

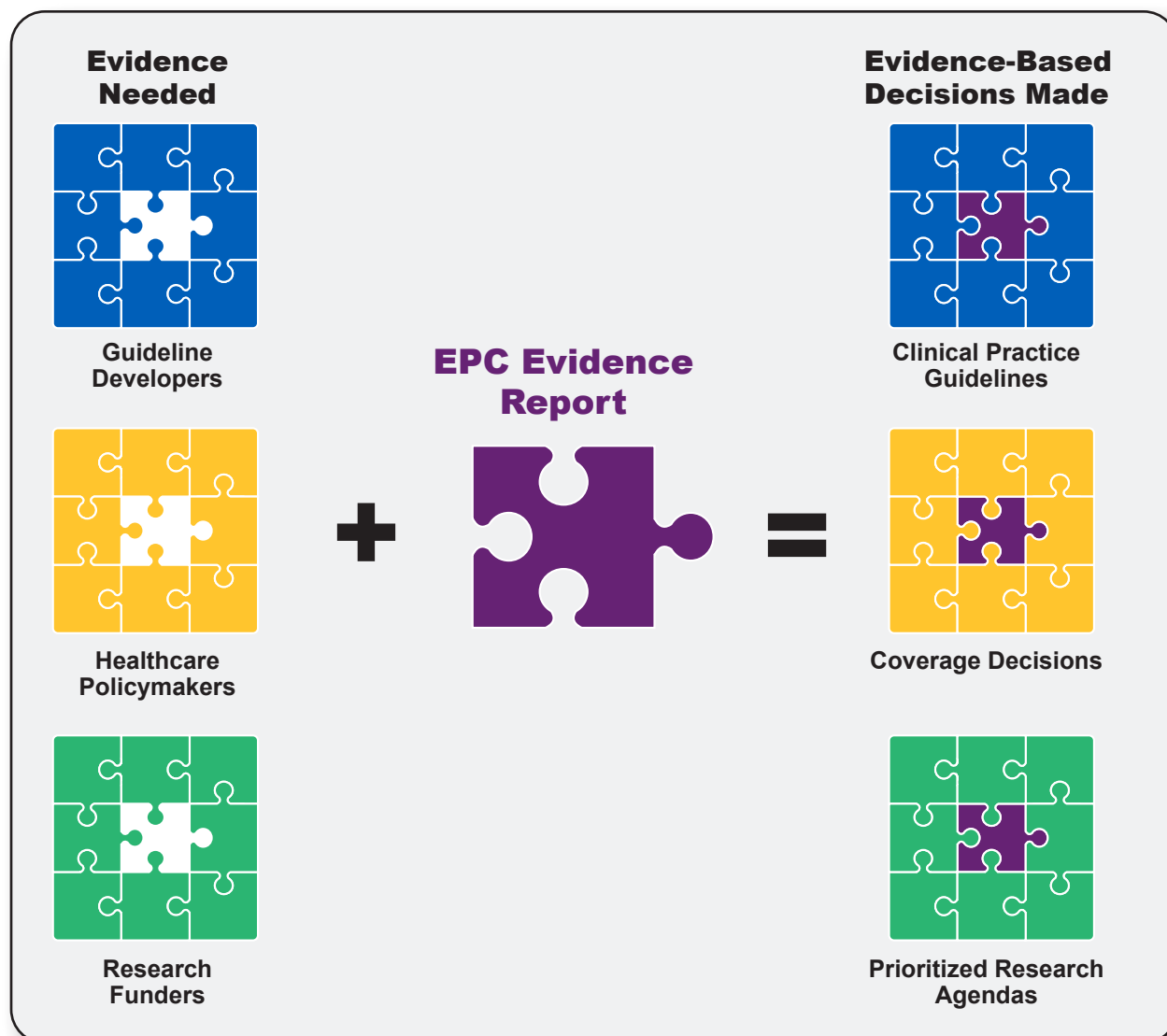
# AHRQ's Evidence-based Practice Center Division

**Annual Report 2021**

**Solving the Puzzle for Evidence-Based Decision Making**



# Solving the Puzzle for Evidence-Based Decision Making



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## Executive Summary

The **vision** of the Evidence-based Practice Center (EPC) Program is that all healthcare decisions are based on the best available evidence, resulting in the best possible health outcomes; the **mission** is to transform healthcare by increasing the quality, availability, and use of evidence via scientifically rigorous and unbiased analysis of evidence. To accomplish this mission, the Program has **four goals**. Those goals and the related accomplishments for 2021 are outlined in **Figure E1**. This report concludes by presenting four snapshots demonstrating the impact of EPC Program work in 2021.

In 2021, the Program remained productive, awarding 21 contracts and grants and publishing 51 evidence reviews and manuscripts. The program continued to address COVID-19 prevention and treatment, as well as pain management, women's health, digital health, healthcare disparities, and the needs of learning healthcare systems. This work supported the decision making of dozens of Federal and non-Federal partners, 100 percent of whom would recommend use of the EPC Program to others. In addition, the public remained highly engaged by nominating topics, submitting comments on draft reports, and joining the listserv. The Program remains dedicated to the advancement and innovation of the scientific methodology of evidence synthesis and dissemination (supported by seven reports and manuscripts and a symposium), as well as to the improvement of evidence quality (supported by four white papers). Significantly, the Program's success and productivity has not wavered, despite the continued challenges posed by the pandemic.

**Figure E1. 2021 EPC Program Year in Review**

<p><b>Goal 1:</b> Provide evidence reviews that are timely, unbiased, accessible, and readable and have actionable conclusions for healthcare decisions.</p> <p><b>Goal 2:</b> Increase awareness of opportunities to provide input and partner with the EPC Program, and to be responsive to the evidence needs of stakeholders.</p> <p><b>Goal 3:</b> Improve the explanatory power and efficiency of evidence synthesis by developing (and adhering to) guidance, tools, and novel methods for synthesizing, summarizing, and contextualizing evidence for healthcare decisions.</p> <p><b>Goal 4:</b> Improve future evidence for healthcare decisions by accelerating the reduction of evidence gaps and improving evidence quality via promoting higher quality clinical trials and registries.</p>		
<p><b>Goal 1: Advancing Healthcare</b></p> <p><b>Completed Research Projects</b></p> <ul style="list-style-type: none"> <li>• Reports: 20</li> <li>• Manuscripts: 31</li> <li>• Supported by 15 Contracts, 16 Grants</li> <li>• Presentations: 15</li> </ul> <p><b>New Projects Started</b></p> <ul style="list-style-type: none"> <li>• Reports Started: 19</li> <li>• Grants Awarded: 2</li> </ul> <p><b>Use of EPC Reports</b></p> <ul style="list-style-type: none"> <li>• Clinical Guidance: 7</li> <li>• Research Prioritization: 6</li> </ul>	<p><b>Goal 2: Public &amp; Stakeholder Involvement</b></p> <p><b>Partnerships</b></p> <ul style="list-style-type: none"> <li>• 100% Recommend EPC Reports</li> <li>• Federal Partners: 13</li> <li>• Non-Federal Partners: 14</li> </ul> <p><b>Public Interest</b></p> <ul style="list-style-type: none"> <li>• Listserv Members: 120,463</li> <li>• Topics Nominated: 24</li> </ul>	<p><b>Goal 3: Advancing Evidence Synthesis Methodology</b></p> <p><b>Methodology Research</b></p> <ul style="list-style-type: none"> <li>• Reports: 4</li> <li>• Manuscripts: 3 (from a combination Grants and Contracts)</li> <li>• Presentations: 6</li> </ul> <p><b>Meeting</b></p> <ul style="list-style-type: none"> <li>• Funded Methods Symposium on Advanced Methods and Innovative Technologies for Evidence Synthesis</li> </ul> <p><b>Goal 4: Improving Evidence Quality</b></p> <p><b>Outcomes Harmonization</b></p> <ul style="list-style-type: none"> <li>• Presentation: 1</li> <li>• White Papers: 4</li> </ul>

