An Orientation to PCORI’s Research Prioritization Process

April 16, 2013
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An Orientation to PCORI’s Research Prioritization Process 2
I. Welcome
Thank you for making the commitment to be a member of one of PCORI’s advisory panels. We appreciate your time and contributions to this process. This orientation provides a description of the steps in PCORI’s process for prioritizing specific research topics and the criteria that are applied to rank the topics.

Patients, caregivers, and stakeholders are at the center of PCORI’s mission, and PCORI is committed to ensuring that effective stakeholder involvement takes place in every aspect of its work. PCORI aims to fund research that will help people make informed healthcare decisions. In order to maximize the likelihood of implementation in practice, the results of PCORI-funded research need to be meaningful to patients, caregivers, clinicians, healthcare system leaders, policy makers, and stakeholders.

Your input will help PCORI plan, develop, implement, improve, and refine efforts toward meaningful patient-centered research. Your role as an advisory panel member is to bring your unique perspective on health and the healthcare system to the table. Your specific background and knowledge will inform the panel’s understanding of how the research topics under consideration could impact patients and stakeholders. Recommendations and advice from the advisory panels will be taken into consideration by the Institute’s Board of Governors and staff.

PCORI encourages panelists to work in collaboration, ensuring that all members are able to contribute to discussions and decision making.

Engaging the Wider Community to Identify High-Priority Research Topics
PCORI was established by Congress through the Patient Protection and Affordable Care Act of 2010. The Act required PCORI to develop national priorities for research, as well as a research agenda. In May 2012, the PCORI Board of Governors approved the National Priorities for Research and Research Agenda. The five broad priorities are:

1. Assessment of prevention, diagnosis, and treatment options
2. Improving healthcare systems
3. Addressing health disparities
4. Communicating and disseminating research
5. Accelerating patient-centered outcomes research (PCOR) methods

PCORI advisory panels—made up of patients, caregivers, clinicians, researchers, and healthcare stakeholders—provide recommendations to the PCORI Board of Governors and staff to help plan, develop, implement, improve, and refine our patient-centered outcomes research agenda. All of the topics that you will consider will fall under PCORI’s National Priorities and Research Agenda.

Through the research prioritization process, advisory panel members provide insights as to which research questions are most important for PCORI to fund and answer, given PCORI’s mission.
The assessment involves reviewing each topic using specific criteria developed by PCORI for this purpose. The advisory panels do not make the final selection of topics that will be the subject of funding announcements; however, the PCORI staff and Board give significant weight to their advice.

II. How Does PCORI Identify and Select Specific Research Topics?
PCORI is pursuing two complementary approaches to identify and select research topics for investment—a traditional investigator-initiated approach and a patient- and stakeholder-initiated approach to selecting targeted research questions. Together, these approaches will help us to build a robust portfolio of PCOR that addresses the unmet needs of patients, caregivers, clinicians, and healthcare stakeholders.

We developed the patient and stakeholder approach because we recognize that topics generated by investigators could miss questions of central importance to patients. We also believe that patients and stakeholders need a sense of ownership in the research process and that embracing research is easier when its origins are transparent, traceable, and reflective of patient needs.

Figure 1

![Diagram of Patient/Stakeholder-Initiated Approach]

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1 In developing this process, we looked at best practices from other organizations, such as the Agency for Healthcare Research and Quality (AHRQ), the National Institutes of Health (NIH), and the James Lind Alliance, as well as the scientific literature on research prioritization. PCORI’s Methodology Committee also provided guidance in the Draft Methodology Committee Report.

An Orientation to PCORI’s Research Prioritization Process
Illustrated in Figure 1, the patient- and stakeholder-initiated path, designed to produce PCORI’s Targeted Funding Announcements, involves a systematic topic generation and research prioritization process that begins with research topics solicited directly from patients and stakeholders through the PCORI website, workshops, roundtables, and a synthesis of similar efforts undertaken by healthcare experts and organizations. To date, we have collected more than 1,000 questions through this process. When it is posted, you will be able to browse our topics database; you can also [submit a question](#).

This approach has the advantage of allowing PCORI to focus dedicated resources on areas identified as high priority. However, it is more time-consuming than the traditional investigator-initiated process because it involves reaching out to the community to solicit questions, vetting the questions, and putting the questions through the research prioritization process with the advisory panels.

