs. C; p>0.05 A vs. B Mean change in weight at 12 months -1.9 kg (95% CI, -2.9 to -0.9) vs. -1.4 kg (95% CI, -2.4 to 0.3) vs. -0.7 kg (95% CI, -2.2 to 0.8), p>0.05 for all comparisons Mean change in weight at 24 months -1.0 kg (95% CI, -2.4 to 0.4) vs. -1.0 kg (95% CI, -2.4 to 1.0) vs. -0.6 kg (95% CI, -2.8 to 1.5), p>0.05 for all comparisons</p>	Good	Poor 1. Study population (inclusion/exclusion, demographics, absolute risk) 2. Study setting (center, time, effort) 3. Study provider (training, expertise/skill, ancillary provider)

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Russell et al., 2010	<p>Mammography adherence A. 50.6% (45/89) B. 17.8% (16/90) adjusted RR: 2.7 (95% CI, 1.8 to 3.7), p<0.0001 AOR: 4.3 (95% CI, 2.1 to 9.0), p<0.0001</p> <p>Forward movement in stage of screening adoption A. 76.3% (61/89) B. 38.5% (25/90) adjusted RR: 2.0 (95% CI, 1.5 to 2.3), p<0.0001 AOR: 4.9 (95% CI, 2.3 to 10.4, p<0.0001</p>	Fair 1. Allocation not concealed 2. Patients and interventionists not masked	Fair 1. Specific population 2. Patients recruited from a single clinic 3. Expertise needed for implementation of intervention
Singal et al., 2016 Singal et al., 2017	<p>2016 data Completion within 12 months of any test A: 42.4%; AOR 1.83 (95% CI, 1.57 to 2.14) B: 58.8%; AOR 3.84 (95% CI, 3.28 to 4.5) C: 29.6%; reference A vs. C: p<0.0001 B vs. C: p<0.0001 B vs. A: p<0.001</p> <p>2017 data Screening process completion rates (composite endpoint, including abnormalities) A. 38.4%; 56% (1344/2400) received screening; 68.6% of those screened (922/1344) completed B. 28%; 69.8% (1676/2400) received screening; 40% of those screened (671/1676) completed C. 10.7%; 41.9% (502/1199) received screening; 25.5% of those screened (128/502) complete p<0.001</p>	Good	Good
Soltero et al., 2019	<p>Mean weight, kg (SD), baseline to study end: 82.1 (17.8) to 80.6 (17.8), p=0.12 Mean BMI, kg/m2 (SD), baseline to study end: 32.1 (5.9) to 31.6 (6.0), p=0.12 Mean HbA1C, baseline to study end: 5.6 (0.4) to 5.5 (0.3), p=0.03 Change in weight-specific QoL (0-100, 100 high), baseline to study end: 64.6 (15.8) to 71 (13.7), p=0.001</p>	NA	Poor 1. Population 2. Setting 3. Providers

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Staten et al., 2004 Arizona WISEWOMAN	<p>Change in BMI from baseline to 12 months</p> <p>A1. 0.1 (95% CI, -0.3 to 0.6)</p> <p>A2. 0.7 (95% CI, -0.1 to 1.4)</p> <p>B. -0.1 (95% CI, -0.6 to 0.5), p=NR</p> <p>Change in % of study arm at BMI $\geq$25 from baseline to 12 months:</p> <p>A1. -4.6%</p> <p>A2. 4.2%</p> <p>B. 0%</p> <p>Adjusted effect of intervention at 12 months (β, SE, p)</p> <p>A1 vs. B: 0.28, 0.45, p=0.53</p> <p>A2 vs. B: 0.77, 0.44, p=0.08</p> <p>A1 vs. A2: -0.49, 0.46, p=0.28</p>	<p>Poor</p> <p>1. Unclear randomization and allocation concealment</p> <p>2. Unclear whether maintained comparable groups</p> <p>3. Unclear masking of outcome assessor, provider, patient</p> <p>4. No ITT</p> <p>5. Post-randomization exclusions</p>	<p>Fair</p> <p>1. Time, effort required for intervention</p> <p>2. Ancillary providers</p>
Stoddard et al., 2004 Massachusetts WISEWOMAN	<p>High blood pressure, excluding women on medication at baseline, adjusted difference (baseline to 12 months):</p> <p>A. -6.8 (33.8 to 27, p=0.02)</p> <p>B. -8.6 (31.5 to 22.9, p<0.01)</p> <p>p=0.51</p>	<p>Poor</p> <p>1. Unclear randomization and allocation concealment</p> <p>2. Unclear whether maintained comparable groups</p> <p>3. Unclear masking of outcome assessor, provider, patient</p> <p>4. No ITT</p> <p>5. Unclear whether one site was excluded pre- or post-randomization</p>	<p>Fair</p> <p>1. Time, effort required for intervention</p> <p>2. Ancillary providers</p>
Taplin et al., 2008	<p>Breast cancer screening</p> <p>A. 39%</p> <p>B. 23.2%, p<0.001</p> <p>Cervical cancer screening</p> <p>A. 37.2%</p> <p>B. 25.2% p<0.001</p> <p>CRC screening</p> <p>A. 21.2%</p> <p>B. 8.6%, p<0.001</p>	<p>NA</p>	<p>Poor</p> <p>1. Intervention - intervention that includes the community and many others that provide barriers to implementation.</p>

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Tu et al., 2006	FOBT completion at 6 months A. 69.5% B. 27.6% AOR 6.38 (95% CI, 3.44 to 11.85), p=NR	Poor 1. Unclear allocation concealment 2. Unclear maintaining comparable groups 3. Unclear masking of outcome assessor, provider, patient 4. No ITT	Fair 1. Training of health educator very specialized 2. single clinic location
Tu et al., 2014	Baseline vs. followup Any CRC screening A. 42% vs. 45% B. 38% vs. 38% AOR 1.42 (95% CI, 0.95 to 2.15), p=0.06 FOBT A. 25% vs. 16% B. 17% vs. 9% A vs. B, AOR 1.42 (95% CI, 0.84 to 2.39), p=0.19 Sigmoidoscopy A. 3% vs. 1% B. 1% vs. 1% AOR 0.60 (95% CI, 0.10 to 3.72), p=0.58 Colonoscopy A. 22% vs. 34% B. 24% vs. 30% AOR 1.38 (95% CI, 0.89 to 2.13), p=0.15	NA	Fair 1. Population 2. Providers

Author, Year (See Appendix B for full citation)	Outcomes	Quality Rating	Applicability Rating
Weber & Reilly, 1997	<p>A vs. B</p> <p>Mammogram (ITT)</p> <p>A. 25%</p> <p>B. 9.8%</p> <p>RR 2.57 (95% CI, 1.53 to 4.35), p<0.001</p> <p>Mammogram (per protocol)</p> <p>A. 29%</p> <p>B. 11%</p> <p>RR 2.67 (95% CI, 1.59 to 4.48), p<0.001</p> <p>Mammogram ("truly eligible")</p> <p>A. 41%</p> <p>B. 14%</p> <p>RR 2.87 (95% CI, 1.75 to 4.73), p<0.001</p>	Poor 1. Randomization and allocation concealment techniques not reported 2. Unclear allocation and masking	Fair 1. Multiple sites 2. Recruitment, training and pay not reported 3. Single city in NY
West et al., 2004	<p>Receipt of mammogram, Stage 1</p> <p>A1. 14%</p> <p>B1. 14%</p> <p>Receipt of mammogram, Stage 2</p> <p>A2. 15%</p> <p>B2. 13%</p> <p>Receipt of mammogram among women with no prior mammography, Stage 2</p> <p>A2. 16%</p> <p>B2. 7%, p=0.05</p>	Fair 1. Unclear masking outcome or analysts 2. High differential loss to followup (12.2%) in Stage 1 but not Stage 2 or overall	Fair 1. Study population (demographics) 2. Study setting (health care system, centers, time, effort)
Wu & Lin, 2015	<p>Obtained screening at followup</p> <p>Total</p> <p>A. 40%</p> <p>B. 33%, p=NS</p> <p>Women with insurance</p> <p>A. 56%</p> <p>B. 34%, p=0.03</p> <p>Women >65 years</p> <p>A. 51%</p> <p>B. 25%, p=NS</p>	Poor 1. Randomization and allocation concealment unclear 2. Unclear whether outcome, provider, patient were masked 3. Differential and overall loss to followup 4. Post-randomization exclusions 5. No ITT analysis	Fair 1. Study population (demographics, recruitment) 2. Study setting (time, effort) 3. Study providers (expertise)

Abbreviations: AA = African American; ACA = Affordable Care Act; ACS = American Cancer Society; AI = American Indian; AN = American Native; aOR = adjusted odds ratio; API = Asian Pacific Islander; BMI = body mass index; CMS = Centers for Medicare & Medicaid Services; COL/FS = colonoscopy/flexible sigmoidoscopy; CRC = colorectal cancer; CT = computerized tomography; DVD = digital versatile disc; EMR = electronic medical record; FIT = fecal immunochemical test; FOBT = fecal occult blood test; FQHC = federally qualified health center; FS = flexible sigmoidoscopy; gFOBT = Guaiac Fecal Occult Blood Test; HR = heart rate; ITT = intention to treat; LCOP = local communities of practice; LHA = lay health advisors; NA = not applicable; NCI = National Cancer Institute; NH = Non Hispanic; NHS = National Health Service; NNT = number needed to treat; NR = not reported; NRT = nicotine replacement therapy; NS = not significant;

OR = odds ratio; PCP = primary care provider; PN = patient navigation; QoL = Quality of Life; RCT = randomized controlled trial; SASE = self-addressed stamped envelope; SBT = stool blood test; SD = standard deviation; SE = standard error; SES = socioeconomic status; TBHEP = Targeted Breast Health Education Program; YMCA = Young Men's Christian Association