## Impact Snapshots

### Impact Snapshot 1: New funding to implement clinical practices and address research gaps based on AHRQ report – Nonsurgical Treatments for Urinary Incontinence in Women: A Systematic Review Update

**Why:** Urinary Incontinence (UI) increases morbidity, such as risks for depression, falls, nursing home admissions, and social isolation. Many interventions are available to manage UI, and evidence was needed to understand their effectiveness to inform practice decisions.

**Who:** More than half of women over age 20 reported any urinary leakage, and more than one-third of women over age 60 report moderate to severe leakage. However, many do not receive evidence-based care.

**How:** The 2018 AHRQ EPC report (*DOI: 10.23970/AHRQEPCER212*), commissioned by the Patient-Centered Outcomes Research Institute (PCORI), found moderate strength of evidence for effective treatments that not only treat but cure urinary incontinence without surgery. The report also described research and practice gaps.

**What:** In 2021, AHRQ posted a funding opportunity announcement (<https://go.usa.gov/xuxZY>) for applications to implement effective nonsurgical UI treatments identified in the evidence review. In addition, PCORI posted a targeted funding announcement for new comparative effectiveness research to address identified research gaps (<https://bit.ly/3JxEDA5>).



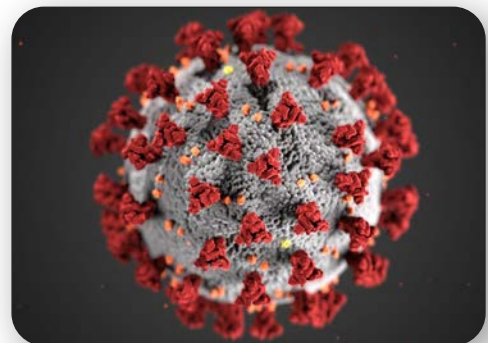
### Impact Snapshot 2: Clinical guidance based on AHRQ reports – New COVID-19 Resources and Practice Guidance

**Why:** Health systems, clinicians, policymakers, and the public need timely evidence to inform critical decisions about how to respond to the COVID-19 pandemic and stop the spread of infection and resulting morbidity and mortality.

**Who:** Now, 2 years into the COVID-19 pandemic, tens of millions of Americans have already been infected with the virus. The degree of immunity conferred and the risk of reinfection among those who have already had COVID-19 is important to individual, clinical, and population-level decision making as well as healthcare policy.

**How:** The AHRQ EPC Program scanned published and preprint research studies monthly, and summarized and updated a Rapid Living Review, “Antibody Response Following SARS-CoV-2 Infection and Implications for Immunity” (*DOI: 10.23970/AHRQEPCCOVIDIMMUNITY*). Other COVID-19 resources from the Program are located at <https://go.usa.gov/xuxZP>.

**What:** This rapid review and its updates reflected the current state of knowledge about immunity after SARS-CoV2 infection. It was the foundation for practice pointers for the American College of Physicians (*DOI: 10.7326/M20-3234*) and was published as a journal article in Annals of Internal Medicine (*DOI: 10.7326/M20-7547*).



### Impact Snapshot 3: National Academies of Sciences, Engineering, and Medicine report on dementia, informed by AHRQ report

**Why:** The aging of the U.S. population and the concurrent rise in the number of adults living with dementia underscore the urgent need to understand the evidence base for effective care interventions, and assess the potential for broad dissemination and implementation of that evidence for care interventions for people living with dementia (PLWD) and their caregivers.



**Who:** Dementia affects the lives of nearly 5 million U.S. adults 65 years and older (with disparities by race and ethnicity), as well as the lives of their partners and caregivers.

**How:** An AHRQ EPC report (*DOI: 10.23970/AHRQEPCER231*) summarized the evidence base for care interventions for PLWD and their caregivers. Subsequently, a National Academies of Sciences, Engineering, and Medicine (NASEM) committee of experts, established at the request of the National Institute on Aging, used the AHRQ evidence report findings to inform their independent recommendations about care interventions to disseminate, as well as research gaps to address.

**What:** NASEM hosted a webinar (<https://bit.ly/3jcxYjY>) in February 2021 to showcase the release of its new report, “Meeting the Challenge of Caring for Persons Living with Dementia and Their Care Partners and Caregivers: A Way Forward” (<https://bit.ly/3uvfHVy>).

### Impact Snapshot 4: Request for Information to bridge knowledge gaps on lower limb prostheses based on AHRQ report

**Why:** The prescription of a prosthesis for lower limb amputees is complicated by varied options comprising numerous permutations of components, the anatomy they replace, their sophistication, and attributes pertaining to cosmesis and comfort.



**Who:** An estimated 1.9 million people in the United States are living with limb loss—a number expected to double by 2050—mostly due to the rising prevalence of diabetes. Fewer than half of amputees ever receive a prescription for a prosthesis, and 11 to 22 percent abandon their prosthesis at about 1 year.

**How:** A 2018 AHRQ EPC report, “Lower Limb Prostheses: Measurement Instruments, Comparison of Component Effects by Subgroups, and Long-Term Outcomes” (*DOI: 10.23970/AHRQEPCER213*), commissioned by the Centers for Medicare and Medicaid Services, assessed validity of instruments used in lower limb amputees. The report found a gap in knowledge regarding the ability of these instruments to determine which specific prosthesis should be prescribed to an individual based on their characteristics in order to maximize ambulation, function, and quality of life, or to minimize abandonment or limited use.

