Evidence-based Practice Center Systematic Review Protocol

Project Title: ***Healthcare Delivery of Clinical Preventive Services for People with Disabilities***

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(Amendment Details – see Section VII)

I. Background and Objectives for the Systematic Review

Background

People with disabilities[a] are a substantial portion of the population. Data from the U.S. Census Bureau indicate that 30.3 percent of the adult civilian population of the United States (72.7 million people) had some form of disability in 2014, and 20.0 percent (47.9 million people) had a severe disability.[1] The prevalence of specific measures of disability among adults in the United States was 11.7 percent for seeing/hearing/speaking; 16.2 percent for walking/using stairs; 12.4 percent for various selected physical tasks (e.g., lifting, standing, pushing/pulling); 7.4 percent for limitation in activities of daily living (ADL); 11.5 percent for limitation in instrumental activities of daily living (IADL) and 12.5 percent for mental disability (including learning disability, intellectual disability and developmental disability, as well as dementia and other mental/emotional conditions).[1] Furthermore, 10.2 percent of the adult population had a disability in two of three general domains (communicative, physical, and mental) and 3.8 percent had a disability in all three domains.[1] People with disabilities are more likely than those without disabilities to be unemployed, have lower earnings, live in poverty, have lower levels of educational attainment, and be without health insurance.[1-3] Data from the 2020 Behavioral Risk Factor Surveillance System (BRFSS) indicates people with disabilities are also more likely to have depression (42% vs. 12%), diabetes (16% vs. 7%), obesity (40% vs. 29%), heart disease (10% vs. 4%), and to smoke (24% vs. 12%).[3]

Although it has long been recognized that people with disabilities have at least the same need for health maintenance and preventive services as the general population,[4-7] long-standing disparities in the receipt of various clinical preventive services persist among people with disabilities. Cancer screening is the most commonly studied general category of clinical preventive services in people with disabilities, especially screening for breast, cervical, and colorectal cancers.[8-11] Studies have been mostly consistent in finding that people with various disabilities are less likely to receive indicated screening for breast and cervical cancer.[12-16] For example, both the 2020 BRFSS and the 2021 National Health Interview Survey (NHIS) found women with any disability less likely to have received a mammogram in the past 2 years compared with women with no disability (BRFSS: 73.5% vs. 80.4%, respectively; NHIS: 65.3% vs. 77.9%, respectively) and less likely to be up-to-date on cervical cancer screening (BRFSS: 77.9% vs. 84.2%, respectively; NHIS: 62.4% vs. 74.5%, respectively).[3,17] Studies on disparities in colorectal cancer screening have been mixed; some finding people with disabilities to be slightly more likely to be up-to-date compared with people without a disability,[3,17] and others finding people with disabilities less likely to be up-to-date.[18,19] Although less well studied than the afore-mentioned three cancer screenings,

other clinical preventive services for which evidence generally shows a disparity in care among people with disabilities include: screening for hypercholesterolemia, body mass index, hypertension,

[a] We recognize that individuals or groups with different disabilities have preferences about the terms that are used to refer to them. This may include choices to be referred to in person-first language verses identity-first language, or vice versa. We will update document text as language preferences are provided. Resources: https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/disability; https://www.apa.org/about/apa/equity-diversity-inclusion/language-guidelines (APA, 2020).

tobacco/nicotine use, alcohol misuse, opioid abuse, and risk for sexually transmitted infections; nutrition and exercise counselling; and receipt of various vaccinations.[11,20-27]

Various barriers to the receipt of clinical preventive services for people with disabilities have been identified, including: physical environmental barriers; attitudes, behaviors, and/or lack of knowledge on the part of healthcare providers; communication failures between healthcare professionals and patients; transportation barriers; and financial barriers.[8,9,28] While many of these barriers may be common to different types of disability or impairment (e.g., mobility, cognitive/developmental, visual, hearing), studies have assessed barriers related to particular types of disability and/or particular types of preventive service.[10,29-36] In addition, studies have found disparities in the receipt of preventive services to vary according to type and severity of disability.[21,37,38] This suggests that the receipt of different clinical preventive services by people with different types or severity of disability may be influenced differentially by particular barriers – a view that is consistent with the integrative model of human functioning and disability represented by the increasingly used International Classification of Functioning, Disability and Health (ICF)[b] of the World Health Organization (WHO).[39,40]

A challenge for policymakers and healthcare organizations is how to best address these disparities to facilitate uptake of recommended clinical preventive services among people with disabilities. The challenge arises from and is complicated by many factors, including: the various definitions and ways of measuring disability;[41-45] the diverse nature of different types of disability (e.g., mobility, sensory, cognitive/developmental), with each presenting different types of potential challenges for the receipt of preventive services; the variety of different preventive services, each with different functional requirements and potential barriers for participation; and the complex interactions of individuals' functional abilities with various environmental factors (physical, social, attitudinal).[39]

Purpose of the Review

The purpose of this systematic review is: (1) to document and summarize identified primary barriers and facilitators to the receipt of clinical preventive services among people with disabilities; and (2) to identify and synthesize the literature on the effectiveness of interventions to improve the receipt of clinical preventive services among people with disabilities. The review is intended for the target audiences of policymakers, healthcare organizations, advocates for people with disabilities, and researchers, to help guide and inform efforts to address disparities in the receipt of clinical preventive services among people with disabilities. Agency for Healthcare Research and Quality (AHRQ) will be supporting a follow-on stakeholder meeting to discuss the findings of this review and develop recommendations for future research. AHRQ will be working collaboratively with other Federal agencies, particularly in partnership with the Federal government's primary disability research organization, the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR).