Appendix G. Quality Assessment

Table G-1, P. Quality assessment of randomized controlled trials, Part A

Author, Year (See Appendix B for full citation)	Randomization adequate?	Allocation concealment adequate?	Groups similar at baseline?	Maintain comparable groups?	Eligibility criteria specified?	Outcome assessors masked?	Care provider masked?	Patient masked?	Reporting of attrition, crossovers, adherence, and contamination?
Abood, 2005	No	NA	No	No	Yes	Unclear	Yes	Yes	No
Ahmed, 2010	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Allen, 2005	Yes	NR	Unclear	Unclear	Yes	Unclear	No	No	Yes
Aragones, 2010	Yes	NR	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
Arnold, 2016a Arnold, 2016b	Yes	NR	No	No	Yes	Unclear	No	No	Yes
Baker, 2014	Yes	Unclear	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes
Bastani, 2015	Unclear	Unclear	Unclear	Yes	Yes	Unclear	No	No	Yes
Bennett, 2012	Yes	No	Unclear	Unclear	Yes	No	No	No	Yes
Beach, 2007	Yes	Yes	No	Yes	Yes	Yes	Unclear	No	Yes
Bennett, 2013	Yes	No	Yes	Yes	Yes	No	No	No	Yes
Blumenthal, 2010	Unclear	No	No	Yes	Yes	Unclear	unclear	Yes	Yes
Braun, 2015	Yes	Unclear	Yes	Unclear	Yes	No	No	Unclear	No
Byrd, 2013	Yes	Unclear	Unclear	Yes	Yes	Unclear	Unclear	Unclear	No
Christie, 2008	NR	Unclear	Yes	Yes	Yes	No	No	No	Yes
Cole, 2017	Yes	No	Yes	Yes	Yes	No	No	No	Yes
Coronado, 2011	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Coronado, 2016	Yes	Yes	No	Unclear	Yes	Unclear	Yes	Yes	Yes
Coronado, 2018	NR	Unclear	Yes	Unclear	Yes	No	No	Yes	Yes
Curry, 2003	Yes	Yes	Yes	Unclear	Yes	Unclear	No	Unclear	Yes
DeGroff, 2017	Yes	Unclear	Yes	Yes	Yes	Unclear	No	Unclear	Yes
Dietrich, 2006	Yes	Yes	No	Yes	Yes	Yes	Unclear	No	Yes
Dietrich, 2013	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Unclear	Yes
Doorenbos, 2011	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	No
Enard, 2015	Unclear	Unclear	Yes	Unclear	Yes	No	Unclear	No	Yes
Fang, 2017	Yes	NR	No	Yes	Yes	Unclear	No	No	Yes
Fiscella, 2011	No	NR	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear
Ford, 2006	NR	NR	Yes	Yes	Yes	Unclear	Unclear	Unclear	No
Fortuna, 2014	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes
Friedman, 2001	No	NR	No	NA	Yes	Unclear	Yes	Unclear	Yes
Glasgow, 2000	Yes	NR	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Goldman, 2015	Unclear	Unclear	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes
Gordon, 2010	Unclear	NR	No	NA	Yes	Unclear	Unclear	Unclear	Yes

Author, Year (See Appendix B for full citation)	Randomization adequate?	Allocation concealment adequate?	Groups similar at baseline?	Maintain comparable groups?	Eligibility criteria specified?	Outcome assessors masked?	Care provider masked?	Patient masked?	Reporting of attrition, crossovers, adherence, and contamination?
Guillaume, 2017b De Mil, 2018	Yes	Unclear	No	Unclear	Yes	Unclear	Yes	Unclear	Yes
Gupta, 2013	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes
Hass, 2015	Yes	NR	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Hendren, 2014	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear
Hoffman, 2017	Yes	NR	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Horne, 2015	Yes	NR	Yes	No	Yes	Unclear	Unclear	Unclear	Yes
Inadomi, 2012	Unclear	Unclear	Yes	Yes	Yes	Unclear	Yes	Unclear	Yes
Jandorf, 2005	Unclear	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	Unclear
Jandorf, 2014	Yes	NR	Unclear	Yes	Yes	Unclear	No	No	Yes
Jean-Jacques, 2012	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Jibaja-Weiss, 2003	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	No
Katz, 2007	Unclear	Unclear	Yes	Unclear	Yes	Yes	Unclear	No	Yes
Katz, 2012	Yes	NR	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Kim, 2004	Yes	Yes	Yes	Unclear	Yes	Unclear	No	No	No
Kumanyika, 2002	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Kumanyika, 2005	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Lasser, 2011	Yes	Unclear	Yes	Yes	Yes	Yes	No	No	Yes
Lasser, 2017	Yes	Yes	Yes	Yes	Yes	No	Unclear	Unclear	Yes
Lee-Lin, 2015	Unclear	NR	Yes	Yes	Yes	Unclear	Yes	Yes	Yes
Levy, 2013	Yes	Unclear	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes
Ma, 2009	No	NR	No	No	Yes	Unclear	No	No	Yes
Margolis, 1998	No	Unclear	Yes	Yes	Yes	No	No	No	Yes
Marshall, 2016	NR	NR	Yes	Yes	Yes	NR	No	Unclear	No
Martin, 2006 Martin, 2008	Yes	Unclear	Yes	Yes	Yes	No	No	No	Yes
Miller, 2013	Yes	Unclear	Yes	No	Yes	Unclear	Unclear	Unclear	Yes
Miller, Jr., 2011	Method NR	NR	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Miller, Jr., 2018	Yes	Yes	Unclear	Unclear	Yes	Yes	Unclear	Yes	No
Mitchell, 2015	Yes	Yes	No	No	Yes	Yes	No	No	Yes
Muller, 2017	Yes	NA	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
Murphy, 2005	No	NR	No	NA	Yes	No	Unclear	Unclear	Yes
Murray, 2001	Unclear	NR	No	NA	Yes	Unclear	Unclear	Unclear	Yes
Myers, 2014	Yes	Yes	Unclear	Unclear	Yes	Yes	No	No	Yes
Myers, 2019	Yes	No	Yes	Yes	Yes	Yes	No	Unclear	No
Navarro, 1998	Unclear	Unclear	Yes	Unclear	Yes	Unclear	Unclear	Unclear	Yes

Author, Year (See Appendix B for full citation)	Randomization adequate?	Allocation concealment adequate?	Groups similar at baseline?	Maintain comparable groups?	Eligibility criteria specified?	Outcome assessors masked?	Care provider masked?	Patient masked?	Reporting of attrition, crossovers, adherence, and contamination?
Nguyen, 2015	Unclear	Unclear	Yes	Yes	Yes	No	Unclear	No	Yes
Paskett, 2006	Method NR	Unclear	Yes	Yes	Yes	Yes	Yes	Unclear	Yes
Paskett, 2011	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Percac-Lima, 2009	Unclear	Unclear	Yes	Yes	Yes	Unclear	No	Unclear	Yes
Percac-Lima, 2018	Method NR	NR	Yes	Unclear	Yes	Unclear	No	Unclear	Yes
Phillips, 2011	NR	Unclear	No	Unclear	Yes	Yes	Unclear	Unclear	Yes
Potter, 2011	Unclear	NR	Yes	Yes	Yes	Unclear	No	Unclear	Yes
Powell, 2005	NR	NR	Yes	Unclear	Yes	Unclear	No	No	Yes
Reuland, 2017	Yes	Yes	Unclear	Unclear	Yes	Yes	No	No	Yes
Richter, 2015	Yes	Yes	Yes	Yes	Yes	Unclear	No	No	Yes
Roetzheim, 2004 Roetzheim, 2005	NR	NR	No	Yes	Yes	Unclear	Unclear	Yes	Yes
Rosas, 2015	Yes	Unclear	Yes	Yes	Yes	Yes	Partial	No	Yes
Russell, 2010	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes
Schroy, 2012	Method NR	NR	Yes	Yes	Yes	No	No	No	Yes
Siddiqui, 2011	Unclear	Unclear	Unclear	Unclear	Yes	Unclear	No	No	No
Simon, 2001	Method NR	NR	Unclear	Unclear	Yes	Unclear	Unclear	Unclear	Unclear
Singal, 2016	Yes	Yes	Yes	No	Yes	Unclear	Yes	Yes	Yes
Staten, 2004	Unclear	Unclear	Yes	Unclear	Yes	Unclear	Unclear	Unclear	Yes
Stoddard, 2004	Unclear	Unclear	Yes	Unclear	Yes	Unclear	Unclear	Unclear	Yes
Studts, 2012	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Thompson, 2017	Unclear	Unclear	Yes	Yes	Yes	Yes	No	No	Yes
Tu, 2006	Yes	Unclear	Yes	Unclear	Yes	Unclear	Unclear	Unclear	Yes
Valdez, 2018	Yes	NA	Yes	Unclear	Yes	Unclear	Yes	Unclear	No
Weber, 1997	NR	NR	Unclear	NR	Yes	NR	NR	NR	Yes
West 2004	NR	Unclear	Unclear	Unclear	Yes	Unclear	No	No	Yes
Wu, 2015	Unclear	Unclear	Yes	Unclear	Yes	Unclear	Unclear	Unclear	Yes

Abbreviations: NA = not applicable; NR = not reported

Table G-2. Quality assessment of randomized controlled trials, Part B

Author, Year (See Appendix B for full citation)	Loss to followup: differential/ high?	Intention-to- treat analysis?	Postrandomization exclusions?	Outcomes Prespecified?	Funding Source	Applicability	Quality Rating
Abood, 2005	Unclear	Unclear	Unclear	Yes	American Cancer Society, Florida Division	Poor	Poor
Ahmed, 2010	No	Yes	No	Yes	US Army Medical Research and Materiel Command Grant	Good	Good
Allen, 2005	No	Yes	No	Yes	Grant from University of California Breast Cancer Research Program	Fair	Fair
Aragones, 2010	No	Yes	No	Yes	Centers for Disease Control and Prevention	Poor	Fair
Arnold, 2016a Arnold, 2016b	Unclear	Yes	Yes	Yes	National Cancer Institute & National Institute of General Medical Sciences of the National Institutes of Health	Poor	Poor
Baker, 2014	NA	Yes	No	Yes	Agency for Healthcare Research and Quality	Fair	Fair
Bastani, 2015	No	Yes	No	Yes	National Cancer Institute, National Institutes of Health	Fair	Fair
Beach, 2007	Yes	Yes	Yes	Yes	National Cancer Institute	Fair	Fair
Bennett, 2012	No	Yes	No	Yes	National Cancer Institute; National Heart, Lung, and Blood Institute	Fair	Fair
Bennett, 2013	No	Yes	Yes	Yes	National Institute for Diabetes and Digestive and Kidney Diseases; National Cancer Institute	Fair	Fair
Blumenthal, 2010	Yes	Yes	No	Yes	Centers for Disease Control and Prevention, National Cancer Institute, National Center for Research Resources	Poor	Poor
Braun, 2015	Unclear	Yes	No	Yes	National Cancer Institute and Centers for Medicare and Medicaid Services	Poor	Poor
Byrd, 2013	No	Yes	No	Yes	Centers for Disease Control and Prevention cooperative agreement to the University of Texas School of Public Health at El Paso	Poor	Poor
Christie, 2008	No	Yes	No	Yes	National Cancer Institute	Poor	Poor
Cole, 2017	Yes	Yes	Yes	Yes	National Institute on Minority Health and Health Disparities, National Institutes of Health and the Centers for Disease Control and Prevention	Fair	Poor
Coronado, 2011	No	Yes	No	Yes	Fred Hutchinson Cancer Research Center	Fair	Fair
Coronado, 2016	No	Yes	No	Yes	National Cancer Institute	Fair	Fair
Coronado, 2018	No	Unclear	No	Yes	National Institutes of Health	Fair	Poor
Curry, 2003	Yes	Yes	Unclear	Yes	National Heart, Lung, and Blood Institute	Fair	Fair
DeGroff, 2017	No	Yes	Yes	Yes	Centers for Disease Control and Prevention	Fair	Fair
Dietrich, 2006	Yes	Yes	Yes	Yes	National Cancer Institute	Fair	Fair