### III. From Research Questions to Research Studies

Figure 2, below, provides an overview of the six steps involved in PCORI’s Topic Generation and Research Prioritization (TGRP) process. These steps include:

1. Identify topics
2. Select the most promising topics
3. Evaluate existing evidence
4. Advisory panels review and rank topics
5. Board review and approval
6. Develop Targeted PFAs (PCORI Funding Announcements)

We describe each of these steps in the sections below.

![Figure 2](image-url)

*An Orientation to PCORI’s Research Prioritization Process*
Step One: Identify Topics
We seek questions from patients and stakeholders through a range of sources, including through our website; social media; and through our workshops, roundtables, and other events. We also look to similar efforts undertaken by other healthcare organizations and funding agencies, such as AHRQ, NIH, the Institute of Medicine (IOM) and other groups.

In August 2012, we embarked on our first cycle through the process. Research topics were collected via the PCORI website from August 2012 through January 2013 and at a workshop hosted by PCORI on December 4, 2012. We received a total of 1,393 research topics. As part of this, we collected a number of research gaps from NIH, AHRQ, IOM, and other groups. When it is posted, you can browse our database of questions.

Step Two: Select the Most Promising Topics
Our staff reviews each topic against a set of criteria designed to ensure it is appropriate for us to consider studying. This means it must fit within our mission and authorizing legislation, as well as fall under our national priority areas—Assessment of prevention, diagnosis, and treatment options; Improving healthcare systems; Addressing health disparities; Communications and dissemination research; and Accelerating PCOR methods.

Questions must compare the effectiveness of two or more strategies for prevention, treatment, screening, diagnosis, or management; compare alternative system-level approaches; or compare factors that may differentially affect patients’ adherence to the alternatives (such as out-of-pocket costs). Some questions were submitted without a comparator, but were considered appropriate because of their potential to be comparative.

Details about the topics submitted and our review process are available on our website.

Staff members from each of PCORI’s program areas review the topics based on a specific set of prioritization criteria. This set of prioritization criteria was simplified based on feedback received in the pilot process. The initial prioritization criteria used by staff were:

- **Patient-centeredness.** Is the proposed research focused on questions and outcomes of specific interest to patients, their caregivers, and clinicians?
- **Burden.** Is the condition or disease associated with a significant burden in the US population (in terms of prevalence, mortality, morbidity, individual suffering, or loss of productivity)? Alternatively, is it a rare disease?
- **Potential for improving healthcare practice.** What is the likelihood that this research will change clinical practice or clinical decision making?
- **Timeliness.** Are potential projects associated with this topic likely to be accomplishable within a short time frame (three to five years)?

This process resulted in a total of 47 topics for consideration by the advisory panels.

### Questions Outside of PCORI’s Purview

> PCORI will not consider research questions that relate to cost-effectiveness, natural history of disease, or personal medical questions.

#### Step Three: Evaluate Existing Evidence

The topics are then sent out to external contractors who perform a review of existing evidence based around the criteria described below, resulting in a topic brief. This cycle of contractors included researchers from Duke University, Johns Hopkins University, and the University of North Carolina—Chapel Hill. Future cycles will be under a contract with AHRQ.

#### Step Four: Advisory Panel Reviews and Ranks Topics

The topic briefs are shared with PCORI’s advisory panels. Panel members assess and rank the topics according to the five criteria displayed below. PCORI staff members then develop a short list of research topics to submit to the Board of Governors for consideration to be written into PFAs. Topics that are not short-listed may be considered in future funding cycles (see Figure 2).

#### Step Five: Board Review and Approval

The Board reviews the short list and selects and approves a final list of topics to be developed into PFAs.

#### Step Six: Develop Targeted PFAs

In consultation with external experts, PCORI staff develops funding announcements based on the Board-approved topics.

#### IV. How to Use the Criteria to Prioritize Research Questions

PCORI’s goal is to use a transparent, fair, and scientifically rigorous process for prioritizing specific research questions. PCORI’s Methodology Committee, building on the existing science of prioritization and practical experiences of other organizations, addresses the issue of research prioritization in the Draft Methodology Committee Report. We are using an approach to priority setting for research funding that evaluates key aspects of each research question. The process and criteria were pilot-tested in fall 2012 with a group of 34 multi-stakeholders (see Appendix A).

Each research question under consideration by an advisory panel is accompanied by a supporting topic brief. You may, of course, disagree with some of the information provided by PCORI and are encouraged to bring differing opinions, expertise, and knowledge to the process to share with other stakeholders.
participating in the process. Appendix B lists the questions under consideration for each program area for the research prioritization process that will take place on April 19–20, 2013.