[b] The ICF distinguishes body function from participation in life situations and views disability not as intrinsic to an individual, but as an outcome of the interaction between an individual's health conditions and environmental factors. Accordingly, a person would have a disability with regard to a particular preventive service if the interaction of their functional ability and environmental factors restricted their participation in that service. Environmental factors may be physical (e.g., accessibility of facilities), social (e.g., communication, health system policies or procedures) or attitudinal (e.g., healthcare provider knowledge or awareness). The ICF model also includes personal factors that can affect participation (e.g., knowledge and self-efficacy).

II. Review Questions

The Key Questions for this systematic review are based on the initial questions provided in the scope of work that accompanied the Request for Task Order. The Key Questions were reviewed, reorganized, and refined by the project team, with input from the AHRQ Task Order Officer (TOO), Key Informants (KIs), and the Technical Expert Panel (TEP). The review will address one descriptive Key Question (Key Question 1) related to barriers and facilitators, and three Key Questions (Key Questions 2, 3, and 4) related to evidence on the effectiveness of interventions to improve the receipt of clinical preventive services among people with disabilities.

Key Questions for the Systematic Review

Key Question 1. What are the primary barriers and facilitators[a] to the receipt of clinical preventive services among people with disabilities?

a. How do these barriers/facilitators vary according to preventive service?
b. How do these barriers/facilitators vary according to type and/or severity of disability?
c. How do these barriers/facilitators vary according to characteristics such as: gender, race/ethnicity, economic status, LGBTQ+ status, or geographic location?

Key Question 2. What is the effectiveness of interventions to improve the receipt of clinical preventive services among people with disabilities?

a. How does the effectiveness vary according to preventive service?
b. How does the effectiveness vary according to type and/or severity of disability?
c. How does the effectiveness vary according to characteristics such as: gender, race/ethnicity, economic status, LGBTQ+ status, or geographic location?

Key Question 3. What are the characteristics and/or components of interventions that contribute to their effectiveness (or lack of effectiveness) in mitigating barriers to the receipt of clinical preventive services among people with disabilities?

a. How does the effectiveness vary according to preventive service?
b. How does the effectiveness vary according to type and/or severity of disability?
c. How does the effectiveness vary according to characteristics such as: gender, race/ethnicity, economic status, LGBTQ+ status, or geographic location?

Key Question 4. What are the harms of intervention programs to mitigate barriers to the receipt of clinical preventive services among people with disabilities?

a. How do the harms vary according to preventive service?
b. How do the harms vary according to type and/or severity of disability?
c. How do the harms vary according to characteristics such as: gender, race/ethnicity, economic status, LGBTQ+ status, or geographic location?

[a] Categories of barriers and facilitators may include but are not limited to:

- Environment-level (e.g., transportation; need/availability of guardian or caregiver)
- Person-level (e.g., fear; discomfort; functional ability; self-efficacy)
- Provider-level (e.g., disability knowledge/assumptions; bias or "ableism"; communication skills)
- Health system (e.g., insurance; patient functionality information in records; procedural accommodations, such as visit length and clinician reimbursement)
- Accessibility of health facilities (e.g., physical facility; equipment; sensory environment; telehealth)
- Accessible communication (e.g., within facility; from outside of facility)
- Policy-level (e.g., Federal or State laws)

PICOTS

The populations, interventions, comparators, outcomes, timing, and settings (PICOTS), and corresponding inclusion and exclusion criteria are described in Table 1.

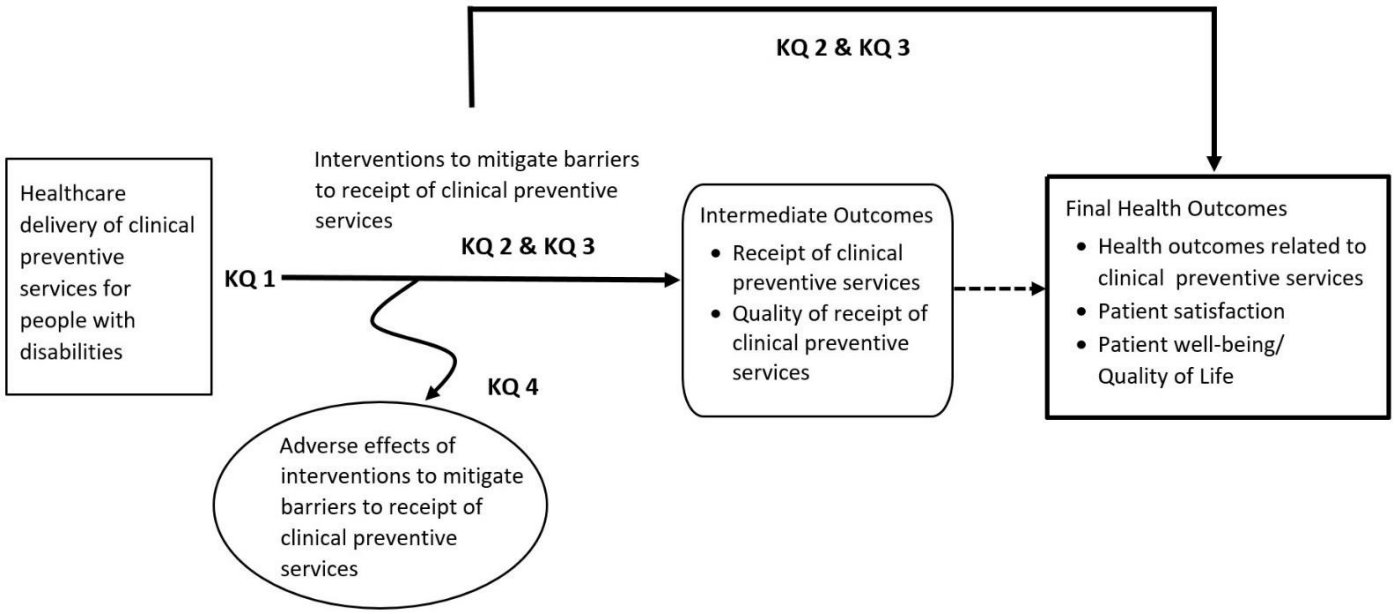
Table 1. PICOTS and corresponding inclusion and exclusion criteria