Author, Year (See Appendix B for full citation)	Loss to followup: differential/high?	Intention-to-treat analysis?	Postrandomization exclusions?	Outcomes Prespecified?	Funding Source	Applicability	Quality Rating
Dietrich, 2013	No	Yes	Yes	Yes	National Cancer Institute	Good	Fair
Doorenbos, 2011	No	No	Yes	Yes	National Institute for Aging, Agency for Healthcare Research and Quality, National Center for Minority Health and Health Disparities, Native People for Cancer Control	Poor	Poor
Enard, 2015	Yes	No	Yes	Yes	Centers for Medicare and Medicaid Services	Good	Poor
Fang, 2017	No	Yes	Yes	Yes	Grants from the American Cancer Society Research Scholar Grant; National Cancer Institute; Fox Chase Cancer Center	Fair	Fair
Fiscella, 2011	No	Yes	No	Yes	American Cancer Society	Good	Fair
Ford, 2006	Unclear	Unclear	Unclear	Yes	Centers for Disease Control and Prevention / National Cancer Institute; Department of Defense; Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Service Project, National Institutes of Health	Poor	Poor
Fortuna, 2014	No	Yes	Yes	Yes	American Cancer Society	Fair	Good
Friedman, 2001	No	Unclear	Unclear	Yes	NR	Poor	Poor
Glasgow, 2000	No	Yes	No	Yes	National Heart, Lung, and Blood Institute	Fair	Fair
Goldman, 2015	No	Yes	No	Yes	Agency for Healthcare Research and Quality	Good	Fair
Gordon, 2010	Yes	No	Yes	Yes	National Institutes of Health, National Cancer Institute	Fair	Poor
Guillaume, 2017b De Mil, 2018	No	Unclear	Yes	Yes	French National Cancer Institute, Cancéropole Nord-Oues	Fair	Fair
Gupta, 2013	Unclear	Yes	Yes	Yes	National Institutes of Health, Cancer Prevention and Research Institute of Texas	Good	Fair
Hass, 2015	Yes	Yes	Yes	Yes	Lung Cancer disparities Center at Harvard School of Public Health; Harvard Catalyst; Harvard Clinical and Translational Science Center	Good	Fair
Hendren, 2014	Unclear	Yes	No	Yes	American Cancer Society	Good	Fair
Hoffman, 2017	No	No	Yes	Yes	National Cancer Institute, University of Texas / MD Anderson	Poor	Fair
Horne, 2015	Yes	No	Yes	Yes	Centers for Medicare and Medicaid Services; National Cancer Institute; Maryland Cigarette Restitution Fund	Fair	Fair
Inadomi, 2012	Yes	No	No	Yes	National Cancer Institute, National Institutes of Diabetes and Digestive and Kidney Diseases, National Center for Research Resources	Fair	Poor

Author, Year (See Appendix B for full citation)	Loss to followup: differential/high?	Intention-to-treat analysis?	Postrandomization exclusions?	Outcomes Prespecified?	Funding Source	Applicability	Quality Rating
Jandorf, 2005	No	Unclear	No	Yes	National Cancer Institute	Good	Poor
Jandorf, 2014	Yes	Unclear	No	Yes	Grants from the American Cancer Society; John R. Oishei Foundation of Western New York; & Western New York Affiliate of Susan G. Komen for the Cure	Fair	Fair
Jean-Jacques, 2012	No	Unclear	No	Yes	Northwestern University Clinical and Translational Sciences Institute, Clinical and Translational Science Awards Program	Fair	Fair
Jibaja-Weiss, 2003	Yes	No	Yes	Yes	Agency for Healthcare Research and Quality	Fair	Fair
Katz, 2007	No	No	Yes	Yes	National Cancer Institute	Poor	Poor
Katz, 2012	No	Yes	Yes	Yes	The Ohio State University	Fair	Fair
Kim, 2004	Unclear	Yes	No	Yes	NR	Poor	Fair
Kumanyika, 2002	No	Yes	No	Yes	National Institute of Aging, National Heart, Lung, and Blood Institute	Poor	Fair
Kumanyika, 2005	Yes	No	No	Yes	American Heart Association, National Institutes of Health	Poor	Fair
Lasser, 2011	No	Yes	No	Yes	American Cancer Society	Fair	Fair
Lasser, 2017	Yes	Yes	No	Yes	American Cancer Society	Fair	Good
Lee-Lin, 2015	No	Unclear	Unclear	Yes	American Cancer Society	Fair	Fair
Levy, 2013	No	Yes	No	Yes	American Cancer Society, University of IA	Good	Fair
Ma, 2009	No	Yes	No	Yes	Grant from National Cancer Institute-National Institutes of Health grant & Center to Reduce Cancer Health Disparities	Poor	Poor
Margolis, 1998	No	Unclear	No	Yes	National Institutes of Health, National Cancer Institute	Fair	Fair
Marshall, 2016	Yes	No	Yes	Yes	Centers for Medicare and Medicaid Services; National Cancer Institute	Fair	Poor
Martin, 2006 Martin, 2008	Yes	Yes	No	Yes	National Institute of Diabetes and Digestive and Kidney Diseases, Centers for Disease Control and Prevention	Fair	Fair
Miller, 2013	Yes	No	No	Yes	National Institutes of Health, American Recovery and Reinvestment Act, American Cancer Society	Fair	Poor
Miller, Jr., 2011	No	Yes	No	Yes	American Cancer Society	Fair	Fair
Miller, Jr., 2018	No	Unclear	No	Yes	National Cancer Institute; Wake Forest Clinical and Translational Science Institute; Wake Forest Comprehensive Cancer Center	Good	Fair
Mitchell, 2015	Yes	No	No	Yes	Reiter Affiliated Companies; Oxnard, California; Western Center for Agricultural Health and Safety	Poor	Poor

Author, Year (See Appendix B for full citation)	Loss to followup: differential/ high?	Intention-to- treat analysis?	Postrandomization exclusions?	Outcomes Prespecified?	Funding Source	Applicability	Quality Rating
Muller, 2017	No	Yes	No	Yes	National Cancer Institute	Fair	Good
Murphy, 2005	No	No	No	Yes	American Legacy Foundation, Eric-Niagara Tobacco Free Coalition	Fair	Poor
Murray, 2001	Yes	No	Unclear	Yes	National Heart, Lung, and Blood Institute	Fair	Poor
Myers, 2014	No	Yes	No	Yes	American Cancer Society	Fair	Fair
Myers, 2019	No	Yes	No	Yes	Patient Centered Outcomes Research Institute; Pennsylvania Department of Health	Good	Fair
Navarro, 1998	Yes	No	Unclear	Yes	National Cancer Institute	Fair	Poor
Nguyen, 2015	No	No	Unclear	Yes	National Cancer Institute	Poor	Poor
Paskett, 2006	No	Yes	Yes	Yes	National Cancer Institute; National Institutes of Health	Poor	Fair
Paskett, 2011	No	No	Yes	Yes	National Institutes of Health	Fair	Good
Percac-Lima, 2009	No	Yes	No	Yes	Massachusetts General primary Care Practice-Based Research network, Massachusetts Cancer Prevention Community Research Network, multiple local grants and awards	Fair	Poor
Percac-Lima, 2018	Yes	Yes	Yes	Yes	American Cancer Society	Fair	Poor
Phillips, 2011	Unclear	Yes	No	Yes	Avon Foundation Safety Net Grant	Fair	Fair
Potter, 2011	No	No	No	Yes	Centers for Disease Control and Prevention	Fair	Poor
Powell, 2005	No	Yes	No	Yes	Grants from Centers for Medicare and Medicaid	Poor	Fair
Reuland, 2017	No	Yes	Yes	Yes	American Cancer Society; Agency for Healthcare Research and Quality; National Institutes of Health	Good	Good
Richter, 2015	No	Yes	No	Yes	National Heart, Lung, and Blood Institute	Fair	Fair
Roetzheim, 2004 Roetzheim, 2005	NA	Yes	No	Yes	National Cancer Institute	Fair	Fair
Rosas, 2015	No	Yes	No	Yes	National Heart, Lung, and Blood Institute	Poor	Good
Russell, 2010	No	yes	Yes	Yes	National Institutes of Health; National Cancer Institute; Indiana University School of Nursing/Center for Enhancing Quality of Life in Chronic Illness	Fair	Fair
Schroy, 2012	No	Yes	No	Yes	Agency for Healthcare Research and Quality; National Cancer Institute; National Science Foundation	Fair	Poor
Siddiqui, 2011	Unclear	No	Unclear	Yes	NIH National Cancer Institute	Poor	Poor
Simon, 2001	No	Yes	Unclear	Yes	National Cancer Institute	Fair	Poor