**What:** In January 2021, the Eunice Kennedy Shriver National Institute of Child Health and Human Development published a Request for Information (RFI) (<https://go.usa.gov/xuxBY>) based on the report. The RFI solicited public input on draft common data elements and outcome measures related to lower limb loss to promote the collection of comparable data across research studies to close the knowledge gaps.

## Appendixes

### Appendix A. Goal 1: Advancing Healthcare – EPC Reports in Use

#### Appendix A-1. 2021 Clinical Guidance

**Table A-1. 2021 Clinical Guidance**

Clinical Guidelines Published in 2021	Associated Systematic Review (Year Published)
1. American Psychiatric Association Practice Guideline for the Treatment of Patients With Schizophrenia (published in 2020, reported by ECRI clearinghouse in 2021) <i>DOI: 10.1176/appi.ajp.2020.177901</i>	Treatment for Adults With Schizophrenia (2017) <i>DOI: 10.23970/AHRQEPCCER198</i>
2. Diagnosis and Management of Acute Colonic Diverticulitis (American Association of Family Physicians [AAFP]) <a href="https://bit.ly/38JpAqb">https://bit.ly/38JpAqb</a>	Management of Colonic Diverticulitis (2020) <i>DOI: 10.23970/AHRQEPCCER233</i>
3. Evidence-Based Guidelines for Prehospital Pain Management: Recommendations (Prehospital Emergency Care journal) <i>DOI: 10.1080/10903127.2021.2018073</i>	Comparative Effectiveness of Analgesics To Reduce Acute Pain in the Prehospital Setting (2019) <i>DOI: 10.23970/AHRQEPCCER220</i>
4. Management of Dyspnea in Advanced Cancer (American Society of Clinical Oncology) <a href="https://bit.ly/3jkc7XQ">https://bit.ly/3jkc7XQ</a>	Interventions for Breathlessness in Patients With Advanced Cancer (2020) <i>DOI: 10.23970/AHRQEPCCER232</i>
5. National Academies of Sciences, Engineering, and Medicine: Meeting the Challenge of Caring for Persons Living with Dementia and Their Care Partners and Caregivers: A Way Forward (NASEM) <a href="https://bit.ly/375s0Pd">https://bit.ly/375s0Pd</a>	Care Interventions for People Living With Dementia and Their Caregivers (2020) <i>DOI: 10.23970/AHRQEPCCER231</i>
6. Osteoporosis Prevention, Screening, and Diagnosis <a href="https://bit.ly/373w7LX">https://bit.ly/373w7LX</a>	Long-Term Drug Therapy and Drug Holidays for Osteoporosis Fracture Prevention: A Systematic Review (2019) <i>DOI: 10.23970/AHRQEPCCER218</i>
7. Pharmacologic Management of COPD Exacerbations (AAFP) <a href="https://bit.ly/37tQUYE">https://bit.ly/37tQUYE</a>	Pharmacologic and Nonpharmacologic Therapies in Adult Patients With Exacerbation of COPD (2019) <i>DOI: 10.23970/AHRQEPCCER221</i>

## Appendix A-2. 2021 Research Prioritization

**Table A-2. 2021 Research Prioritization**

Research Priority or Funding Opportunity (Date)	AHRQ EPC Report (Date)
1. AHRQ implementation request for applications for urinary incontinence treatment in primary care (January 2021) <a href="https://go.usa.gov/xuag4">https://go.usa.gov/xuag4</a>	Nonsurgical Treatments for Urinary Incontinence in Women: A Systematic Review Update (August 2018) DOI: 10.23970/AHRQEPCCER212
2. National Highway Traffic Safety Administration funding opportunity on airway management (2021)	Prehospital Airway Management (June 2021) DOI: 10.23970/AHRQEPCCER243
3. National Institutes of Health Pathways to Prevention Workshop: Physical Activity and Health for Wheelchair Users (December 2021) DOI: 10.1016/j.arrct.2021.100163	Physical Activity and the Health of Wheelchair Users: A Systematic Review in Multiple Sclerosis, Cerebral Palsy, and Spinal Cord Injury (October 2021) DOI: 10.23970/AHRQEPCCER241
4. NIH (Pathways to Prevention) funding opportunity RFA-AG-22-018—Leveraging Existing Large Databases and Cohorts to Better Understand the Risks and Benefits of Long-Term Osteoporosis Therapy and Drug Holiday (October 2021) <a href="https://go.usa.gov/xuag3">https://go.usa.gov/xuag3</a>	Long-Term Drug Therapy and Drug Holidays for Osteoporosis Fracture Prevention: A Systematic Review (April 2019) DOI: 10.23970/AHRQEPCCER218
5. The Patient-Centered Outcomes Research Institute (PCORI) complementary implementation award targeting women over 60 and settings outside of primary care (May 2021) <a href="https://bit.ly/3xdf8Bn">https://bit.ly/3xdf8Bn</a>	Nonsurgical Treatments for Urinary Incontinence in Women: A Systematic Review Update (August 2018) DOI: 10.23970/AHRQEPCCER212
6. PCORI request for proposals for new comparative effectiveness research to fill research gaps (May 2021) <a href="https://bit.ly/3uo2ihG">https://bit.ly/3uo2ihG</a>	Nonsurgical Treatments for Urinary Incontinence in Women: A Systematic Review Update (August 2018) DOI: 10.23970/AHRQEPCCER212