Element	Include	Exclude
Population	• People with disabilities (including: physical; cognitive/intellectual/developmental; sensory; serious psychiatric/mental illness) • Adults and children • Specific populations of interest: - Age - Gender - Race/ethnicity - Economic status - LGBTQ+ status - Geographic location (regional and urban/rural) - Immigration status - Incarcerated - Unhoused - Language spoken - Use of a guardian/proxy for healthcare decisions	• Studies that do not include people with disabilities or do not report outcomes according to disability status
Intervention	• Interventions to mitigate barriers and/or improve the receipt of clinical preventive services among people with disabilities (e.g., modification in policies, practices, and procedures; effective communication; the physical accessibility of facilities; educational/training programs for healthcare providers) • Characteristics/components of interventions (KQ3) may include elements such as: staffing, funding, facilities, equipment, training • Clinical preventive services listed in Appendix B, derived from USPSTF Grade A and Grade B recommendations: - Screening (anxiety disorders, breast cancer, cervical cancer, colorectal cancer, depression, HIV infection, hypertension, intimate partner violence, osteoporosis, diabetes, unhealth drug or alcohol use) - Interventions or behavioral counseling (breastfeeding, falls prevention, perinatal depression, tobacco use/cessation, weight loss, healthy diet and physical activity, sexually transmitted infections)	• Interventions that do not address barriers to receipt of clinical preventive services for people with disabilities • Preventive services not listed in Appendix B
Comparator	• Another intervention • No intervention	
Outcome	• Receipt of clinical preventive service • Quality of receipt of clinical preventive service • Health outcomes related to clinical preventive service • Patient satisfaction • Patient well-being • Harms of the intervention program	• Cost-effectiveness • Outcomes not related to included clinical preventive services listed in Appendix B
Timing	• All	
Setting	• Primary care outpatient clinics • Community health clinics • Settings referable from primary care settings • Emergency departments • Other settings (e.g., home, residence, mobile care units) • United States or countries with a "very high" United Nations Human Development Index	

Abbreviations: HIV = Human Immunodeficiency Virus; KQ = Key Question; LGBTQ+ = Lesbian Gay Bisexual Transgender Queer/questioning plus/others; USPSTF = United States Preventive Services Task Force

III. Logic Model

Figure 1. Analytic Framework: healthcare delivery of clinical preventive services for people with disabilities



Abbreviation: KQ = Key Question.

IV. Methods

Criteria for Inclusion/Exclusion of Studies in the Review

The overall criteria for inclusion and exclusion of individual studies are based on the Key Questions and PICOTS described above and specified in Table 1. Additional details on the scope of this project and inclusion/exclusion criteria are provided below.

Study Designs:

Key Question 1. We will include trials, observational studies, surveys, descriptive studies, and qualitative studies (e.g., focus groups or formal KI interviews) that were designed to describe and/or assess barriers to and/or facilitators of the receipt of clinical preventive services for people with disabilities. Included studies may describe barriers/facilitators as experienced or perceived by patients, caregivers, clinicians or other healthcare workers, administrators, or others whose roles are relevant to the receipt of clinical preventive services for people with disabilities. Previous systematic reviews have characterized barriers/facilitators for healthcare *in general* among people with disabilities; the focus of this review will be on barriers/facilitators related to receipt of clinical preventive services. Studies that were not designed specifically to assess barriers/facilitators to the receipt of clinical preventive services will be excluded.

Key Questions 2, 3, and 4. We will include trials and observational studies (e.g., cohorts or before-after designs) of interventions to improve the receipt of clinical preventive services among people with disabilities. As indicated in Table 1, included interventions may be of a variety of types (e.g., behavioral/educational, modification of physical facilities/equipment, changes in policy/practices) addressing a variety of targets (e.g., patients, clinicians, physical facilities, healthcare organizations, communities). Included studies may or may not define specific barriers that an intervention is intended to mitigate. Interventions that also address factors other than clinical preventive services may be included, provided that the study assessed and reported on the effect of the intervention on included outcomes related to included clinical preventive services. We will exclude descriptive studies with no outcomes data or studies that include only data from one point in time (e.g., postintervention only).

The list of clinical preventive services to be included (Appendix B) was developed with input from the TEP, the AHRQ TOO, and content experts on the Evidence-based Practice (EPC) team. In defining the scope of the systematic review, these preventive services were considered to be of high priority for inclusion by TEP members and content experts. The list includes various general types of preventive services (screening, intervention, counselling), representing a breadth of health conditions and circumstances. The included preventive services are also characterized by a variety of different functional requirements and potential barriers for participation, with relevance to people with different types of disability (e.g., mobility, sensory, cognitive/developmental). Each included preventive service has a Grade A or Grade B recommendation from the United States Preventive Services Task Force (USPSTF) as of September 27, 2023,[46] and was considered to be applicable and relevant to a large segment of the general population, including people with disabilities.