Author, Year (See Appendix B for full citation)	Loss to followup: differential/high?	Intention-to-treat analysis?	Postrandomization exclusions?	Outcomes Prespecified?	Funding Source	Applicability	Quality Rating
Singal, 2016	No	Yes	No	Yes	National Cancer Institute, National Institutes of Health, Agency for Healthcare Research and Quality	Good	Good
Staten, 2004	Unclear	No	Yes	Yes	Centers for Disease Control and Prevention	Fair	Poor
Stoddard, 2004	No	No	Unclear	Yes	Centers for Disease Control and Prevention	Fair	Poor
Studts, 2012	No	Yes	No	Yes	National Cancer Institute	Fair	Good
Thompson, 2017	No	Yes	No	Yes	National Institutes of Health to the Fred Hutchinson Cancer Research Center; National Center for Research Resources/National Institute of Health	Fair	Fair
Tu, 2006	No	No	No	Yes	National Cancer Institute	Fair	Poor
Valdez, 2018	Yes	Yes	Unclear	Yes	National Cancer Institute	Fair	Fair
Weber, 1997	No	Yes	No	Yes	New York State Department of Public Health Primary Care Initiative	Fair	Poor
West 2004	No	Yes	Yes	Yes	Grants from National Cancer Institute- National Institutes of Health & University of Alabama at Birmingham Center for Health Promotion	Fair	Fair
Wu, 2015	No	No	Yes	Yes	National Cancer Institute, National Institutes of Health	Fair	Poor

Abbreviations: NA = not applicable; NR = not reported

Table G-3. Quality assessment of cohort studies

Author, Year (See Appendix B for full citation)	Did the study attempt to enroll a random sample or consecutive patients meeting inclusion criteria (inception cohort)?	Were the groups comparable at baseline?	Did the study use accurate methods for ascertaining exposures, potential confounders, and outcomes?	Were outcome assessors and/or data analysts blinded to treatment?	Did the article report attrition?	Did the study perform appropriate statistical analyses on potential confounders?	Is there important differential loss to followup or overall high loss to followup?	Were outcomes prespecified and defined, and ascertained using accurate methods?	Funding Source	Applicability	Quality
Battaglia, 2012	Yes	No	Yes	Unclear	Yes	Yes	No	Yes	National Cancer Institute	Fair	Fair
Davis, 2013	Yes	No	Yes	Unclear	NA	Yes	No	Yes	National Institutes of Health; National Cancer Institute	Good	Poor
Goldberg, 2004	Yes	Yes	Yes	Partial	Yes	Yes	No	Yes	Cook County Bureau of Health Services; Department of Medicine of Cook County Hospital; General Medicine Clinic of Cook County Hospital	Good	Fair
Guillaume, 2017a	Yes	No	Yes	Unclear	Unclear	Yes	Unclear	Yes	French National Cancer Institute; Canceropole Nord-Ouest	Fair	Fair
Honeycutt, 2013	Yes	No	Yes	Unclear	No	Yes	No	Yes	Centers for Disease Control and Prevention; National Cancer Institute	Poor	Fair
Racette, 2001	Yes	Yes	Unclear	Unclear	Yes	No	Yes	Yes	National Institutes of Health; Diabetes Research and Training Grant; Institutional National Research Service Award	Poor	Poor

Author, Year (See Appendix B for full citation)	Did the study attempt to enroll a random sample or consecutive patients meeting inclusion criteria (inception cohort)?	Were the groups comparable at baseline?	Did the study use accurate methods for ascertaining exposures, potential confounders, and outcomes?	Were outcome assessors and/or data analysts blinded to treatment?	Did the article report attrition?	Did the study perform appropriate statistical analyses on potential confounders?	Is there important differential loss to followup or overall high loss to followup?	Were outcomes prespecified and defined, and ascertained using accurate methods?	Funding Source	Applicability	Quality
Wang, 2010	No	No	Unclear	Unclear	Yes	Yes	Yes	Yes	National Cancer Institute	Good	Poor

Table G-4. Design, funding, and applicability of included studies not assessed for quality

Author, Year (See Appendix B for full citation)	Study Design	Funding Source	Applicability
Ahluwalia, 2002	Secondary data analysis of intervention at posttest time point	Robert Wood Johnson Foundation; National Cancer Institute	Fair
Bacio, 2014	Mediation analysis of larger RCT	California Tobacco Related Disease Research Program; UCLA Clinical and Translational Science Institute	Fair
Berkowitz, 2015	Before-after	Agency for Healthcare Research and Quality; Controlled Risk Insurance Company/Risk Management Foundation; Massachusetts General Hospital; Massachusetts General Physicians Organization	Good
Bock, 2005	Before-after	NR	Fair
Clark, 2009	Before-after	Centers for Disease Control and Prevention	Fair
Clark, 2011	Before-after	Centers for Disease Control and Prevention	Fair
Dignan, 2014	Before-after	National Cancer Institute	Fair
Friedman, 2007	Before-after	NR	Fair
Hirst, 2018	Post-intervention multiple time series	Cancer Research UK	Fair
Leone, 2013	Cluster nonrandomized trial	University Cancer Research Fund at the University of North Carolina at Chapel Hill	Fair
Mehta, 2016	Before-after	National Cancer Institute	Good
Nash, 2006	Before-after	Fund for the City of New York; City Council of New York	Fair
Percac-Lima, 2012	Before-after	Susan G. Komen MA Affiliate	Poor
Percac-Lima, 2014	Before-after	Massachusetts General Hospital; Massachusetts Cancer Prevention Community Research Network; Treffler Foundation	Fair
Rodriguez-Torre, 2019	Post-intervention multiple time series	Susan G. Komen MA Affiliate; Lazarex Cancer Foundation	Poor
Smith, 2017	Secondary analysis of participants in RCT	National Cancer Institute; Centers for Disease Control and Prevention	Fair
Soltero, 2019	Before-after	Arizona Department of Health Services	Poor
Taplin, 2008	Before-after	Health Resources and Services Administration; Centers for Disease Control and Prevention	Poor
Tu, 2014	Before-after	National Cancer Institute; College of Public Health at the University of Nebraska Medical Center	Fair
Wang, 2018	Retrospective chart review	National Institutes of Health	Fair
White, 2012	Before-after	Susan G. Komen for the Cure, North Alabama affiliate; National Cancer Institute	Poor

Abbreviations: NR = not reported; RCT = randomized controlled trial

Appendix H. Community-Based Studies

Table H-1. Community-based studies: study characteristics

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
Carlini et al., 2012 ¹	Tobacco cessation	Low-income (Medicaid and uninsured)	RCT (521)	Age, mean: 42.6 years Female: 64.1% Race White: 81.6% African American: 5.8 % Latino/Hispanic: 3.9% Native American/Pacific Islander: 3.3% Asian: 0.9% Other: 4.6% Insurance status Medicaid: 56.2% No Insurance: 43.8%	General community (Medicaid recipients enrolled in quitlines in Indiana and Washington between June and September 2009), Indiana and Washington	Interactive voice response (IVR) system to recycle smokers who used a quitline in the past back into quitline support for a new quit attempt	A: Control group (n=276) B: IVR intervention group (n=245)	Duration: 6 weeks Followup: up to 1 month after last attempt of reaching participants (10 weeks total)
Dunlop et al., 2016 ²	Cervical cancer screening	Low income	Before-After Georgia Title X and Medicare data (172,525)	Age: NR 18 to 44 eligible Female: 100% Race: NR	Georgia	CMS Georgia Planning for Healthy Babies (P4HB) Program. Expanded family planning services to uninsured women 18 to 44 at or below 200% Federal Poverty Line. Included a cervical cytology testing.	Pre-post: 2 years pre, 3 years post.	3 years post
Harrison et al., 2003 ³	Breast cancer screening	Older Women, African American, Rural/Urban	RCT (2,458)	Age: 78.9 Female: 100% Race Black: 22%	Michigan	A. The intervention consisted of a letter, brochure, and information sheet. Education, addressing barriers.	B. Matched-control (matched on zip code and race)	5 years

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
Kandula et al., 2015 ⁴	Health behaviors for CVD (PA, nutrition, tobacco cessation)	Race - South Asians	RCT (63)	Medically underserved South Asian immigrants at risk for ASCVD Age, year (SD) A: 50 (8) B: 50 (7) Male, % A: 35% B: 38%	Metropolitan Asian Family Services - not-for-profit community-based organization that provides social services in Illinois	A. South Asian Heart Lifestyle Intervention - integrates evidence-based behavior change strategies with South Asians' sociocultural context and beliefs (31)	B. Given preexisting print education materials about ASCVD, diet, exercise, and weight loss (32)	October 2012 to July 2013; 3 and 6 months
Kelaheer & Stellman, 2000 ⁵	Breast cancer screening	Older women 65 to 69, Medicare eligible	Retrospective cohort: National Health Interview Survey Data (4,291; 2,419 Medicare eligible, 1,872 noneligible)	Age: 65 to 69 Female 100% Race (Among Medicare Eligible): Black 53.4% , Non-Black 53.4% ; Hispanic 47.6%, Non-Hispanic 55%	NR NHIS data	Biennial mammography coverage with Medicare Part B. Change in 1991	Noneligible (aged 60 to 64), Pre-intervention	Compared 1990, 1993
Marino et al., 2016 ⁶	Breast, cervical, and colorectal cancer screening; Diabetes; Hypertension; Obesity; Smoking	Medicaid	RCT (10,643) A: Intervention: 4,049 B: Control: 6,594	Age: 39 (11.8) years Female: 55% Race: 60% white, 20% non-Hispanic other, 13% Hispanic, 6% unknown	Oregon community health clinics	Oregon Experiment: a randomized natural experiment of the effect of Medicaid coverage on screening rates	Not assigned to Medicaid	36 months
Miller & Sedivy, 2009 ⁷	Tobacco cessation	Low-income	Observational study (1,377) A: Intervention: 1,000 B: Comparison: 377 3-month followup: 1,192 6-month: 1,137 12-month: 929	*Note: significantly different by smoking behavior at baseline A: Intervention Age, mean: 48.3 years Female: 65.3% Indigenous: 1.1% B: Comparison Age, mean: 49.7 years Female: 62.1% Indigenous: 2.4%	National quitline in Australia	Standard multi-session quitline counseling, mailed vouchers for subsidized NRT	Standard multi-session quitline counseling	No more than 12 weeks of counseling sessions; followup at 3, 6, and 12 months