The five criteria that we are asking you to consider are described below.

Criteria for Research Prioritization

1. Patient-Centeredness
The core of PCORI’s mission is to address patient-centered research questions, the answers to which have significant potential for improving patient health. When evaluating a research topic on this criterion, please consider whether the results of a research study would help patients, clinicians, or healthcare leaders in making important healthcare decisions. Another aspect of patient-centeredness to consider is whether patients, caregivers, and their healthcare providers have expressed a real need for this information to support their decision making.

Questions to ask yourself when assessing this criterion: Does the proposed research focus on questions and outcomes of specific interest to patients, their caregivers, and healthcare providers? Will answers to the research questions make a difference to patients and their clinicians during their decision-making process? What could new research on this topic contribute to achieving better patient-centered outcomes?

2. Impact of the Condition on the Health of Individuals and Populations
This criterion refers to the burden of disease. The burden of disease may be measured by how many people have the disease (prevalence); how many new cases occur every year (incidence); and other measures such as mortality, morbidity, individual suffering, and loss of productivity. Please note that PCORI is also interested in rare diseases.

Questions to ask yourself when assessing this criterion: Is the condition or disease associated with a significant burden in the US population, in terms of prevalence, mortality, morbidity, individual suffering, or loss of productivity? Or is it a rare disease? How strongly does the condition’s overall societal burden (incidence and prevalence in populations and subpopulations; effects on patients’ quality of life, productivity, functional capacity, mortality, use of healthcare services, etc.) suggest that comparative effectiveness research on alternative approaches to this problem should be given high priority?

3. Options for Addressing the Issue
This criterion addresses the current landscape of management options, based on recent systematic reviews (e.g., Cochrane) and evidence-based guidelines (e.g., AHRQ Clearinghouse).

Questions to ask yourself when assessing this criterion: Based on recent systematic reviews (e.g., Cochrane) and evidence-based guidelines (e.g., AHRQ Clearinghouse), what is known about the relative benefits and harms of the available management options? What could new research contribute to achieving better patient-centered outcomes? Have recent innovations (e.g., a new technology or a new policy) made research on this topic especially compelling? How widely does care now vary? What is the
pace of other research on this topic (as indicated by recent publications and ongoing trials)? How likely is it that new comparative effectiveness research on this topic would provide better information to guide clinical decision making? How likely is it that new research on this topic would increase our certainty about how to address the problem?

4. Likelihood of Implementation in Practice
This criterion addresses how likely the research results will be implemented in practice. Research is valuable when it leads to the use of more beneficial treatments or interventions. Providing new evidence by itself does not ensure that the results of research will be used in clinical practice. Several factors may influence uptake in practice, including the knowledge and behaviors of health professionals, the acceptability to patients, and coverage or payment policies.

Questions to ask yourself when assessing this criterion: How likely are study findings to change clinical practice? What are the facilitators and barriers (e.g., workforce, technology, insurance coverage) that would affect the implementation of new findings in practice? How likely is it that the results of new research on this topic would be implemented in practice right away?

5. Durability of Information
This criterion addresses whether the results of a research study on a particular treatment or intervention would be durable over time. This durability of information is generally associated with the rate at which new clinical evidence and/or better alternatives for patient management are emerging. Durability might be limited when there are rapid modifications to procedures and techniques. This commonly occurs in domains such as medical device development. While it is difficult to predict how long information will be valuable, we ask that you use your best judgment along with the information provided to rank topics according to this criterion.

Questions to ask yourself when assessing this criterion: How long will the information resulting from this research be valuable? What is the pace of other research on this topic (as indicated by recent publications and ongoing trials)?
V. How Will the Advisory Panels Rank Research Topics?

Advisory panel members will attend a two-day meeting on April 19–20, 2013, to engage in the research prioritization exercise. PCORI had piloted approaches and tools for ranking research topics in fall 2012 with a group of 34 patients and stakeholders and revised the process based on feedback from the pilot participants. (Appendix A provides a description of the pilot.) The following steps delineate the advisory panel’s process for prioritizing top-tier topics during the meeting:

Day 1: Friday, April 19

- Panelists receive research prioritization overview along with software training for Expert Choice and Survey Gizmo.
- Each advisory panel begins to review topics and engages in facilitated discussion. Panelists begin ranking topics using Expert Choice software on their laptops.