## **Appendix B. Goal 1: Advancing Healthcare – Completed Healthcare Research Products**

### **Appendix B1. 2021 Healthcare Research Reports**

1. Antibody Response Following SARS-CoV-2 Infection and Implications for Immunity: A Living Rapid Review *DOI: 10.23970/AHRQEPCCOVIDIMMUNITY*
2. Automated-Entry Patient-Generated Health Data for Chronic Conditions: The Evidence on Health Outcomes *DOI: 10.23970/AHRQEPCTB38*
3. Breast Reconstruction After Mastectomy *DOI: 10.23970/AHRQEPCCER245*
4. Cervical Ripening in the Outpatient Setting *DOI: 10.23970/AHRQEPCCER238*
5. Disparities and Barriers to Pediatric Cancer Survivorship Care *DOI: 10.23970/AHRQEPCTB39*
6. Integrated and Comprehensive Pain Management Programs: Effectiveness and Harms *DOI: 10.23970/AHRQEPCCER251*
7. Integrating Palliative Care in Ambulatory Care of Noncancer Serious Chronic Illness *DOI: 10.23970/AHRQEPCCER237*
8. Interventional Treatments for Acute and Chronic Pain: Systematic Review *DOI: 10.23970/AHRQEPCCER247*
9. Interventions To Decrease Hospital Length of Stay *DOI: 10.23970/AHRQEPCTB40*
10. Living Systematic Review on Cannabis and Other Plant-Based Treatments for Chronic Pain *DOI: 10.23970/AHRQEPCCER250*
11. Living Systematic Review on Cannabis and Other Plant-Based Treatments for Chronic Pain – Quarterly Progress Report/Surveillance Report 1: September 2021 *DOI: 10.23970/AHRQEPCCANNABISSURVEILLANCE1*
12. Living Systematic Review on Cannabis and Other Plant-Based Treatments for Chronic Pain – Quarterly Progress Report: February 2021 <https://go.usa.gov/xuaan>
13. Malnutrition in Hospitalized Adults *DOI: 10.23970/AHRQEPCCER249*
14. Management of High-Need, High-Cost Patients: A “Best Fit” Framework Synthesis, Realist Review, and Systematic Review *DOI: 10.23970/AHRQEPCCER246*
15. Maternal, Fetal, and Child Outcomes of Mental Health Treatments in Women: A Systematic Review of Perinatal Pharmacologic Interventions *DOI: 10.23970/AHRQEPCCER236*
16. Physical Activity and the Health of Wheelchair Users: A Systematic Review in Multiple Sclerosis, Cerebral Palsy, and Spinal Cord Injury Evidence *DOI: 10.23970/AHRQEPCCER241*
17. Prehabilitation and Rehabilitation for Major Joint Replacement *DOI: 10.23970/AHRQEPCCER248*
18. Prehospital Airway Management *DOI: 10.23970/AHRQEPCCER243*
19. Radiation Therapy for Brain Metastases *DOI: 10.23970/AHRQEPCCER242*
20. Safety of Vaccines Used for Routine Immunization in the United States: An Update *DOI: 10.23970/AHRQEPCCER244*

### Links to all reports:

Covid-19 Resources <https://go.usa.gov/xuaCQ>

Technology Assessment Program Reports <https://go.usa.gov/xuaCV>

Effective Healthcare Program Reports <https://go.usa.gov/xuaCe>

### **Spotlight on special focus area: HEALTHCARE DISPARITIES**

As part of its scope, the EPC Program has commissioned several reviews that examine healthcare disparities:

1. Disparities and Barriers to Pediatric Cancer Survivorship Care (Completed)  
*DOI: 10.23970/AHRQEPCTB39*
2. Improving Rural Health Through Telehealth-Guided Provider-to-Provider Communication  
<https://go.usa.gov/xuar3>
3. Maternal Morbidity and Mortality  
<https://go.usa.gov/xuarC>
4. Postpartum Care for Women up to One Year After Birth  
<https://go.usa.gov/xuarY>
5. Peripartum and Postpartum Management of Women With Hypertensive Disorders of Pregnancy  
<https://go.usa.gov/xuarb>
6. Impact of Healthcare Algorithms on Racial and Ethnic Disparities in Health and Healthcare  
<https://go.usa.gov/xuarZ>

## Appendix B2. 2021 Healthcare Research Manuscripts From EPC Reports

1. Arkhipova-Jenkins I, Helfand M, Armstrong C, et al. Antibody response after SARS-CoV-2 infection and implications for immunity: a rapid living review. *Annals of Internal Medicine*. 16 March 2021. [Epub ahead of print.] DOI: 10.7326/M20-7547. <https://www.acpjournals.org/doi/10.7326/M20-7547>.
2. Carney N, Totten AM, Cheney T, et al. Prehospital airway management: a systematic review. *Prehosp Emerg Care*. 2021 Jul 20;1-12. doi: 10.1080/10903127.2021.1940400. Epub ahead of print. PMID: 34115570. <https://www.tandfonline.com/doi/full/10.1080/10903127.2021.1940400>.
3. DuBose J, Seehusen DA. Diagnosis and initial management of acute colonic diverticulitis. *Am Fam Physician*. 2021 Aug 1;104(2):195-197. PMID: 34383434. <https://www.aafp.org/afp/2021/0800/p195.html>.
4. Garsa A, Jang JK, Baxi S, et al. Radiation therapy for brain metastases: a systematic review. *Pract Radiat Oncol*. 2021 Sep-Oct;11(5):354-365. doi: 10.1016/j.prro.2021.04.002. Epub 2021 Jun 9. PMID: 34119447. [https://www.practicalradonc.org/article/S1879-8500\(21\)00109-0/fulltext](https://www.practicalradonc.org/article/S1879-8500(21)00109-0/fulltext).
5. Gidengil C, Goetz MB, Newberry S, et al. Safety of vaccines used for routine immunization in the United States: An updated systematic review and meta-analysis. *Vaccine*. 2021 Jun 23;39(28):3696-3716. doi: 10.1016/j.vaccine.2021.03.079. Epub 2021 May 25. PMID: 34049735. <https://www.sciencedirect.com/science/article/pii/S0264410X21003856?via%3Dihub>.
6. Gurwitz JH, Carlozzi NE, Davison KK, et al. National Institutes of Health Pathways to Prevention Workshop: physical activity and health for wheelchair users. *Arch Rehabil Res Clin Transl*. 2021 Oct 17. [Epub ahead of print.] doi: 10.1016/j.arct.2021.100163. <https://www.sciencedirect.com/science/article/pii/S259010952100077X?via%3Dihub>.
7. Hempel S, Burke R, Hochman M, et al. Allocation of scarce resources in a pandemic: rapid systematic review update of strategies for policymakers. *J Clin Epidemiol*. 2021 Nov;139:255-263. doi: 10.1016/j.jclinepi.2021.04.021. Epub 2021 May 25. PMID: 34048911; PMCID: PMC8642033. [https://www.jclinepi.com/article/S0895-4356\(21\)00157-8/fulltext](https://www.jclinepi.com/article/S0895-4356(21)00157-8/fulltext).
8. Lindbeck G, Shah MI, Braithwaite S, et al. Evidence-based guidelines for prehospital pain management: recommendations. *Prehosp Emerg Care*. 2022 Jan 25:1-10. doi: 10.1080/10903127.2021.2018073. [Epub ahead of print.] PMID: 34928760. <https://profiles.wustl.edu/en/publications/evidence-based-guidelines-for-prehospital-pain-management-recomme>.
9. Mobley EM, Moke DJ, Milam J, et al. Interventions to address disparities and barriers to pediatric cancer survivorship care: a scoping review. *J Cancer Surviv*. 2021 Jun 16:10.1007/s11764-021-01060-4. doi: 10.1007/s11764-021-01060-4. Epub ahead of print. PMID: 34132984; PMCID: PMC8674368. <https://link.springer.com/article/10.1007%2Fs11764-021-01060-4>.
10. Saldanha IJ, Cao W, Bhuma MR, et al. Management of primary headaches during pregnancy, postpartum, and breastfeeding: A systematic review. *Headache*. 2021 Jan;61(1):11-43. doi: 10.1111/head.14041. Epub 2021 Jan 12. PMID: 33433020. <https://headachejournal.onlinelibrary.wiley.com/doi/10.1111/head.14041>.
11. Selph SS, Skelly AC, Wasson N, et al. Physical activity and the health of wheelchair users: a systematic review in multiple sclerosis, cerebral palsy, and spinal cord injury. *Arch Phys Med Rehabil*. 2021 Oct 12. [Epub ahead of print.] doi: 10.1016/j.apmr.2021.10.002. [https://www.archives-pmr.org/article/S0003-9993\(21\)01484-2/fulltext](https://www.archives-pmr.org/article/S0003-9993(21)01484-2/fulltext).