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
O'Brien et al., 2010 ⁸	Cervical cancer screening	Race- Hispanic women	RCT (120)	Hispanic women Age (SD) A. 32 (11) B. 31 (12), p=0.49	Community, Pennsylvania	A. Promotora-led cervical cancer intervention: two 3-hour workshops (60)	B. Usual care (60)	4 months; 6 months
Plescia et al., 2008 ⁹	Health behaviors for CVD (PA, nutrition, tobacco cessation)	African American	Quasi-experimental A: Intervention: 4,730 B: Comparison: 9,814	A: Intervention Age 18 to 34: 20.2% 35 to 44: 17.3% 45 to 54: 19.6% 55 to 64: 16.2% 65+: 26.0% Female: 63.4% B: Comparison Age 18 to 34: 33.1% 35 to 44: 20.9% 45 to 54: 19.0% 55 to 64: 11.8% 65+: 14.4% Female: 55.8%	Community (NW corridor of Charlotte, NC), including health center	Community coalition, lay health advisors, policy and community change	African-American respondents to BRFSS in North Carolina during study period	5 years; annual telephone surveys
Richards et al., 2011 ¹⁰	Colorectal cancer screening	Age, SES	Before-After/Cross-sectional N 2003: 826,163 2007: 1,252,313	NR	City-wide campaign New York	Multihealth marketing campaign targeting low SES areas and "ethnic radio stations." Patient navigation programs, improved referral processes, etc.	Pre-post/Cross-sectional	4 years
Sung et al., 1997 ¹¹	Cervical and breast cancer screening	Low-income, African-American women	RCT (321)	Low-income, inner-city African-American women Mean age (range): NR Age % (n) >35: 13.4 (43) 35 to 44: 45.2 (145) 45 to 59: 23.3 (75) 60 and older: 18.1 (58) Female: 100% African American: 100%	In-home Georgia	A. In-home culturally sensitive educational program with lay health workers. Consists of two educational sessions and a third review session. Materials included videotape and culturally appropriate printed materials (n=163)	B. Control (n=158) Interviewed at the end of the study, received educational materials on cancer screening after the intervention period (at followup)	Duration: 11 months Followup: 6 months

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
Sung et al., 1997 (continued) ¹¹	Cervical and breast cancer screening	(continued)	(continued)	(continued)	(continued)	(continued)	(continued)	(continued)
Van Der Wees et al., 2013 ¹²	Breast, cervical, colorectal cancer screening	SES	Before-After (345, 211)	NR	State-wide Massachusetts	Subsidized health insurance in MA (2006 Health Reform)	Pre-post/other NE states	10 years
Williams et al., 2016 ¹³	Health behaviors for CVD (PA, nutrition, tobacco cessation)	African American	Before-After (201)	Age, mean (SD): 51.9 years (12.8) Age, median (IQR): 54 years (17) Female: 73.6	Baptist churches Alabama	NHLBI-based curriculum tailored for delivery by CHWs to African Americans; six 2-hour education sessions on CVD risk reduction including handouts, individual goal setting	Baseline	3 months; followup within 1 week of study completion

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
Zhou et al., 2014 ¹⁴	Tobacco cessation	Asian American	Community change (14,540) Average Vietnamese men per year: 904 Average Cambodian men per year: 334	A: Intervention Vietnamese men Age 18 to 34: 28.3% 35 to 44: 26.6% 45 to 54: 19.6% 55 to 64: 12.7% 65+: 12.8% B: Control Vietnamese men California Age 18 to 34: 36.4% 35 to 44: 22.1% 45 to 54: 18.1% 55 to 64: 11.1% 65+: 12.3% C: Intervention Cambodian men Age 18 to 34: 39.9% 35 to 44: 32.1% 45 to 54: 16.1% 55 to 64: 4.6% 65+: 7.3% D: Control Cambodian men Massachusetts Age 18 to 34: 32.2% 35 to 44: 22.1% 45 to 54: 18.7% 55 to 64: 12.3% 65+: 14.8%	Community and systems changes California and Massachusetts	Cultural- and language-appropriate health communications via radio, cable TV, printed materials; community and systems change; education and promotion via trained lay health workers	State population (men)	Followup annually 2002 to 2006

Author, Year	Preventive Service	Disparity Population	Study Design (N)	Population; Age (mean; range); Gender; Race	Setting	Interventions/Study Objective	Comparison	Duration; Followup
Zhu et al., 2012 ¹⁵	Tobacco cessation	Asian American	RCT (2,277) A: Intervention: 1,124 B: Control 1,153	A: Intervention Age 18 to 24: 3.3% 25 to 44: 45.8% 45 to 64: 45.1% 65+: 5.8% Female: 10% Language Chinese: 31.9% Korean: 37.6% Vietnamese: 30.5% B: Control Age 18 to 24: 3.0% 25 to 44: 44.0% 45 to 64: 44.9% 65+: 8.1% Female: 10% Language Chinese: 32.1% Korean: 36.9% Vietnamese: 31.0%	Telephone quitline California	A. Toll-free Asian-language tobacco quitline promoted in CA, CO, HI, NY, TX, WA from January 2010 to July 2012, offering six telephone counseling sessions and self-help materials, plus free nicotine patches where available B. Self-help materials		Up to six calls over one month (pre-quit, 3, 7, 14, 30 days post quitting), evaluation 4 and 7 months postintake

Table H-2. Community-based studies: outcomes

Author, Year	Outcomes	Quality Rating	Applicability Rating
Carlini et al., 2012 ¹	Quitline re-enrollment rate A: 3.3% (9/276) B: 28.2% (69/245) OR 11.2 (95% CI 5.4 to 23.3), p<0.001	Poor 1. Randomization, allocation concealment, masking of outcome assessors not described, 2. ITT analysis unclear 3. Large proportion of attrition	Good
Dunlop et al., 2016 ²	Significantly more women screened during visit (p<0.001) in postintervention years.	NA	Good
Harrison et al., 2003 ³	Mammography rates during 14 month postintervention period, A vs. B Total sample: 5.2% vs. 8.1% OR 1.6, 95% CI 1.15 to 2.21, p≤0.01 Urban Black: 4.9% vs. 9.2%, OR 2.09, 95% CI 1.04 to 4.22, p≤0.05 Rural Non-Black: 6.7% vs. 9.2%, OR 1.44, 95% CI 0.76 to 2.52, NS Age 70 to 79: 6.5% vs. 10.6, OR 1.71, 95% CI 1.16 to 2.52, p≤0.01 Age 80+: 3.6% vs. 4.6%, OR 1.29, 95% CI 0.69 to 2.39, NS	Good	Good

Author, Year	Outcomes	Quality Rating	Applicability Rating
Kandula et al., 2015 ⁴	Mean (95% CI) Change in bout-corrected moderate-vigorous physical activity, min/week 3 months A. 15.5 (–13.06 to 44.07) B. 7.3 (–19.00 to 33.56) Adjusted mean difference: 8.2 (–29.23 to 45.68) 6 months A. 9.5 (–19.49 to 38.53) B. 4.4 (–23.08 to 31.83) Adjusted mean difference: 5.1 (–32.98 to 43.26) Change in percent kilocalories from saturated fat intake, % 3 months A. –0.24 (–1.15 to 0.68) B. 0.12 (–0.76 to 1.01) Adjusted mean difference: –0.36 (–1.60 to 0.88) 6 months A. 0.37 (–0.64 to 1.39) B. 0.58 (–0.42 to 1.59) Adjusted mean difference: –0.21 (–1.59 to 1.17) Change in energy intake, kcalories/day 3 months A. –182 (303.61 to –59.67) B. –52 (–170.92 to 66.60) Adjusted mean difference: –129 (–293.40 to 34.44) 6 months A. –173 (–290.33 to –55.75) B. –99 (–214.72 to 16.84) Adjusted mean difference: –74 (–223.03 to 74.84) Change in fruit and vegetable intake, servings/day 3 months A. 0.5 (–0.01 to 1.09) B. 0.1 (–0.45 to 0.62) Adjusted mean difference: 0.5 (–0.23 to 1.14) 6 months A. 0.04 (–.52 to 0.60) B. 0.5 (–0.07 to 1.03) Adjusted mean difference: –0.4 (–1.15 to 0.26)	Good	Fair 1, Only occurred in one community center, unclear whether it is applicable in other communities. 2. Seems resource heavy.

Author, Year	Outcomes	Quality Rating	Applicability Rating
Kelaheer & Stellman, 2000 ⁵	<p>Predictors of mammogram in last 2 years, by year 1993 vs. 1990 57.3% vs. 50.3%, OR 1.2, 95% CI 0.9 to 1.4, NS</p> <p>Predictors of mammogram in last 2 years, by Medicare-eligible status 51.9% vs. 54.0%, OR 0.8, 95% CI 0.7 to 1.0, p<0.05 (favors control)</p> <p>Mammogram in last 2 years, by year of interview 1990 vs. 1993: Medicare eligible: 47.7% vs. 63.3% Medicare ineligible: 53.3% vs. 60.8% no statistics provided.</p>	<p>Poor</p> <p>1. No statistical analysis of pre-post Medicare eligible population 2. Self-report data based on national survey</p>	<p>Good</p>
Marino et al., 2016 ⁶	<p>Change, Medicaid coverage vs. unselected</p> <p>BMI: 12.5% (95% CI 10.6 to 14.4) Blood pressure: 10.1% (95% CI 7.0 to 13.3) Smoking: 6.2% (95% CI 5.3 to 7.1) Pap test: 10.3% (95% CI 8.8 to 11.7) Mammography: 14.5% (95% CI 10.1 to 18.8) FOBT: -0.2% (95% CI -5.1 to 4.7) Colonoscopy: 2.7% (95% CI -1.7 to 7.1) Glucose: 4.8% (95% CI -3.0 to 12.7) HbA1c: 0.8% (95% CI -4.0 to 5.7)</p>	<p>Fair</p> <p>1. Unclear whether assessors were blinded. 2. Unclear whether attrition occurred</p>	<p>Fair</p> <p>1. Study population (demographics, inclusion/exclusion criteria) 2. Study setting (system)</p>