Day 2: Saturday, April 20

- Panelists continue to discuss and rank topics using Expert Choice.
- Panelists finalize comprehensive topic rankings using Expert Choice.
- Program directors present their respective groups with the topic rankings and the top tier of topics (about five) for further discussion and final ranking. Discussion may include why variability exists in ranking.
- Panelists will re-rank the top tier of topics using Survey Gizmo, a simple survey tool, on their laptops.
- Program directors will share the final rankings of the top tier of topics with their advisory panels.

Members of the advisory panels will receive Expert Choice and Survey Gizmo software training on April 19, 2013. PCORI staff members will be available on-site to assist.
Appendix A: PCORI’s Pilot in Research Prioritization

Before launching these first advisory panels, PCORI tested the components and tools of the research prioritization process in an extensive pilot exercise. The process described in this orientation and the discussions planned for April 19–20, 2013, reflect what we learned from that pilot, described below.

Summary of Pilot Process
From October to December 2012, 34 volunteers from diverse backgrounds participated in a series of teleconferences and individually applied PCORI’s research topic-rating tools to rank 10 hypothetical research topics online. Participants prepared for the prioritization exercise with two prefatory conference calls (Oct. 11 and 29, 2012) and close study of a 60-page Topic Guide discussing the 10 proposed topics. Following the first call, the participants were split into two groups assigned different tasks. In the online exercise occurring after the second call and before the third call on November 5, members of Group A used two software tools, Survey Gizmo and Expert Choice, to rate the relative priority of each of the 10 topics. Members of Group B performed an evaluative exercise to establish the relative importance or weights of eight prioritization criteria and used one of the prioritization tools, Expert Choice, to rate the priority of each of the 10 topics. The two-hour call conducted by each group separately on November 5 was used to present the results for the group and discuss members’ experience ranking the topics and/or weighting the priority criteria.

Participants were given three days during which they had the opportunity to re-rank the research topics based on the November 5 discussions; however, no one chose to revise the initial rankings. Following the November 5 call, all participants were asked to complete an online survey with a variety of questions regarding their experience during the prioritization task and recommendations. Additionally, eight participants, four from each group, were asked to participate in individual one-hour interviews to debrief from and reflect on the prioritization process and tools. Also following the final teleconference, the pilot group participants were paired with another member of their group to get to know each other and share their experiences with the prioritization exercise; they were encouraged to contact PCORI with any insights arising from these discussions.

On December 5, 2012, PCORI hosted the PCORI Methodology Workshop for Prioritizing Specific Research Topics. Workshop participants included the pilot participants and researchers who were experts in prioritization processes and tools. The workshop provided an opportunity for PCORI staff, stakeholders, and pilot participants to share their experiences and findings from the pilot group exercise. Findings from the pilot group informed the process for establishing the advisory panel and research prioritization process.
Pilot Group Participants

- Kirk Allison, Program in Human Rights and Health, University of Minnesota School of Public Health
- Erika Augustine, University of Rochester Medical Center
- Laura Bernard, Public Health Research Consultant
- Marissa Brooks, SEIU Healthcare NW Health Benefits Trust
- Tim Carey (Chair), Sheps Center for Health Services Research, UNC Chapel Hill
- Jesus Casida, University of Michigan
- Dan Cherkin, Group Health Research Institute / Bastyr University Research Institute
- Rebecca Culyba, UPMC Center for High-Value Health Care
- Robert Dubois, National Pharmaceutical Council
- Lisa Hopp, Indiana Center for Evidence Based Nursing Practice
- Jeannie Huang, University of California San Diego
- Barbara Hunt, CADASIL Association
- Deborah Hunt, College of New Rochelle
- Susan Hutfless, Johns Hopkins University
- Elizabeth Jacobs (Vice Chair), University of Wisconsin School of Medicine and Public Health
- Allison Kalloo, Clinical Ambassador LLC
- Erin Kent, National Cancer Institute
- Jane Kogan, UPMC Center for High Value Health Care
- Carrie Levin, Informed Medical Decisions Foundation
- Michelle Luo, Baxter Health Care
- Michele Maiers, Northwestern Health Sciences University
- Rebecca Malouin, Michigan State University
- Michael Miller, Ann & Robert H. Lurie Children’s Hospital of Chicago
- Linda Morgan, Research Advocate, Parkinson’s Disease Foundation
- Dana Mukamel, University of California Irvine
- Huseyin Naci, Harvard Medical School
- Linda Nguyen, Alliance for Children and Families
- Ting Pun, Patient and Caregiver, Portola Valley, California
- Alex Reed, Family Medicine Residency of Idaho
- Leif Solberg, Health Partners Institute for Education and Research
- Louis Tharp, Global Healthy Living Foundation
- Nalini Viswanathan, Patient and Patient Advocate, Washington, DC
- Renda Wiener, Boston University School of Medicine
- Fouza Yusuf (Vice Chair), Medical College of Wisconsin