12. Siddique SM, Tipton K, Leas B, et al. Interventions to reduce hospital length of stay in high-risk populations: a systematic review. *JAMA Netw Open*. 2021 Sep 1;4(9):e2125846. doi: 10.1001/jamanetworkopen.2021.25846. PMID: 34542615; PMCID: PMC8453321. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2784338>.
13. VanderPluym JH, Halker Singh RB, Urtecho M, et al. Acute treatments for episodic migraine in adults: a systematic review and meta-analysis. *JAMA*. 2021 Jun 15;325(23):2357-2369. doi: 10.1001/jama.2021.7939. PMID: 34128998; PMCID: PMC8207243. <https://jamanetwork.com/journals/jama/fullarticle/2781052>.
14. Viswanathan M, Middleton JC, Stuebe AM, et al. Maternal, fetal, and child outcomes of mental health treatments in women: a meta-analysis of pharmacotherapy. *Psychiatric Research and Clinical Practice*. 2021 May 5;3:123-40. doi: 10.1176/appi.prcp.20210001. <https://prcp.psychiatryonline.org/doi/10.1176/appi.prcp.20210001>.
15. Sloan DH, Hannum SM, DeGroot L, et al. Advance care planning shared decision-making tools for non-cancer chronic serious illness: a mixed method systematic review. *Am J Hosp Palliat Care*. 2021 Dec;38(12):1526-1535. doi: 10.1177/1049909121995416. Epub 2021 Feb 15. PMID: 33583195. <https://pubmed.ncbi.nlm.nih.gov/33583195/>.

### **Appendix B3. 2021 Healthcare Research Manuscripts From Grants**

1. Boyd R, Carter E, Moise N, et al. Awareness, knowledge, and attitudes toward screening and treatment of masked hypertension in primary care. *Am J Hypertens*. 2021 Dec 1;34(12):1322-27. doi: 10.1093/ajh/hpab115. PMID: 34279025. <https://pubmed.ncbi.nlm.nih.gov/34279025/>.
2. Cowper PA, Feng L, Kosinski AS, et al. Initial and longitudinal cost of surgical resection for lung cancer. *Ann Thorac Surg*. 2021 Jun;111(6):1827-33. doi: 10.1016/j.athoracsur.2020.07.048. Epub 2020 Oct 5. PMID: 33031776. <https://pubmed.ncbi.nlm.nih.gov/33031776/>.
3. Fritz JM, Lane E, McFadden M, et al. Physical therapy referral from primary care for acute back pain with sciatica: a randomized controlled trial. *Ann Intern Med*. 2021 Jan;174(1):8-17. doi: 10.7326/M20-4187. Epub 2020 Oct 6. PMID: 33017565; PMCID: PMC7856080. <https://pubmed.ncbi.nlm.nih.gov/33017565/>.
4. Hill CE, Reynolds EL, Burke JF, et al. Increasing out-of-pocket costs for neurologic care for privately insured patients. *Neurology*. 2021 Jan 19;96(3):e322-32. doi: 10.1212/WNL.00000000000011278. Epub 2020 Dec 23. PMID: 33361253; PMCID: PMC7884984. <https://pubmed.ncbi.nlm.nih.gov/33361253/>.
5. Hochheimer CJ, Sabo RT, Tong ST, et al. Practice, clinician, and patient factors associated with the adoption of lung cancer screening. *J Med Screen*. 2021 Jun;28(2):158-62. doi: 10.1177/0969141320937326. Epub 2020 Jun 30. PMID: 32605509; PMCID: PMC7772269. <https://pubmed.ncbi.nlm.nih.gov/32605509/>.
6. Medbery RL, Fernandez FG, Kosinski AS, et al. Costs associated with lobectomy for lung cancer: an analysis merging sts and medicare data. *Ann Thorac Surg*. 2021 Jun;111(6):1781-90. doi: 10.1016/j.athoracsur.2020.08.073. Epub 2020 Nov 12. PMID: 33188754. <https://pubmed.ncbi.nlm.nih.gov/33188754/>.
7. Pasalic D, Barocas DA, Huang LC, et al. Five-year outcomes from a prospective comparative effectiveness study evaluating external-beam radiotherapy with or without low-dose-rate brachytherapy boost for localized prostate cancer. *Cancer*. 2021 Jun 1;127(11):1912-25. doi: 10.1002/cncr.33388. Epub 2021 Feb 17. PMID: 33595853. <https://pubmed.ncbi.nlm.nih.gov/33595853/>.