Author, Year	Outcomes	Quality Rating	Applicability Rating
Miller & Sedivy, 2009 ⁷	<p>Responder estimates</p> <p>Attempted to quit</p> <p>A: 83.8%</p> <p>B: 74.8%</p> <p>p<0.001</p> <p>Quit at 3 months</p> <p>A: 46.0%</p> <p>B: 29.5%</p> <p>p<0.001</p> <p>Quit at 6 months</p> <p>A: 37.1%</p> <p>B: 26.2%</p> <p>p<0.001</p> <p>Quit at 12 months</p> <p>A: 33.2%</p> <p>B: 28.0%</p> <p>Sustained abstinence from 3 to 6 months followup</p> <p>A: 20.7%</p> <p>B: 13.1%</p> <p>p<0.01</p> <p>Sustained abstinence, 3 to 12 months followup</p> <p>A: 2.7%</p> <p>B: 2.0%</p> <p>Self-reported NRT use</p> <p>A: 57.9%</p> <p>B: 22.3%</p> <p>p<0.05</p> <p>Mean days NRT use (SD)</p> <p>A: 38.8 days (26.0)</p> <p>B: 22.2 days (22.0)</p> <p>p<0.05</p> <p>Number of calls from quitline, mean (SD)</p> <p>A: 6.6 calls (3.7)</p> <p>B: 5.8 calls (3.9)</p> <p>p<0.001</p>	<p>Poor</p> <p>1. Groups not comparable at baseline, and participants allowed in outside of original purposeful sampling</p> <p>2. High attrition / loss to followup</p>	<p>Fair</p> <p>1. Study population (inclusion/ exclusion criteria, refusal rate, adherence, recruitment)</p>
O'Brien et al., 2010 ⁸	<p>Receipt of Pap smear, % (n)</p> <p>A. 65% (22)*</p> <p>B. 36% (13)*</p> <p>*A. n=34 at followup</p> <p>*B. n=36 at followup</p>	<p>Fair</p>	<p>Fair</p> <p>1. Difficult to understand the setting in which the intervention occurs. Not sure if it would work in all communities</p>

Author, Year	Outcomes	Quality Rating	Applicability Rating
Plescia et al., 2008 ⁹	<p>Does not meet any PA recommendation, 2001 A: 31.9% (28.3 to 35.7) B: 23.1% (19.3 to 27.5) p<0.001</p> <p>Does not meet any PA recommendation, 2005 A: 27.4% (24.1 to 30.9) B: 25.5% (23.4 to 27.8)</p> <p>Consumes 5+ veg/fruits daily, 2001 A: 23.1% (20.1 to 26.5) B: 21.7% (16.4 to 28.1)</p> <p>Consumes 5+ veg/fruits daily, 2005 A: 25.3% (22.2 to 28.7) B: 17.5% (15.7 to 19.4) p<0.001</p> <p>Currently smokes, 2001 A: 27.3% (24.0 to 30.8) B: 21.1% (17.6 to 25.1) p=0.02</p> <p>Currently smokes, 2005 A: 26.6% (23.3 to 30.2) B: 22.3% (20.2 to 24.7) p=0.04</p>	<p>Fair</p> <p>1. No real baseline, so hard to compare groups</p> <p>2. Unclear masking of outcome assessors or analysts</p> <p>3. Survey data, so unclear or N/A on attrition</p>	<p>Poor</p> <p>1. Study population (demographic characteristics)</p> <p>2. Study setting (health care system, centers, time, effort, system cost)</p> <p>3. Study providers (training, expertise or skill, ancillary providers)</p>
Richards et al., 2011 ¹⁰	<p>These figures show the elimination of racial/ethnic disparities by 2007 among non-Hispanic Whites, non-Hispanic Blacks, and Hispanics, and highlight persistently lower screening levels among Asians, despite a significant improvement over time, a 29-percentage-point increase. Disparities between the sexes were lessened over time as well: while men had a higher prevalence of screening in 2003, women had a greater percentage-point increase than men (22.3% vs. 16.7%), effectively eliminating the sex disparity. Similarly, disparities between adults with private, Medicaid, and Medicare insurance also disappeared over time, yet those with no insurance continued to lag behind in 2007. In addition, disparities between income levels and education levels persisted. Adults with high household incomes—600% of the federal poverty level or more—continued to have a much higher prevalence of timely colonoscopy screening than all other income groups. Those with at least some college education were more likely to be screened throughout 2003 to 2007 than those with a high school degree or less. In 2003, those aged 50 to 64 were less likely to have been screened than those 65 and older, and this difference by age group persisted into 2007.</p>	<p>NA</p>	<p>Fair</p> <p>1. Population: NY urban population, not applicable to other locations</p> <p>2. Intervention: city-wide intervention</p>

Author, Year	Outcomes	Quality Rating	Applicability Rating
Sung et al., 1997 ¹¹	<p>Obtained cancer screening exam on recommended schedule, whole sample size</p> <p>Pap smear, % (n)</p> <p>Baseline</p> <p>A: 50.3 (81)</p> <p>B: 51.9 (82)</p> <p>% Difference between groups (95% CI): -1.6 (-12.5 to 9.3)</p> <p>Postintervention</p> <p>A: 58.7 (91)</p> <p>B: 62.1 (95)</p> <p>% Difference between groups (95% CI):</p> <p>-3.4 (-14.1 to 7.3)</p> <p>Change from baseline to postintervention %, (95% CI)</p> <p>A: 8.4 (-2.6 to 19.4)</p> <p>B: 10.2 (-2.6 to 19.0)</p> <p>% Difference between groups (95% CI): -1.8 (-8.0 to 4.4)</p> <p>Mammography (age ≥35) [A. N=141; B. N=137], % (n)</p> <p>Baseline</p> <p>A: 35.5 (50)</p> <p>B: 34.3 (47)</p> <p>% Difference between groups (95% CI): -1.2 (-9.2 to 11.6)</p> <p>Intervention</p> <p>A: 50.4 (71)</p> <p>B: 39.4 (54)</p> <p>% Difference between groups (95% CI):</p> <p>11.0 (0.1 to 21.9)</p> <p>Change from baseline to postintervention %, (95% CI)</p> <p>A: 14.9 (3.5 to 26.3)</p> <p>B: 5.1 (-6.3 to 16.5)</p> <p>% Difference between groups (95% CI): 9.8 (2.9 to 16.7)</p>	<p>Fair</p> <p>1. Could not recruit a random sample but did randomize to intervention/control.</p> <p>2. High loss to followup but did do two different analyses to try to account for this.</p>	<p>Fair</p> <p>1. Attempted to enroll a random sample from community health centers but were unsuccessful in contacting participants and had high refusal. Instead used a CBPR approach and went door-to-door in public housing, churches, businesses, and referrals from women's self-help organization.</p> <p>2. Did not occur within a health system but could be easily adopted with home-based educational visits.</p>

Author, Year	Outcomes	Quality Rating	Applicability Rating
Sung et al., 1997 (continued) ¹¹	<p>Obtained cancer screening exam on recommended schedule, only those who responded to postintervention survey</p> <p>Pap smear, % (n) [A. N=93; B. N=102]</p> <p>Baseline</p> <p>A: 52.7 (49)</p> <p>B: 50.0 (51)</p> <p>% Difference between groups (95% CI): 2.7 (-11.3 to 16.7)</p> <p>Postintervention</p> <p>A: 63.4 (59)</p> <p>B: 62.7 (64)</p> <p>% Difference between groups (95% CI):</p> <p>0.7 (-12.9 to 16.7)</p> <p>Change from baseline to postintervention %, (95% CI)</p> <p>A: 10.7 (-3.4 to 24.8)</p> <p>B: 12.7 (-0.8 to 26.2)</p> <p>% Difference between groups (95% CI): -2.0 (-11.0 to 7.0)</p> <p>Mammography (age ≥35) [A. N=80; B. N=94], % (n)</p> <p>Baseline</p> <p>A: 32.5 (26)</p> <p>B: 34.0 (32)</p> <p>% Difference between groups (95% CI): -1.5 (-12.6 to 15.6)</p> <p>Postintervention</p> <p>A: 58.7 (47)</p> <p>B: 47.9 (45)</p> <p>% Difference between groups (95% CI):</p> <p>10.9 (-3.4 to 25.1)</p> <p>Change from baseline to postintervention %, (95% CI)</p> <p>A: 26.3 (11.3 to 41.1)</p> <p>B: 13.9 (-2.0 to 25.8)</p> <p>% Difference between groups (95% CI): 12.4 (1.0 to 24.3)</p>	(continued)	(continued)
Van Der Wees et al., 2013 ¹²	<p>Breast: DiD -0.1, p=0.64</p> <p>Cervical: DiD 2.3%, p=0.02</p> <p>CRC: DiD 5.5%, p<0.01</p>	NA	<p>Fair</p> <p>1. Intervention depends on state policy</p>

Author, Year	Outcomes	Quality Rating	Applicability Rating
Williams et al., 2016 ¹³	<p>A. Postintervention B. Baseline Hypertensive BP A: 34.8% B: 45.8% p<0.005 Weight, mean (SD) A: 205.2 lbs. (48.3) B: 205.9 lbs. (49.2) *Note, 20% lost 5+ lbs.</p> <p>QOL, physical (100 high) A: 47.4 (7.1) B: 45.1 (10.1) p<0.001 QOL, mental A: 52.7 (8.7) B: 52.5 (9.3)</p>	NA	<p>Poor</p> <ol style="list-style-type: none"> 1. Study population (absolute risk, demographics, inclusion/exclusion criteria) 2. Study setting (system, centers, time, effort) 3. Study providers (training, ancillary providers)
Zhou et al., 2014 ¹⁴	<p>A: Intervention Vietnamese B: Control Vietnamese C: Intervention Cambodia D: Control Cambodia</p> <p>Annual quit ratio, age-standardized 5-year trend A: 9.6%, p<0.001 B: 0.1%, p=0.609 C: 19.0%, p=0.002 D: -0.7%, p=0.386 *Note: increases in intervention groups significantly greater than control groups, p<0.01</p> <p>Annual smoking prevalence, age-standardized 5 year trend A: -6.4%, p=0.005 B: -1.8%, p=0.364 C: 13.9%, p=0.001 D: -1.6%, p=0.300 *Note: declines in intervention groups significantly greater than control groups, p<0.05</p> <p>Relative disparity decreased (lower smoking prevalence) among A with < high school vs. B and among C with > high school than D</p> <p>Relative disparity decreased (higher quit ratio) among A with < high school vs. B and among C with > high school than D</p>	<p>Poor</p> <ol style="list-style-type: none"> 1. Groups not comparable at baseline, and no comparison of comparable racial/ethnic group in intervention and control groups 2. Low response rates 3. Self-report data 4. Survey respondents, so likely not same population from start to finish 5. Unclear whether outcome assessors were masked 	<p>Fair</p> <ol style="list-style-type: none"> 1. Study population (inclusion/exclusion, demographics, recruitment) 2. Study setting (system) 3. Providers (expertise or skill)