For all Key Questions, we will assess existing systematic reviews. We will include relevant and most-recent systematic reviews that address the Key Questions and are rated high quality (e.g., using AMSTAR 2),[47] and will supplement with additional primary studies published subsequent to an included

systematic review. At a minimum, we will use systematic reviews to identify studies for possible inclusion. We will also exclude commentaries, letters, and articles that describe barriers/facilitators but are not the actual reports of the relevant studies.

Non-English-Language Studies: We will restrict to English-language articles but will review English-language abstracts of non-English language articles to identify studies that would otherwise meet inclusion criteria, in order to assess for the likelihood of language bias.

Literature Search Strategies to Identify Relevant Studies to Answer the Questions

Literature Databases. Ovid MEDLINE, PsycINFO, CINAHL, EMBASE, and Cochrane CENTRAL will be searched to capture published literature. The search strategies will be developed by a librarian with expertise in conducting searches for systematic reviews. The earliest search date will be limited to the year 1990, the year of the passage of the Americans with Disabilities Act (ADA).

Search Strategy. The diversity of definitions and measures of disability presents a specific challenge for conducting a literature search, recognized previously in a 2014 report by Walsh et al.[48] In that report, the authors used the ICF concept of disability to develop a search strategy for conducting systematic literature searches. We will construct our database searches based on this earlier work, refining the search with additional MeSH terms and keywords to meet the needs of this review. In order to identify literature on specific preventive services, we will review the published search strategies from relevant USPSTF reports and refine our searches accordingly.[46]

The preliminary Ovid MEDLINE® search strategy is included in Appendix A. The MEDLINE search strategy will be peer-reviewed and translated for use in the other databases. Modifications to the searches and additional search strategies will be considered in consultation with the TEP and AHRQ TOO.

Supplemental Evidence and Data for Systematic review (SEADS). AHRQ will publish an announcement in the Federal Register to notify stakeholders about the opportunity to submit information addressing the Key Questions via the SEADS portal on the Effective Health Care Website.

Gray Literature. Possible sources of gray (unpublished) literature on interventions (Key Questions 2, 3, and 4) may include reports produced by Federal or State agencies, healthcare provider organizations, or others. We will follow up on the suggestions for sources of gray literature made by KIs and TEP members and will track publications and organizations cited in included studies and reports, as needed.

Hand Searching. Reference lists of included articles, selected excluded articles (e.g., narrative reviews), and systematic reviews will be reviewed for additional includable literature.

Contacting Author. In the event that important information regarding methods or results appears to be omitted from the published results of a study, we will attempt to contact the authors to obtain additional information.

Process for Selecting Studies. Pre-established criteria as presented in Table 1, and elaborated in the section on "Criteria for Inclusion/Exclusion of Studies in the Review" above, will be used to determine eligibility for inclusion and exclusion of abstracts in accordance with the AHRQ *Methods Guide for Effectiveness and Comparative Effectiveness Reviews* (AHRQ Methods Guide).[49] To ensure accuracy,

all abstracts excluded by one team member will be reviewed by a second team member to determine inclusion or exclusion. Full text for all abstracts deemed appropriate for consideration by at least one of the reviewers will be retrieved. Each full-text article will be independently reviewed for eligibility by two team members, including any articles suggested by Peer Reviewers or that arise from the public posting process. Any disagreements regarding inclusion/exclusion at the full-text level will be resolved by consensus among investigators. Team members will not be involved in decisions about inclusion for studies on which they were authors. We will use DistillerSR software to assist with abstract and full-text review for inclusion/exclusion decisions and tracking. A record of studies excluded at the full-text level with reasons for exclusion will be maintained and made available as an appendix to the final report.

Data Abstraction and Data Management

After studies are deemed to meet inclusion criteria, data will be abstracted into Excel tables, including elements such as: study design, year, setting, country, sample size, source of information on barriers/facilitators for Key Question 1 (e.g., patient, caregiver, family member, clinician, other healthcare worker, administrator), reported barrier/facilitator, category of barrier/facilitator (e.g., environment-level, person-level, provider-level), patient characteristics (e.g., age, gender, race, economic status, diagnoses), disability type (e.g., physical, cognitive/intellectual/developmental, sensory, serious psychiatric/mental illness), severity of disability, definition/measure of disability (e.g., ADLs, IADLs, BRFSS, NHIS, functional measures), type of clinical preventive service, intervention characteristics (e.g., type of intervention, target of intervention, specific characteristic/components of intervention, mode of delivery, duration or frequency), reported outcomes, and other data relevant to each Key Question as outlined in the previous PICOTS section (Table 1). Data abstraction forms will be developed after full text review and the data to be included in evidence tables will be discussed with the AHRQ TOO, the TEP, and partners. Team members will not be involved in data abstraction for studies on which they were authors. Sources of funding for all studies will also be recorded. All study data will be verified for accuracy and completeness by a second team member. Evidence tables may be included as appendices in the final report.

Assessment of Methodological Risk of Bias of Individual Studies

Risk of bias (internal validity) is only assessed for controlled trials and comparative observational studies. As such, we will assess risk of bias for these study types when possible for all Key Questions. For Key Question 1, we will assess and consider the general quality of other included study designs (e.g., surveys, descriptive studies, qualitative studies).