8. Rocca WA, Mielke MM, Gazzuola Rocca L, et al. Premature or early bilateral oophorectomy: a 2021 update. *Climacteric*. 2021 Oct;24(5):466-473. doi: 10.1080/13697137.2021.1893686. Epub 2021 Mar 15. PMID: 33719814; PMCID: PMC8532166. <https://pubmed.ncbi.nlm.nih.gov/33719814/>.
9. Starlinger J, Schrier VJMM, Smith CY, et al. Risk of de novo severe carpal tunnel syndrome after bilateral oophorectomy: a population-based cohort study. *Menopause*. 2021 May 24;28(9):1026-36. doi: 10.1097/GME.0000000000001804. PMID: 34033605; PMCID: PMC8403136. <https://pubmed.ncbi.nlm.nih.gov/34033605/>.
10. Stewart EA, Missmer SA, Rocca WA. Moving beyond reflexive and prophylactic gynecologic surgery. *Mayo Clin Proc*. 2021 Feb;96(2):291-4. doi: 10.1016/j.mayocp.2020.05.012. PMID: 33549251; PMCID: PMC8088594. <https://pubmed.ncbi.nlm.nih.gov/33549251/>.
11. Stone BV, Feng D, Klaassen Z, et al. Comment on “Responsibilities and Expectations: Considerations of Disclosure of Overlapping Operations.” *Ann Surg*. 2021 Dec 1;274(6):e725-6. doi: 10.1097/SLA.0000000000004016. PMID: 32516234. <https://pubmed.ncbi.nlm.nih.gov/32516234/>.
12. Stone BV, Laviana AA, Luckenbaugh AN, et al. Patient-reported financial toxicity associated with contemporary treatment for localized prostate cancer. *J Urol*. 2021 Mar;205(3):761-8. doi: 10.1097/JU.0000000000001423. Epub 2020 Nov 30. PMID: 33252300. <https://pubmed.ncbi.nlm.nih.gov/33252300/>.
13. Tong ST, Sabo RT, Hochheimer CJ, et al. Uptake of statin guidelines to prevent and treat cardiovascular disease. *J Am Board Fam Med*. 2021 Jan-Feb;34(1):113-22. doi: 10.3122/jabfm.2021.01.200292. PMID: 33452089; PMCID: PMC7847084. <https://pubmed.ncbi.nlm.nih.gov/33452089/>.
14. Wallace K, Stewart EA, Wise LA, et al. Anxiety, depression, and quality of life after procedural intervention for uterine fibroids. *J Womens Health (Larchmt)*. 2021 Jun 8. doi: 10.1089/jwh.2020.8915. Epub ahead of print. PMID: 34101502. <https://pubmed.ncbi.nlm.nih.gov/34101502/>.
15. Wegienka G, Stewart EA, Nicholson WK, et al. Black women are more likely than white women to schedule a uterine-sparing treatment for leiomyomas. *J Womens Health (Larchmt)*. 2021 Mar;30(3):355-66. doi: 10.1089/jwh.2020.8634. Epub 2021 Feb 1. PMID: 33524308. <https://pubmed.ncbi.nlm.nih.gov/33524308/>.
16. Ye S, Hiura G, Fleck E, et al. Hospital readmissions after implementation of a discharge care program for patients with COVID-19 illness. *J Gen Intern Med*. 2021 Mar;36(3):722-9. doi: 10.1007/s11606-020-06340-w. Epub 2021 Jan 14. PMID: 33443699; PMCID: PMC7808120. <https://pubmed.ncbi.nlm.nih.gov/33443699/>.

## **Appendix B4. 2021 Healthcare Research Presentations**

1. Berliner E. AHRQ Epilepsy HSR Funding Opportunities Overview. CDC/NINDS Epilepsy HSR Webinar. Virtual, oral presentation. June 2021.
2. Chang C. Synthesizing Telehealth Research to Inform Healthcare Decisions: The AHRQ Evidence-based Practice Center Program. SEARCH 2021, Virtual, oral presentation. November 2021.
3. Hempel S. Strategies for Policy Makers to Allocate Scarce Resources in a Pandemic. AcademyHealth Annual Research Meeting. Virtual, abstract presentation. June 2021.
4. Huppert J. Future Research Needs for Treating OAB in Women. Pelvic Floor Disorders Research Foundation State of the Science Conference. Virtual, oral presentation. December 2021.
5. Huppert J, Umscheid C, Fournier A. Partnership Between AHRQ and PCORI: A Case Study From Evidence Review to Advancing Practice and Stimulating New Research. PCORI annual meeting. November 2021.
6. Iyer S. Todd Graham Study on Pain Management. Balanced Pain Management Summit, “Congressional SUPPORT: Advancing Coverage for Multidisciplinary Pain Care.” Virtual, oral presentation. February 2021.
7. Iyer S. The Health Effects of Cannabis and Cannabinoids. HHS Federal Partner Meeting on Cannabis and Cannabinoids. November 2021.
8. Iyer S, Kato E, Wagner M. Getting Evidence Into Practice: Lessons from the Opioid Crisis. Academy of Managed Care Pharmacy 2021 Annual Meeting. Virtual, poster presentation. April 2021.
9. Iyer S, Umscheid C. EPC Evidence Review on Cannabis and Other Plant-based Compounds. Assistant Secretary for Health Briefing. Virtual, oral presentation. December 2021.
10. Mobley E, Hempel S. Disparities & Barriers to Pediatric Cancer Survivorship Care. NCI-Sponsored Webinar on Disparities and Barriers to Pediatric Cancer Survivorship Care. Virtual, Oral Presentation. April 2021. <https://go.usa.gov/xurM6>.
11. Niebuhr D. AHRQ’s Current Research Portfolio Related to Physical Activity in Wheelchair Users. NIH Pathways to Prevention Program Federal Partners Working Meeting on Wheelchair Use and Physical Activity. July 2021.
12. Parsons H. Nutrition as Prevention for Improved Cancer Outcomes. NIH P2P Workshop Content Area Experts Meeting. August 2021.
13. Saldanha I. Overview of Breast Reconstruction after Mastectomy EPC Review. FDS Medical Devices Advisory Committee Meeting. Virtual, oral presentation. October 2021.
14. Totten A, Womack D. Improving Rural Health Through Telehealth-Guided Provider-to-Provider Communication. NIH P2P Pre-Workshop Meeting. Virtual, oral presentation. August 2021.
15. Treadwell J, Tsou A. Management of Infantile Epilepsies. American Epilepsy Society 2021 Annual Meeting, Chicago, IL. Oral presentation. December 2021.

## **Appendix C. Goal 1: Advancing Healthcare – New Healthcare Research Products Started**

### **Appendix C1. Healthcare Research Reports Started in 2021 (Links to protocols are provided if available at the time this report was finalized.)**

1. Acute Treatments for Episodic Migraine (Quarterly Surveillance Reports) <https://go.usa.gov/xuxyE>
2. Telehealth for Women <https://go.usa.gov/xuxyV>
3. Emergency Medical Services/911 Workforce Infection Control and Prevention Issues <https://go.usa.gov/xuxyv>
4. Emergency Medical Services/911 Workforce Mental or Behavioral Health Issues
5. Evaluation of Mental Health Applications <https://go.usa.gov/xuxyw>
6. Impact of Healthcare Algorithms on Racial and Ethnic Disparities in Health and Healthcare <https://go.usa.gov/xuxyG>
7. Maternal Morbidity and Mortality <https://go.usa.gov/xuxyA>
8. Noninvasive Nonpharmacological Treatment for Chronic Pain (quarterly surveillance reports) <https://go.usa.gov/xuxys>
9. Nonopioid Pharmacologic Treatments for Chronic Pain (quarterly surveillance reports) <https://go.usa.gov/xuxyH>
10. Nutrition as Prevention for Improved Cancer Outcomes <https://go.usa.gov/xuxyz>
11. Opioid Treatments for Chronic Pain (quarterly surveillance reports) <https://go.usa.gov/xuxyu>
12. Partial Breast Irradiation for Breast Cancer <https://go.usa.gov/xuxyS>
13. Postpartum Home Blood Pressure Monitoring, Postpartum Treatment of Hypertensive Disorders of Pregnancy, and Peripartum Magnesium Sulfate Regimens for Preeclampsia With Severe Features <https://go.usa.gov/xuxVq>
14. Pharmacologic and Nonpharmacologic Treatments for Posttraumatic Stress Disorder: An Update of the PTSD-Repository Evidence Base <https://go.usa.gov/xuxVx>
15. Postpartum Care for Women up to One Year after Pregnancy <https://go.usa.gov/xuxVC>
16. Schedule of Visits and Use of Telemedicine for Routine Antenatal Care <https://go.usa.gov/xuxVY>
17. Telehealth During COVID-19 <https://go.usa.gov/xuxV2>
18. Treatments for Acute Pain: A Systematic Review (quarterly surveillance reports) <https://go.usa.gov/xuxVj>
19. Update to 2018 AHRQ Review: ADHD: Diagnosis and Treatment in Children and Adolescents