Author, Year	Outcomes	Quality Rating	Applicability Rating
Zhu et al., 2012 ¹⁵	<p>Six-month prolonged abstinence overall</p> <p>A: 16.4%</p> <p>B: 8.0%</p> <p>p<0.001</p> <p>OR 2.26, 95% CI 1.73 to 2.94</p> <p>Chinese</p> <p>A: 14.8%</p> <p>B: 6.0%</p> <p>p<0.001</p> <p>Korean</p> <p>A: 14.9%</p> <p>B: 5.2%</p> <p>p<0.001</p> <p>Vietnamese</p> <p>A: 19.8%</p> <p>B: 13.5%</p> <p>p=0.023</p>	Good	Good

Abbreviations: ASCVD = atherosclerotic cardiovascular disease; BMI = body mass index; BP = blood pressure; BRFSS = Behavioral Risk Factor Surveillance System; CI = confidence interval; CRC = colorectal cancer; CVD = cardiovascular disease; DiD = difference-in-difference; FOBT = fecal occult blood test; HbA1c = hemoglobin A1c; IQR = interquartile range; ITT = intention-to-treat; NA = not applicable; NHLBI = National Heart Lung and Blood Institute; NR = not reported; NRT = nicotine replacement therapy; NS = not significant; OR = odds ratio; PA = physical activity; Pap = Papanicolaou test; QOL = quality of life; RCT = randomized control trial; SD = standard deviation; SES = socioeconomic status

Note: The studies in the above table are a sample of community-based interventions and do not reflect a comprehensive list of all community-based studies found in our search.

Appendix H References

1. Carlini BH, McDaniel AM, Weaver MT, et al. Reaching out, inviting back: using Interactive voice response (IVR) technology to recycle relapsed smokers back to Quitline treatment--a randomized controlled trial. *BMC Public Health*. 2012 Jul 06;12:507. doi: 10.1186/1471-2458-12-507. PMID: 22768793.
2. Dunlop AL, Adams EK, Hawley J, et al. Georgia's Medicaid family planning waiver: working together with Title X to enhance access to and use of contraceptive and preventive health services. *Womens Health Issues*. 2016 Nov - Dec;26(6):602-11. doi: 10.1016/j.whi.2016.07.006. PMID: 27599676.
3. Harrison RV, Janz NK, Wolfe RA, et al. Personalized targeted mailing increases mammography among long-term noncompliant medicare beneficiaries: a randomized trial. *Med Care*. 2003 Mar;41(3):375-85. PMID: 12618641.
4. Kandula NR, Dave S, De Chavez PJ, et al. Translating a heart disease lifestyle intervention into the community: the South Asian Heart Lifestyle Intervention (SAHELI) study; a randomized control trial. *BMC Public Health*. 2015 Oct 16;15:1064. doi: 10.1186/s12889-015-2401-2. PMID: 26475629.
5. Kelaher M, Stellman JM. The impact of medicare funding on the use of mammography among older women: implications for improving access to screening. *Prev Med*. 2000 Dec;31(6):658-64. PMID: 11133332.
6. Marino M, Bailey SR, Gold R, et al. Receipt of preventive services after Oregon's randomized Medicaid experiment. *Am J Prev Med*. 2016 Feb;50(2):161-70. doi: 10.1016/j.amepre.2015.07.032. PMID: 26497264.
7. Miller CL, Sedivy V. Using a quitline plus low-cost nicotine replacement therapy to help disadvantaged smokers to quit. *Tob Control*. 2009 Apr;18(2):144-9. doi: 10.1136/tc.2008.026492. PMID: 19131454.
8. O'Brien MJ, Halbert CH, Bixby R, et al. Community health worker intervention to decrease cervical cancer disparities in Hispanic women. *J Gen Intern Med*. 2010 Nov;25(11):1186-92. doi: 10.1007/s11606-010-1434-6. PMID: 20607434.
9. Plescia M, Herrick H, Chavis L. Improving health behaviors in an African American community: the Charlotte racial and ethnic approaches to community health project. *Am J Public Health*. 2008 Sep;98(9):1678-84. doi: 10.2105/AJPH.2007.125062. PMID: 18633087.
10. Richards CA, Kerker BD, Thorpe L, et al. Increased screening colonoscopy rates and reduced racial disparities in the New York Citywide campaign: an urban model. *Am J Gastroenterol*. 2011 Nov;106(11):1880-6. doi: 10.1038/ajg.2011.191. PMID: 22056567.
11. Sung JF, Blumenthal DS, Coates RJ, et al. Effect of a cancer screening intervention conducted by lay health workers among inner-city women. *Am J Prev Med*. 1997 Jan-Feb;13(1):51-7. PMID: 9037342.
12. Van Der Wees PJ, Zaslavsky AM, Ayanian JZ. Improvements in health status after Massachusetts health care reform. *Milbank Q*. 2013 Dec;91(4):663-89. doi: 10.1111/1468-0009.12029. PMID: 24320165.
13. Williams LB, Franklin B, Evans MB, et al. Turn the beat around: A stroke prevention program for African-American churches. *Public Health Nurs*. 2016 Jan-Feb;33(1):11-20. doi: 10.1111/phn.12234. PMID: 26404001.
14. Zhou H, Tsoh JY, Grigg-Saito D, et al. Decreased smoking disparities among Vietnamese and Cambodian communities - Racial and Ethnic Approaches to Community Health (REACH) project, 2002-2006. *MMWR (Suppl)*. 2014 Apr 18;63(1):37-45. PMID: 24743665.

15. Zhu SH, Cummins SE, Wong S, et al. The effects of a multilingual telephone quitline for Asian smokers: a randomized controlled trial. *J Natl Cancer Inst.* 2012 Feb 22;104(4):299-310. doi: 10.1093/jnci/djr530. PMID: 22282542.

Appendix I. Funnel Plot of Colorectal Cancer Screening Studies in Meta-Analysis

Figure I-1. Funnel plot of 22 colorectal cancer screening studies

Abbreviations: RR = risk ratio; SE = standard error.

Appendix J. Strength of Evidence

Table J-1. Strength of evidence for Key Question 2: Effects of impediments and barriers of populations that contribute to disparities in preventive services

Preventive Service	Barrier	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Low income	1 RCT (240)	Medium	NA	Direct	Imprecise	Undetected	No effect among safety net clinics	Low; low
	Insurance status and type	2 RCTs (1,436)	Medium	Inconsistent	Direct	Imprecise	Undetected	Less screening with Medicare compared with county health plans in 1 RCT; no effect in another RCT	Low; low
	Screening attitudes	1 RCT ^a (257)	High	NA	Indirect	Imprecise	Undetected	Higher scores on attitudes scale associated with higher screening rates among African Americans	Insufficient; insufficient
	Language	1 RCT ^b (1,070)	Medium	NA	Direct	Imprecise	Undetected	No effect on screening with Spanish compared with English speakers	Low; low
	Health literacy	1 RCT (264)	Medium	NA	Direct	Imprecise	Undetected	No effect on screening among disadvantaged	Low; low
Breast cancer screening	Country of origin	1 RCT (1,333); 1 before-after study (437)	Medium	NA	Direct	Imprecise	Undetected	More screening among Puerto Rican vs. other non-U.S. born Latinas in 1 RCT, and African-American women born outside the U.S. in a before-after study	Insufficient; insufficient
	Older age at migration	1 RCT (300)	Medium	NA	Direct	Imprecise	Undetected	Less screening for older low-income Chinese immigrants	Low; low
	Low income	2 RCTs (491)	Medium	Inconsistent	Direct	Imprecise	Undetected	No effect in 2 RCTs	Low; low

Preventive Service	Barrier	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Insurance status and type	2 before-after studies (666); 5 RCTs (3,871); 1 retrospective chart review (8,347)	Medium	Inconsistent	Direct	Precise	Undetected	More screening with Medicare compared with no coverage in 1 RCT and with insurance in 2 studies; less with insurance in 1 before-after study; no effect in 3 studies; mixed results in chart review study (lower rates for Black, not Hispanic)	Low; low
	Rural access	1 cohort study (166)	Medium	NA	Direct	Precise	Undetected	Less screening with increasing distance from radiologist office and with living in economically-deprived areas	Low; low
	No provider	1 before-after study (437); 1 RCT (300)	Medium	Inconsistent	Direct	Precise	Undetected	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
	Language	2 RCTs (1,617); 1 before-after study (229)	Medium	NA	Direct	Imprecise	Undetected	No effect among low-income Chinese-American immigrants, Spanish speaking or limited-English speaking Hispanic women	Low; low
	Individual access-related barriers	1 RCT (851)	Medium	NA	Direct	Imprecise	Undetected	Some barriers decrease screening among rural, low-income women (not knowing where to get a mammogram, cost), while others had no effect (time, insurance status, difficulty getting to the facility)	Low; low

Preventive Service	Barrier	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Cervical cancer screening	Country of origin	2 RCTs (1,678)	Medium	Inconsistent	Direct	Imprecise	Undetected	More screening among Puerto Rican vs. other non U.S.-born Latinas in 1 RCT; no effect in RCT of low-income rural women	Insufficient; insufficient
	Older age	1 RCT (345)	Medium	NA	Direct	Precise	Undetected	Less screening for older low-income rural	Low; low
	Low income	1 RCT (345)	Medium	NA	Direct	Imprecise	Undetected	No effect among low-income rural patients	Low; low
	Insurance status and type	3 RCTs (2,246); 1 before-after study (782)	Medium	Inconsistent	Direct	Precise	Undetected	Less screening with Medicare compared with county health plans in 1 RCT and with any insurance in 2 studies; no effect in 1 RCT	Low; low
	Language	1 RCT ^b (967)	Medium	NA	Direct	Imprecise	Undetected	No effect on screening among Spanish speaking women	Low; low
	No provider	1 RCT (705); 1 before-after study (732)	Medium	Inconsistent	Direct	Imprecise	Undetected	Less screening with no regular provider in 1 study; no effect in 1 RCT	Low; low
Smoking cessation	Attitudes	1 RCT ^c (314)	Medium	NA	Indirect	Imprecise	Undetected	Motivations for smoking differed between African-American and White smokers, but did not explain lower quit rates for African Americans	Insufficient; insufficient
	No provider	1 before-after study (879)	Medium	NA	Indirect	Imprecise	Undetected	A regular source of healthcare was associated with planning to quit, ever receiving physician advice to quit, and smoking ≤ 10 cigarettes/day	Low; low

Preventive Service	Barrier	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Language	1 before-after moderation analysis (615)	Medium	NA	Indirect	Imprecise	Undetected	Latinos preferring Spanish are more likely to quit vs. those preferring English	Insufficient; insufficient

Abbreviations: NA = not applicable; RCT = randomized controlled trial.