Key Question 1. We will assess controlled trials and observational studies (e.g., cohort studies, case-control studies) using established criteria consistent with those recommended in the chapter, "Assessing the Risk of Bias of Individual Studies", in the AHRQ Methods Guide.[49] Each study will be independently reviewed for risk of bias by two team members, with any disagreements to be resolved by consensus. Studies will be rated as "low risk of bias," "medium risk of bias," or "high risk of bias." For descriptive studies or surveys, we will adapt the criteria for observational studies and assess a limited number of criteria specific to the study design to assess the general methodological quality. Based on our preliminary literature scan, we expect that some included studies may have used qualitative methods. For qualitative studies, we will adapt previously published criteria,[50,51] and develop a simple set of criteria (e.g., recruitment/sampling, dual coding, rigor of interpretation) to assess the general methodological quality of these studies. Team members will not be involved in quality or risk of bias assessments for studies on which they were authors. If the included studies for Key Question 1 represent

a variety of designs, we may consider using a tool that uses criteria for several designs such as the Mixed Methods Appraisal Tool (MMAT).[52]

Key Questions 2, 3, and 4. We will use predefined, study design-specific criteria to assess the risk of bias for each individual included study. Controlled trials and observational studies will be assessed using established criteria consistent with those recommended in the chapter, "Assessing the Risk of Bias of Individual Studies", in the AHRQ Methods Guide.[49] Each study will be independently reviewed for risk of bias by two team members, with any disagreements to be resolved by consensus. Team members will not be involved in quality or risk of bias assessments for studies on which they were authors. Studies will be rated as "low risk of bias," "medium risk of bias," or "high risk of bias."

Studies rated "low risk of bias" are considered to have the least risk of bias, and their results are generally considered valid. "Low risk of bias" 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 of dropouts; appropriate means for preventing bias; and appropriate measurement of outcomes.

Studies rated "medium risk of bias" are susceptible to some bias, though not enough to invalidate the results. These studies may not meet all the criteria for a rating of low risk of bias, 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 "medium risk of bias" category is broad, and studies with this rating will vary in their strengths and weaknesses. The results of some medium risk of bias studies are likely to be valid, while others may be only possibly valid.

Studies rated "high risk of bias" have significant flaws that imply biases of various types that may invalidate the results. They have a serious or "fatal" flaw in design, analysis, or reporting; large amounts of missing information; discrepancies in reporting; or serious problems in the delivery of the intervention. In general, observational studies that do not perform adjustment for potential confounders will be assessed as "high risk of bias." This is because it is likely the results of these studies are at least as likely to reflect flaws in the study design as the true difference between the compared interventions. We will not exclude studies rated high risk of bias a priori, but high risk of bias studies will be considered to be less reliable than low or medium risk of bias studies when synthesizing the evidence, particularly if discrepancies between studies are present.

Data Synthesis

Understanding the delivery of preventive services for people with disabilities is inherently complex – due to the different types and severity of disability, the variety of preventive services, and the complex interactions of individuals' functional abilities with various environmental factors, which may impede or facilitate the receipt of services. As such, an individual with a particular type and severity of functional limitation may experience barriers for the receipt of one type of preventive service but not for another type of preventive service; or, that individual might experience barriers for a given preventive service in one context but not in another context. Accordingly, when possible in synthesizing and summarizing the findings of this review, we will describe barriers/facilitators (Key Question 1) and interventions (Key Questions 2, 3, and 4) as they relate to particular types/severity of disability in the

context of the receipt of a particular type of clinical preventive service. This approach is consistent with the basic theoretical framework of the ICF.[39,40]

We will construct evidence tables with the relevant data from included studies (as described in Table 1 and the section on data abstraction, above). For Key Question 1, the evidence table will include a rating of the general quality of the study; for Key Questions 2, 3, and 4, the tables will include risk of bias ratings. We will develop and construct summary tables of the body of evidence for each of the key questions, highlighting the main findings. Depending on the findings of the review, these summary tables may show the types of barriers/facilitators (Key Question 1) and findings related to interventions (Key Questions 2, 3, and 4) presented within the cells at the intersection of specific disability type and specific preventive service type, to emphasize the critical interrelationship between these factors. When indicated by variability of included study types and/or quality, we will review and highlight studies by using a hierarchy-of-evidence approach, where the best evidence is the focus of our synthesis for each question.

For Key Questions 2, 3, and 4, we will consider quantitative pooled synthesis (meta-analysis) for studies of similar designs, populations, interventions, and outcomes. If meta-analyses are conducted, we will use random effects models and an approach consistent with the chapter, "Quantitative Synthesis", in the AHRQ Methods Guide.[49] If sufficient data are available for any of the Key Questions, we will conduct additional sub-group analyses of specific populations of interest (as described in Table 1), which may be especially affected by and/or experience unique barriers to the receipt of clinical preventive services. However, based on our preliminary literature scan, we anticipate that studies will have a high degree of clinical and methodological heterogeneity, and will therefore likely not be appropriate for quantitative pooled analyses. When studies cannot be pooled due to clinical and/or methodological heterogeneity, we will use qualitative synthesis (i.e., nonquantitative synthesis). We will develop an appropriate and useful organizing structure for presenting qualitative syntheses, depending on the findings of the review – for example, according to disability type, followed by clinical preventive service type, followed by intervention type.

Our preliminary literature scan suggests that potentially includable interventions are of various types (e.g., behavioral/educational, modification of physical facilities/equipment, changes in policy/practices), and are aimed at various targets (e.g., patients, clinicians, physical facilities, healthcare organizations, communities). In addition, many of these studies are of behavioral and/or educational interventions, which may present challenges for evidence synthesis related to: lack of detail or inconsistency in reporting; complexity and variability in the intensity and content of interventions; need for special training or proprietary materials; variability in outcome measurements; heterogeneity in effects due to differences in patient, clinicians, and delivery setting; and uncertainty regarding the association between behavior changes and clinical outcomes.[53] If sufficient data are reported in the included studies (Key Questions 2, 3, and 4), we will consider using a framework such as the Template for Intervention Description and Replication (TIDieR)[54] to standardize the synthesis of information about interventions, add clarity about differences and similarities between interventions, and help to elucidate which interventions and/or components of interventions are effective.