## Appendix C2. Healthcare Research Grants Awarded in 2021

Table C-1. Healthcare Research Grants Awarded in 2021

Grant Number	Principal Investigator	Title	Institution	Award Date
1.1 R01 HS027985-01A1	SUDA, KJ	Impact of COVID-19 on Drug Shortages	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	2021/09/16
2.1 R03 HS028502-01	APARASU, RAJENDER R	Oral Adherence Trajectories of Disease Modifying Agents and Associated Relapse Rates Among Patients With Multiple Sclerosis	UNIVERSITY OF HOUSTON	2021/06/18

## Appendix D. Goal 2: Public & Stakeholder Involvement

### Appendix D1. Federal Partnerships in 2021

1. United States Congress
2. United States Department of Agriculture (USDA)
3. United States Department of Transportation (DOT)
4. National Highway Traffic Safety Administration (NHTSA)
5. United States Department Health and Human Services
6. Agency for Healthcare Research and Quality (AHRQ) - Center for Quality Improvement and Patient Safety (CQuIPS)
7. Centers for Disease Control (CDC)
8. Centers for Medicare and Medicaid Services (CMS)
9. Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
10. Health Resources and Services Administration (HRSA)
11. National Cancer Institute (NCI)
12. Office of the Assistant Secretary of Health (OASH)
13. Office of Disease Prevention (ODP)
14. Substance Abuse and Mental Health Services Administration (SAMHSA)
15. United States Department Veterans Affairs (VA)

## **Appendix D2. Non-Federal Partnerships in 2021**

1. American Academy of Family Physicians (AAFP)
2. American Academy of Pediatrics (AAP)
3. American College of Obstetricians and Gynecologists (ACOG)
4. American College of Physicians (ACP)
5. American Epilepsy Society
6. American Geriatrics Society (AGS)
7. American Psychological Association (APA)
8. American Society for Radiation Oncology (ASTRO)
9. American Society of Plastic Surgeons
10. Connected Health Initiative
11. Learning Health Systems Panel
12. Lehigh Valley Health Network
13. Patient-Centered Outcomes Research Institute (PCORI)
14. Society for Maternal-Fetal Medicine

## **Appendix E. Goal 3: Advancing Evidence Synthesis Methodology**

### **Appendix E1. 2021 Evidence Synthesis Methodology Reports**

1. Creating Efficiencies in the Extraction of Data From Randomized Trials: A Prospective Evaluation of a Machine Learning and Text Mining Tool  
*DOI: 10.23970/AHRQEPCMETHODSCREATINGEFFICIENCIES*
2. Developing and Piloting a Tool To Create Dot Plots To Summarize Pooled Data for Multiple Outcomes in Systematic Reviews  
*DOI: 10.23970/AHRQEPCMETHODSDOTPLOTS*
3. Improving the Utility of Evidence Synthesis for Decision Makers in the Face of Insufficient Evidence  
*DOI: 10.23970/AHRQEPCWHITEPAPERIMPROVING*
4. A Prospective Comparison of Evidence Synthesis Search Strategies Developed With and Without Text-Mining Tools  
*DOI: 10.23970/AHRQEPCMETHODSPROSPECTIVECOMPARISON*

#### **Link to all reports:**

Methods Reports

<https://go.usa.gov/xuxyr>

## **Appendix E2. 2021 Evidence Synthesis Methodology Manuscripts**

### **From EPC Contracts:**

1. Michel JJ, Flores EJ, Dutcher L, et al. Translating an evidence-based clinical pathway into shareable CDS: developing a systematic process using publicly available tools. *J Am Med Inform Assoc.* 2021 Jan 15;28(1):52-61. DOI: 10.1093/jamia/ocaa257. <https://academic.oup.com/jamia/article/28/1/52/5943206?login=true>.

### **From Grants:**

2. Shen C, Ferro EG, Xu H, et al. Underperformance of contemporary phase iii oncology trials and strategies for improvement. *J Natl Compr Canc Netw.* 2021 Jun 21;19(9):1072-8. DOI: 10.6004/jnccn.2020.7690. PMID: 34153943. <https://pubmed.ncbi.nlm.nih.gov/34153943/>.

### **From Both EPC Contracts and Grants:**

3. Murad MH, Fiordalisi C, Pillay J, et al. Making narrative statements to describe treatment effects. *J Gen Intern Med.* 2021 Jan;36(1):196-9. doi: 10.1007/s11606-020-06330-y. Epub 2020 Oct 27. PMID: 33111244; PMCID: PMC7858734. <https://pubmed.ncbi.nlm.nih.gov/33111244/>.

## **Appendix E3. 2021 Evidence Synthesis Methodology Presentations**

1. Berliner E. Innovation Gap Model. HHS Deputy Secretary Debrief. Oral presentation. January 2021.
2. Berliner E. Stakeholder Perspectives on Methods of PGHD Integration into the Healthcare Ecosystem Panel. FDA Public Meeting, “Patient-Generated Health Data Throughout the Total Product Life Cycle of Medical Devices.” Panel presentation. May 2021.
3. Flores E, Kansagara D, Berliner E. Moving the Needle to Make Systematic Reviews More Actionable and Useful to Health Systems: The AHRQ Evidence-based Practice Center Program. Health Care Systems Research Network Annual Meeting. Oral presentation. May 2021.
4. Iyer S. Living Systematic Reviews. NIH Librarian Meeting. Virtual, oral presentation. October 2021.
5. Shelton E, Savitz L, Thompson L, et al. Stakeholder Engaged Co-design and Implementation of Web-based Tools to Enhance the Dissemination and Implementation of AHRQ EPC Reports. AcademyHealth Dissemination and Implementation Conference. Poster presentation. December 2021.
6. Umscheid C. Cochrane Convenes Roundtable. Panel presentation. October 2021.