^a Secondary data analysis of participants who did not undergo screening.

^b Secondary analysis of RCT data.

^c Mediation analysis of baseline data.

Table J-2. Strength of evidence for Key Question 3: Effectiveness of approaches between providers and patients to reduce disparities in preventive services

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	2 RCTs (486)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates in 2 RCTs of Hispanic, African-American, and low-income patients	Low; low
	Printed materials and telephone counseling	1 RCT (1,280)	Low	NA	Direct	Precise	Undetected	Increased screening rates among first-degree relatives of colorectal cancer cases for Latinos, Asians, and Whites, but not African Americans	Low; low
	Mailed materials	1 RCT (1,430)	High	NA	Direct	Imprecise	Undetected	Higher screening rates in Whites than African Americans	Insufficient; insufficient
	Educational video and physician reminder	1 RCT (65)	Medium	NA	Direct	Imprecise	Undetected	Higher screening rates among Latinos	Insufficient; insufficient
	Decision aid with or without personalized risk assessment	1 RCT (825)	Medium	NA	Direct	Imprecise	Undetected	Increased screening completion rates with decision aid among low-income patients	Insufficient; insufficient
Breast cancer screening	Reminders with lay health workers	1 RCT ^a (2,357); 1 non-randomized trial (1,693)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates among low-income women in 2 trials	Moderate; moderate
Cervical cancer screening	Reminders with lay health workers	1 nonrandomized trial (1,693)	Medium	NA	Direct	Precise	Undetected	Increased screening rates among low-income women	Low; low

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Education video and <i>promotora</i>	1 RCT (443)	Medium	NA	Direct	Imprecise	Undetected	Increased screening rates among rural Latinas	Low; low
	Education with navigation	1 cohort (134)	High	NA	Direct	Imprecise	Undetected	Increased screening rates among low-income Chinese-American women	Insufficient; insufficient
Tobacco smoking cessation	Message from child's clinician, interview, telephone counseling	1 RCT (303)	Medium	NA	Direct	Imprecise	Undetected	Higher quit rates at 3 and 12 months among low-income women	Low; low
Obesity Screening and Management	Tailored weight loss intervention from primary care physicians	1 RCT (137)	Medium	NA	Direct	Imprecise	Undetected	Improved weight loss in low-income African-American women at 9 months, but not at 12 or 18 months	Insufficient; insufficient

Abbreviations: NA = not applicable; RCT = randomized controlled trial.

Table J-3. Strength of evidence for Key Question 4: Effectiveness of health system information technologies to improve preventive services in settings that serve populations adversely affected by disparities

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Electronic decision aid with patient-ordered tests and followup messages	1 RCT (450)	Medium	NA	Direct	Imprecise	Undetected	Increased screening rates in low-income patients	Low; low
	Web-based electronic decision aid before healthcare visit	1 RCT (264)	Medium	NA	Direct	Imprecise	Undetected	No effect on screening rates in socioeconomically disadvantaged patients; increased patient readiness for screening	Insufficient; insufficient
	EHR-identified mailings and telephone calls	1 RCT (240)	Medium	NA	Direct	Imprecise	Undetected	Increased screening rates in low-income patient	Insufficient; insufficient
	Text messages added to usual telephone calls and mailings	1 RCT (808)	Low	NA	Direct	Imprecise	Undetected	No differences among Alaska Native and American Indian patients	Low; low
Breast cancer screening	EHR-identified mailings and telephone calls	1 RCT (191)	Medium	NA	Direct	Imprecise	Undetected	No effect among low-income patients	Insufficient; insufficient
	EHR-triggered reminder letters	1 RCT (1,717)	High	NA	Direct	Imprecise	Undetected	No effect among low-income patients	Insufficient; insufficient

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Interactive computer program and patient navigation	1 RCT (179)	Medium	NA	Direct	Imprecise	Undetected	Increased mammography adherence and readiness among low-income African-American women	Insufficient; insufficient
Cervical cancer screening	Electronic education modules	1 RCT (943)	Medium	NA	Direct	Imprecise	Undetected	No effect among low-income Latinas	Low; low
Smoking cessation	Counseling by telemedicine	1 RCT (566)	Medium	NA	Direct	Imprecise	Undetected	No difference in quit rates among low-income rural patients	Low; low
	EHR-identified smokers followed by counseling and NRT	1 RCT (707)	Medium	NA	Direct	Imprecise	Undetected	Increased quit rates among low socioeconomic status patients	Low; low
Obesity screening and management	Behavioral change counseling with web- or telephone-based patient self-monitoring	1 RCT (365)	Medium	NA	Direct	Imprecise	Undetected	Decreased BMI among patients of ethnic and racial minorities	Low; low

Abbreviations: BMI = body mass index; EHR = electronic health record; KQ = Key Question; NA = not applicable; NRT = nicotine replacement therapy; RCT = randomized controlled trial.

Table J-4. Strength of evidence for Key Question 5: Effectiveness of health system Interventions to reduce disparities in preventive services

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Colorectal cancer screening	Patient navigation	20 RCTs (30,736); 3 nonrandomized trials (1,392); 2 before-after studies (4,882)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates in all but 4 studies	High; high
	Telephone calls, prompts, and other outreach	10 RCTs (61,155); 2 nonrandomized trial (1,080); 2 before-after studies (918,667); 1 post intervention time series (4,423,734)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates for multiple types of outreach among several patient populations; no effect in 2 studies	High; high
	Educational videos	4 RCTs (1,823)	Medium	Inconsistent	Direct	Imprecise	Undetected	Increased screening for low-income patients in 2 RCTs; no effect in 2 others	Low; low
	Screening checklist	1 RCT (1,196)	Medium	NA	Direct	Precise	Undetected	Increased screening rates in low-income patients	Low; low
	Provider training	2 before-after studies (4,092)	Medium	Consistent	Indirect	Precise	Undetected	Increased colonoscopy rates and documentation; no increase in FOBT	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Medium	NA	Indirect	Precise	Undetected	Increased screening rates among underserved patients	Low; low

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
Breast cancer screening	Patient navigation	7 RCTs (8,622); 1 before-after study (91); 1 post-intervention time series (1,664)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates in all studies except 1 RCT	Moderate; moderate
	Telephone calls, prompts, and other outreach	5 RCTs (2,238)	Medium	Inconsistent	Direct	Imprecise	Undetected	Increased screening rate in 1 RCT; no increase others	Low; low
	Patient education	2 RCTs (341)	High	Consistent	Direct	Imprecise	Undetected	Increased screening rates in Chinese and Korean-American women	Low; low
	Lay health workers	4 RCTs (2,573)	Medium	Consistent	Direct	Precise	Undetected	Increased screening rates in 3 RCTs of Hispanic and African-American women; no increase in another RCT of Hispanic women	Moderate; moderate
	Screening checklist	1 RCT (1,196)	Medium	NA	Direct	Precise	Undetected	Increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Medium	NA	Indirect	Precise	Undetected	Increased screening rates among underserved patients	Low; low
Cervical cancer screening	Patient navigation	3 RCTs (2,378); 1 nonrandomized trial (1,763)	Medium	Consistent	Direct	Precise	Undetected	Increased screening and diagnostic resolution	Moderate; moderate

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Telephone calls, prompts, and other outreach	2 RCTs (1,784)	Medium	NA	Direct	Imprecise	Undetected	Increased screening and colposcopy followup	Low; low
	Lay health workers	5 RCTs (3,641)	Medium	Inconsistent	Direct	Imprecise	Undetected	Increased screening rates among Hispanic women in 1 RCT; no increases in others	Low; low
	Screening checklist	1 RCT (1,196)	Medium	NA	Direct	Imprecise	Undetected	No increased screening rates in low-income patients	Low; low
	Practice changes involving community engagement	1 before-after study (97,433)	Medium	NA	Indirect	Precise	Undetected	Increased screening rates among underserved patients	Low; low
Lung cancer screening	Patient navigation	1 RCT (1,200)	High	NA	Direct	Imprecise	Undetected	Increased screening rates among low-income smokers	Insufficient; insufficient
Smoking cessation	Patient navigation	2 RCTs (960)	Medium	Inconsistent	Direct	Imprecise	Undetected	Higher quit rates in 1 RCT, but not another	Insufficient; insufficient
	Nicotine replacement	2 RCTs (5,705)	High	Consistent	Direct	Imprecise	Undetected	Higher quit rates with counseling and nicotine replacement	Insufficient; insufficient
	Education and counseling	2 RCTs (6,219)	Medium	Inconsistent	Direct	Imprecise	Undetected	Higher short-term quit rates, but not long-term rates in 1 RCT; no differences in another	Insufficient; insufficient
High blood pressure screening	Education and counseling	1 RCT (1,443)	High	NA	Indirect	Imprecise	Undetected	No difference in rates of high blood pressure among underserved women	Insufficient; insufficient
Obesity screening; management	Education and counseling	4 RCTs (1,293); 1 cohort study (69); 1 before-after study (59)	High	NA	Indirect	Imprecise	Undetected	Lower BMI in 3 studies; no differences in 3 others	Insufficient; insufficient

Preventive Service	Intervention	Number of Studies; Study Design; Participants (n)	Study Limitations	Consistency	Directness	Precision	Reporting Bias	Overall Effect	Strength of Evidence; Applicability
	Case management and outreach	1 RCT (207)	Low	NA	Direct	Imprecise	Undetected	No differences in BMI among low-income Hispanic adults	Insufficient; insufficient

Abbreviations: BMI = body mass index; EHR = electronic health record; NA = not applicable; RCT = randomized controlled trial