Grading the Strength of Evidence (SOE) for Major Comparisons and Outcomes

Grading the SOE only applies to questions of effectiveness and therefore will only be conducted for Key Questions 2, 3, and 4. Similar to assessment of risk of bias for individual studies, the SOE for each Key

Question will be initially assessed by one researcher for selected outcomes (see PICOTS). We will involve the TEP, the AHRQ TOO, and partners in the selection of the outcomes for SOE after the included studies are identified.

We will use the approach described in the AHRQ Methods Guide.[49] To ensure reliability and validity of the evaluation, the body of evidence will be assessed for the following criteria as they are defined in the AHRQ Methods Guide:

- Study limitations (low, medium, or high level of study limitations)
- Consistency (consistent, inconsistent, or unknown/not applicable)
- Directness (direct or indirect)
- Precision (precise or imprecise)

The SOE will be assigned an overall grade of high, moderate, low, or insufficient according to a four-level scale by evaluating and weighing the combined results of the included domains. The four levels are:

- High—Very confident that the estimate of effect lies close to the true effect for this outcome. The body of evidence has few or no deficiencies. The findings are stable (i.e., another study would not change the conclusions).
- Moderate—Confident that the estimate of effect lies close to the true effect for this outcome. The body of evidence has some deficiencies. The findings are likely to be stable, but some doubt remains.
- Low—Limited confidence that the estimate of effect lies close to the true effect for this outcome. The body of evidence has major or numerous deficiencies (or both). Additional evidence is needed before concluding either that the findings are stable or that the estimate of effect is close to the true effect.
- Insufficient—No evidence. Investigators are unable to estimate an effect, or have no confidence in the estimate of effect for this outcome. No evidence is available or the body of evidence has unacceptable deficiencies, precluding a conclusion.

Applicability of Evidence

We will assess applicability according to the approach described in the AHRQ Methods Guide.[49,55] We will use the PICOTS framework to consider the applicability of the evidence base for each key question; for example, examining the characteristics of the patient populations (e.g., disability type and severity), preventive service type, and study setting. Variability of the PICOTS elements in the studies may limit the ability to generalize the results to other populations, preventive services, and/or settings.

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VI. Definition of Terms

Abbreviation	Definition
ADA	Americans with Disabilities Act
ADL	Activities of daily living
AHRQ	Agency for Health Research and Quality
AMSTAR 2	A MeaSurement Tool to Assess systematic Reviews 2
BRFSS	Behavioral Risk Factor Surveillance System
EPC	Evidence-based Practice Center
HIV	Human Immunodeficiency Virus
IADL	Instrumental activities of daily living
ICF	International Classification of Functioning, Disability and Health
KI	Key Informant
KQ	Key Question
LGBTQ+	Lesbian Gay Bisexual Transgender Queer/questioning plus others
MMAT	Mixed Methods Appraisal Tool
NHIS	National Health Interview Survey
NIDILRR	National Institute on Disability, Independent Living, and Rehabilitation Research
PICOTS	Populations, interventions, comparators, outcomes, timing, setting
PROSPERO	Prospective register of systematic reviews
SEADS	Supplemental Evidence and Data for Systematic review
SOE	Strength of evidence
TEP	Technical Expert Panel
TIDieR	Template for Intervention Description and Replication
TOO	Task Order Officer
USPSTF	United States Preventive Services Task Force
WHO	World Health Organization

VII. Summary of Protocol Amendments

Date	Section	Original Protocol	Revised Protocol	Rationale
12/15/23	Appendix B: Table B-1. Included clinical preventive services	Depression and Suicide Risk in Adults Depression and Suicide Risk in Children and Adolescents	Depression in Adults Depression in Children and Adolescents	Screening for suicide risk was inadvertently included in Table B-1. While the USPSTF lists screening for depression and screening for suicide risk together, the recommendation grades for each service differ. For each population (adults; children and adolescents), screening for depression is Grade B, and screening for suicide risk is Grade I (insufficient). Because having a USPSTF Grade A or Grade B recommendation is an inclusion criterion for the systematic review, screening for suicide risk alone is not included.

01/16/24	PICOTS; Criteria for Inclusion/ Exclusion of Studies in the Review	PICOTS Inclusion: Another intervention; No intervention Exclusion (p. 6): Studies that include only data from one point in time	PICOTS Inclusion: Non-comparative studies will be considered when adequate comparative studies are lacking (KQ2-KQ4). Studies that include data from only one point in time (e.g., diagnostic accuracy) will be considered when adequate comparative studies are lacking (KQ2-KQ4).	After completion of the first review (single reviewer) of abstracts and full-text papers for inclusion/exclusion, we had identified a relatively small number of comparative studies for inclusion for KQ2 – KQ4, with none identified for numerous CPS-disability types. The protocol amendment is to allow for possible inclusion of certain non-comparative studies that may be informative, using a best evidence approach. This new inclusion criterion will be implemented for the second review (dual review) of abstracts and full-text papers.

VIII. Review of Key Questions

AHRQ posted the initial Key Questions on the AHRQ Effective Health Care Website for public comment. The EPC revised and refined them after reviewing the public comments and seeking input from KIs; the Key Questions may be further refined after input from the TEP. This input is intended to ensure that the Key Questions are relevant, specific, and useful.