An Orientation to PCORI’s Research Prioritization Process
Appendix B: List of Topics

Addressing Health Disparities

**Topic 1** “Communicating Risks for Minorities or Low Literacy Patients”
Compare the effectiveness of physician/patient communication models on improving risk communication in racial and ethnic minorities, patients with low literacy, or medically underserved populations.

**Topic 2** “Care Coordination for Special Needs Patients”
Compare the effectiveness of care coordination and clinical decision supports in producing better health outcomes for children with disabilities and special health care needs.

**Topic 3** “Care Coordination in Primary Care”
Compare the effectiveness of enhanced care coordination, including multicultural approaches on improving the health care process and outcomes in primary care settings.

**Topic 4** “Interventions for Improving Birth Outcomes”
Compare the effectiveness of multi-level interventions (e.g., community-based, health education, usual care) on reducing disparities in birth outcomes.

**Topic 5** “Heart Attacks Among Racial & Ethnic Minorities”
Compare the effectiveness of health center interventions to enhance the "Million Hearts" program and reduce major vascular events among the economically disadvantaged, including racial and ethnic minorities and rural populations.

**Topic 6** “Telemedicine for Rural Cardiovascular Care”
Compare the effectiveness of telemedicine and/or expanding practice to non-physician practitioners (i.e. nurse practitioners, physician assistants) on improving cardiovascular disease outcomes in rural populations.

**Topic 7** “Telemedicine for Rural Mental Health Care”
Compare the effectiveness of telemedicine and/or expanding practice to non-physician practitioners (i.e. nurse practitioners, physician assistants) on improving mental health disease outcomes in rural populations.

**Topic 8** “Reduce Foot Amputations in Minorities”
Compare the effectiveness of interventions on reducing disparities in revascularization efforts to prevent foot amputation in racial and ethnic minorities.
**Topic 9** “Breast Cancer Screening for High-Risk Women”
Compare the effectiveness of film-screen or digital mammography alone and mammography plus magnetic resonance imaging (MRI) in community practice-based screening for breast cancer in high-risk women of different ages, risk factors, and race or ethnicity.

**Topic 10** “Rural Trauma Care”
Compare the effectiveness of care delivery (e.g., local hospital care, trauma center care) on improving outcomes in patients living in rural communities that experience trauma.

**Topic 11** “Hypertension in Minorities”
Compare the effectiveness of different delivery models (e.g., home blood pressure monitors, utilization of pharmacists or other allied health providers) for controlling hypertension in racial minorities.

**Topic 12** “Complementary Medicine for Juvenile Cancer Patients”
Compare the effectiveness of complementary and alternative interventions on reducing symptoms related to treatment of childhood cancers in racial and ethnic minorities.

**Improving Healthcare Systems**

**Topic 1** “Accountable Care Organizations and PCOs”
Compared to usual care, what are the effects of accountable care organization (ACO) care on PCOs among patients with chronic conditions?

**Topic 2** “Effects of Models for Chronic Disease Management”
What are the relative effects of different models of chronic care on PCOs?

**Topic 3** “COPD Management”
Compared to usual care, what is the effect of care management (designed to optimize care coordination and continuity) on PCOs among patients with COPD?

**Topic 4** “Cancer Management”
Compared to usual care, what is the effect of care management (designed to optimize care coordination and continuity) on PCOs among patients with cancer?

**Topic 5** “Palliative Care Management”
Compared to usual care, what is the effect of care management (designed to optimize care coordination and continuity) on PCOs among patients requiring palliative care?

**Topic 6** “Pregnancy Management”
Compared to usual care, what is the effect of care management (designed to optimize care coordination and continuity) on PCOs among pregnant women?
**Topic 7** “Care Management of Multiple Chronic Conditions”
Compared to usual care, what is the effect of care management (designed to optimize care coordination and continuity) on PCOs among patients with multiple chronic conditions?

**Topic 8** “Medical Homes”
Compared to care management provided by insurance companies, what is the effect of care management provided by medical homes on patient-centered outcomes (PCOs) among patients with multiple chronic conditions (MCCs)?