## **Appendix E4. Other 2021 Efforts To Advance Evidence Synthesis Methodology – Funded Meeting**

1. AHRQ R13 conference grant 1R13HS027701-01 supported symposium:  
Dr. Tianjing Li from the University of Colorado School of Public Health and Cochrane US hosted a virtual symposium titled “Advanced Methods and Innovative Technologies for Evidence Synthesis” (<https://bit.ly/3O4MDMn>). AHRQ EPC investigators and grantees from CEPI’s evidence synthesis methods research portfolio are featured presenters, session chairs, and discussants. March 2021.

## Appendix F. Goal 4: Improving Evidence Quality

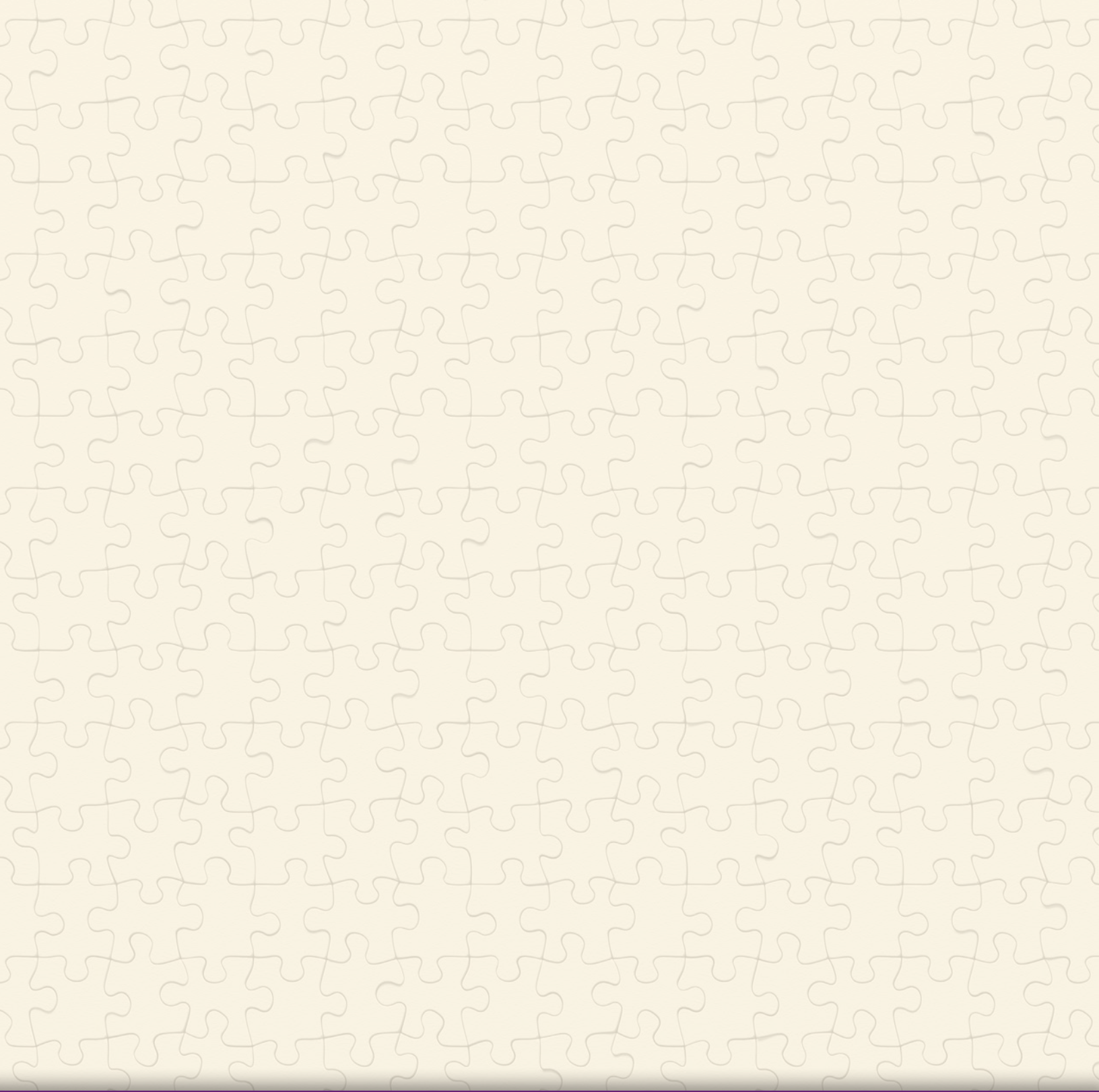
### Appendix F1. 2021 Work To Advance Registries/ Outcomes Harmonization – Presentation and White Papers

#### Presentation:

1. Elise Berliner E. Building Digital Health Solutions for Coordinated Registry Networks (CRNs). Topics discussed at the meeting included the new FDA framework for artificial intelligence and machine learning Software as a Medical Device (SaMD) and a pilot project to use blockchain to collect minimum core data sets. FDA Meeting. Panel presentation. January 2021.

#### White Papers:

1. Friedler HS, Leavy MB, Bickelman E, et al. Outcome Measure Harmonization and Data Infrastructure for Patient-Centered Outcomes Research in Depression: Data Use and Governance Toolkit. Research White Paper. (Prepared by OM1, Inc. and its subcontractors the American Board of Family Medicine and the American Psychiatric Association under Contract No. 75Q80119C00005.) AHRQ Publication No. 21(22)-EHC031. Rockville, MD: Agency for Healthcare Research and Quality; October 2021. DOI: 10.23970/AHRQEPWHITEPAPERDEPRESSIONTOOLKIT
2. Gliklich RE, Leavy MB, Li F. Standardized Library of Lumbar Spondylolisthesis Outcome Measures. Research White Paper. (Prepared by L&M Policy Research, LLC under Contract No. 290-2014-00004-C.) AHRQ Publication No. 19(21)-EHC006-EF. Rockville, MD: Agency for Healthcare Research and Quality; March 2021. DOI: 10.23970/AHRQEPCLIBRARYLUMBAR
3. Gliklich RE, Leavy MB, Li F. Standardized Library of Lung Cancer Outcome Measures. Research White Paper. (Prepared by L&M Policy Research, LLC under Contract No. 290-2014-00004-C.) AHRQ Publication No. 19(21)-EHC007-EF. Rockville, MD: Agency for Healthcare Research and Quality; August 2021. DOI: 10.23970/AHRQEPCLIBRARYLUNGANCER
4. Leavy MB, Swenson A, Gliklich R. A Prioritized Research Agenda for Using the Harmonized Outcome Measures to Support Patient-Centered Outcomes Research in Depression. (Prepared OM1, Inc., under Contract No. 75Q80119C00005.) AHRQ Publication No. 21(22)-EHC029. Rockville, MD: Agency for Healthcare Research and Quality; October 2021. DOI: 10.23970/AHRQEPWHITEPAPERDEPRESSIONRESEARCH



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