IX. Key Informants

Key Informants are the end-users of research; they can include patients and caregivers, practicing clinicians, relevant professional and consumer organizations, purchasers of healthcare, and others with experience in making healthcare decisions. Within the EPC program, the KI role is to provide input into the decisional dilemmas and help keep the focus on Key Questions that will inform healthcare decisions. The EPC solicits input from KIs when developing questions for the systematic review or when identifying high-priority research gaps and needed new research. KIs are not involved in analyzing the evidence or writing the report. They do not review the report, except as given the opportunity to do so through the peer or public review mechanism.

KIs must disclose any financial conflicts of interest greater than $5,000 and any other relevant business or professional conflicts of interest. Because of their role as end-users, individuals are invited to serve as KIs and those who present with potential conflicts may be retained. The AHRQ TOO and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified.

X. Technical Experts

Technical Experts constitute a multi-disciplinary group of clinical, content, and methodological experts who provide input in defining populations, interventions, comparisons, or outcomes and identify particular studies or databases to search. The TEP is selected to provide broad expertise and perspectives specific to the topic under development. Divergent and conflicting opinions are common and perceived as healthy scientific discourse that fosters a thoughtful, relevant systematic review. Therefore, study questions, design, and methodological approaches do not necessarily represent the views of individual technical and content experts.

Technical Experts provide information to the EPC to identify literature search strategies and suggest approaches to specific issues as requested by the EPC. Technical Experts do not do analysis of any kind; neither do they contribute to the writing of the report. They do not review the report, except as given the opportunity to do so through the peer or public review mechanism.

Members of the TEP 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 are invited to serve as Technical Experts and those who present with potential conflicts may be retained. The AHRQ TOO and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified.

XI. Peer Reviewers

Peer reviewers are invited to provide written comments on the draft report based on their clinical, content, or methodological expertise. The EPC considers all Peer Review comments on the draft report in preparing the final report. Peer Reviewers do not participate in writing or editing of the final report or other products. The final report does not necessarily represent the views of individual reviewers.

The EPC will complete a disposition of all Peer Review comments. The disposition of comments for systematic reviews and technical briefs will be published 3 months after publication of the evidence report.

Potential Peer Reviewers must disclose any financial conflicts of interest greater than $5,000 and any other relevant business or professional conflicts of interest. Invited Peer Reviewers with any financial conflict of interest greater than $5,000 will be disqualified from peer review. Peer reviewers who disclose potential business or professional conflicts of interest can submit comments on draft reports through the public comment mechanism.

XII. EPC Team Disclosures

EPC core team members must disclose any financial conflicts of interest greater than $1,000 and any other relevant business or professional conflicts of interest. Direct financial conflicts of

interest that cumulatively total more than $1,000 will usually disqualify an EPC core team investigator.

XIII. Role of the Funder

This project was funded under Contract No. 75Q80120D00006 from AHRQ, U.S. Department of Health and Human Services. The AHRQ TOO reviewed the EPC response to contract deliverables for adherence to contract requirements and quality. The authors of this report are responsible for its content. Statements in the report should not be construed as endorsement by either AHRQ or the U.S. Department of Health and Human Services.

XIV. Registration

This protocol will be registered in the international prospective register of systematic reviews (PROSPERO).

Appendix A. Draft Search Strategy *[updated 10-9-23]*

Database: Ovid MEDLINE(R) ALL 1946 to October 06, 2023
1 exp Disabled Persons/
2 (disabled or disabling or disability or disabilities).tw.
3 ("functional limitation*" or "activity limitation*" or "mobility impairment*" or "participation limitation*").tw.
4 "Activities of Daily Living"/
5 "activities of daily living".tw.
6 Mobility Limitation/
7 "mobility limitation*".tw.
8 Dependent Ambulation/
9 "dependent ambulation".tw.
10 Paraplegia/ or Quadriplegia/
11 (paraplegi* or quadriplegi* or amputee*).tw.
12 exp Self-help Devices/
13 "assistive technology".tw.
14 ((wheelchair* or cane or walker or scooter or "mobility device") adj2 user*).tw.
15 Motor Disorders/
16 "motor disorder*".tw.
17 Motor Skills Disorders/
18 "motor skills disorder*".tw.
19 Hearing Loss/ or Deafness/
20 ("hearing loss" or deaf*).tw.
21 Blindness/ or Vision, Low/
22 blindness.tw.
23 Vision Disorders/
24 "vision disorder*".tw.
25 ("hearing impaired person" or "hearing impaired people" or "person with hearing impairment" or "people with hearing impairment").tw.
26 ("visually impaired person*" or "visually impaired people" or "person with vision impairment" or "people with vision impairment").tw.
27 exp Schizophrenia/
28 schizophrenia.tw.
29 exp "Bipolar and Related Disorders"/
30 "bipolar disorder*".tw.
31 Depressive Disorder, Major/
32 "major depressive disorder*".tw.
33 exp Anxiety Disorders/
34 "anxiety disorder*".tw.
35 ("mentally ill person*" or "mentally ill people" or "person with mental illness" or "people with mental illness").tw.
36 ("mental health disabilit*" or "mental health impairment").tw.
37 Developmental Disabilities/
38 ("developmental disabilit*" or "developmentally disabled").tw.
39 exp Intellectual Disability/