**Topic 9** “Non-Physician Medical Homes”
Compared to usual care, what is the effect of care from a non-physician patient-centered medical home on care quality and PCOs?

**Topic 10** “Mental Health and Primary Care Co-location”
Compared to primary care alone, what is the effect of primary care co-located with mental health services on mental health symptoms, medication use, and other PCOs?

**Topic 11** “Rural Trauma”
Compared to direct transportation to a regional trauma center, what is the effect of stabilization at a local hospital (followed by transfer to a regional trauma center) on survival and other PCOs?

**Topic 12** “Health IT and Treatment Guidelines”
Compared to usual care, what is the effect of information technology (eg, EHRs, PHRs, and decision support) on providers’ compliance with guidelines and chronically ill patients’ adherence to treatment plans?

**Topic 13** “Quality Improvement Strategies”
What are the relative effects of different quality improvement strategies on the quality of preventive services, acute care, chronic care, and rehabilitative services—and on PCOs—for adults and children?

**Topic 14** “Effect of Insurance Features”
What are the relative effects of different insurance features (eg, benefit designs, utilization management, cost sharing) on chronically ill patients’ access to care, quality of care, and PCOs?

**Topic 15** “Transitions in Care and Patient Safety”
Compared to usual care, what are the effects of different models of transitional care on patient safety and other patient-centered outcomes?
Assessment of Prevention, Diagnosis, and Treatment Options

**Topic 1** “Attention Deficit Hyperactivity Disorder (ADHD)”
Comparative effectiveness of treatment options for attention deficit hyperactivity disorder (ADHD) in children.

**Topic 2** “Bipolar Disorder”
Comparative effectiveness of antipsychotics for adolescents and young adults with bipolar disorder.

**Topic 3** “Hip Fracture”
Comparative effectiveness of surgical options for hip fracture in the elderly.

**Topic 4** “Carotid Artery Disease”
Comparative effectiveness of medical and surgical treatment options of patients with asymptomatic carotid artery stenosis.

**Topic 5** “Cerebral Adrenoleukodystrophy (ALD)”
Comparative effectiveness of early versus late bone marrow transplant treatment for children affected by adrenoleukodystrophy (ALD).

**Topic 6** “Coronary Artery Disease”
Comparative effectiveness of coronary artery bypass surgery (CABG) and percutaneous coronary intervention (PCI) for treatment of adults with coronary artery disease.

**Topic 7** “Ductal Carcinoma”
Comparative effectiveness of management strategies for ductal carcinoma in situ (DCIS) among women who have had screening mammography.

**Topic 8** “Gestational Diabetes”
Comparative effectiveness of medical, surgical and lifestyle treatment options in the prevention and treatment of gestational diabetes.

**Topic 9** “Eczema”
Comparative effectiveness of treatment options for topical or systemic eczema in children and adults.

**Topic 10** “Epilepsy”
Comparative effectiveness of treatment options for epilepsy in adults.

**Topic 11** “Generalized Anxiety Disorder (GAD)”
Comparative effectiveness of treatment options for generalized anxiety disorder (GAD) in adults.

**Topic 12** “Hearing Loss”

*An Orientation to PCORI’s Research Prioritization Process*
Comparative effectiveness of treatments for hearing loss in children and adults.

**Topic 13** “Chronic Kidney Disease”  
Comparative effectiveness of treatment and prevention options for patients with chronic kidney disease.

**Topic 14** “Treatments for Liver Cancer”  
Comparative effectiveness of medical and surgical treatment options in patients with primary or metastatic malignancies of the liver in adults.

**Topic 15** “Macular Degeneration”  
Comparative effectiveness of treatment for patients with age-related macular degeneration (AMD).

**Topic 16** “Melanoma”  
Comparative effectiveness of using surgical treatment options to prevent recurrence of melanoma.

**Topic 17** “Migraine Headache”  
Comparative effectiveness of different treatment strategies for adults with frequent migraine headaches.

**Topic 18** “Multiple Sclerosis”  
Comparative effectiveness of treatment programs for recurring/remitting multiple sclerosis (MS).

**Topic 19** “Obstructive Sleep Apnea”  
Comparative effectiveness of medical and surgical treatment options for obstructive sleep apnea in adults.

**Topic 20** “Osteoarthritis”  
Comparative effectiveness of treatment strategies for stabilization of symptoms from osteoarthritis.