40 ("intellectual disabilit*" or "intellectually disabled").tw.
41 exp Child Development Disorders, Pervasive/
42 (autism or autistic or neurodivergen*).tw.
43 exp Cognition Disorders/
44 ("cognitive disorder*" or "cognitive impairment").tw.
45 Neurocognitive Disorders/ or exp Dementia/
46 (neurocognitive disorder* or dementia).tw.
47 Attention Deficit Disorder with Hyperactivity/
48 (attention deficit hyperactivity disorder or ADHD).tw.
49 exp Communication Disorders/
50 (communication disorder* or language disorder* or speech disorder* or dyslexia or aphasia or "learning disabilit*").tw.
51 or/1-50
52 Primary Prevention/
53 Preventive Medicine/
54 Preventive Health Services/
55 Guideline Adherence/
56 Mass Screening/
57 ((prevent or preventive or prevention) adj5 (service* or care)).tw.
58 screening guideline*.tw.
59 or/52-58
60 51 and 59
61 Healthcare Disparities/
62 Health Services Accessibility/
63 prevent*.tw.
64 51 and (61 or 62) and 63
65 60 or 64
66 (breast or mammogra*).mp.
67 ((cervical adj3 cancer) or (((pap or papanicolaou) adj2 test*) or smear)).mp. (98389)
68 (((colorectal or colon or colonic or rectal or rectum or rectosigmoid or adenomat*) adj3 (cancer* or carcinoma* or adenocarcinoma* or malignan* or tumor* or tumour* or neoplas* or polyp*)) or colonoscop* or colonograph*).mp.
69 (depression or depressive or depressed or suicid* or anxiet* or anxious).mp.
70 (hypertension or hypertensive or "blood pressure" or SBP or DBP).mp.
71 ("human immunodeficiency virus" or "HIV").mp.
72 ("intimate partner violence" or "elder abuse" or "spouse abuse" or "battered women" or "domestic violence" or ((abuse or abusive or violence or violent or assault) adj3 (partner or spouse or husband or wife))).mp.
73 ((osteoporosis or osteoporotic or bone density) and fracture*).mp.
74 exp Substance-Related Disorders/
75 ((alcohol or drug or drugs or substance* or opioid* or opiate* or amphetamine* or amfetamine* or benzodiazepine* or morphine or methadone or prescription* or phencyclidine* or solvent* or inhalant* or barbiturate* or depressant* or sedative* or stimulant* or ritalin or adderall or methylphenidate or fentanyl or oxycodone or hydrocodone or marijuana or cannabis or cannabinoid or cocaine or methamphetamine or psilocybin) adj3 (addict or addiction or abuse or abusing or abusive or misuse or mis-use or misusing or mis-using or illicit or illegal or

unlawful or unsanction* or habit* or dependen* or disorder or disorders or consumption or diversion)).tw.
76 (breastfeed* or breastfed or "breast feed*" or "breast fed" or lactation).mp.
77 "accidental falls".sh. or (fall or falls or faller* or falling).tw.
78 ((pregnant or pregnancy or antenatal or ante-natal or prenatal or pre-natal or perinatal or peri-natal or postnatal or post-natal or antipartum or anti-partum or peripartum or peri-partum or postpartum or post-partum or maternal or "pueperal") adj3 (depression or depressive or depressed or dysthym* or anxious or anxiety)).mp.
79 (diet or dietary or exercise or healthy or weight reduction or physical fitness or active or activity or train or training).mp.
80 exp Exercise/
81 Physical Conditioning, Animal/
82 80 not 81
83 79 or 82
84 (sexually transmitted or sti* or std* or chlamydia or gonorrh* or syphilis or papilloma$ or hpv or trichomonas or trichomoniasis or hepatitis or herpes or warts).mp.
85 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 83 or 84
86 51 and 65 and 85
87 limit 86 to english language
88 limit 87 to yr="1990 -Current"

Appendix B. Included Clinical Preventive Services

Table B-1. Included clinical preventive services

	Service	Population
Screening	Anxiety Disorders in Adults	Adults 64 years or younger, including pregnant and postpartum women
	Anxiety in Children and Adolescents	Children and adolescents aged 8 to 18 years
	Breast Cancer	Women aged 50 to 74 years
	Cervical Cancer	Women aged 21 to 65 years
	Colorectal Cancer	Adults aged 45 to 75 years
	Depression and Suicide Risk in Adults	Adults of all ages, including pregnant and postpartum women
	Depression and Suicide Risk in Children and Adolescents	Adolescents aged 12 to 18 years
	Human Immunodeficiency Virus (HIV) Infection	Adolescents and adults aged 15 to 65 years, including pregnant and postpartum women
	Hypertension in Adults	Adults 18 years or older without known hypertension
	Intimate Partner Violence and Abuse of Vulnerable Adults	Women of reproductive age
	Osteoporosis to Prevent Fractures	Women 65 years and older and postmenopausal women younger than 65 years at increased risk of osteoporosis
	Prediabetes and Type 2 Diabetes	Asymptomatic adults aged 35 to 70 years who have overweight or obesity
	Unhealthy Drug Use	Adults age 18 years or older
	Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Counseling Interventions	Adults 18 years or older, including pregnant women
Interventions and Behavioral Counselling	Breastfeeding	Pregnant women, new mothers, and their children
	Falls Prevention in Community-Dwelling Older Adults	Adults 65 years or older
	Perinatal Depression, Preventive Interventions	Pregnant and postpartum women
	Tobacco Smoking Cessation	Adults, including pregnant women
	Tobacco Use in Children and Adolescents	School-aged children and adolescents who have not started to use tobacco
	Weight Loss to Prevent Obesity-related Morbidity and Mortality in Adults	Adults with body mass index >30
	Healthy Diet & Physical Activity for Cardiovascular Disease Prevention	Adults with cardiovascular disease risk factors
	Sexually Transmitted Infections	Sexually active adolescents and adults at increased risk