

PCORI's Approach to Patient Centered Outcomes Research

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PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE

Goals of this Presentation

- Provide a general overview of PCORI's funding programs
- Describe a model of comparative effectiveness research
- Describe how PCORI evaluates the potential value of a proposed new research project
- Identify pitfalls that can reduce the value of a research project



Our Mission

PCORI helps people make informed health care decisions, and improves health care delivery and outcomes, by producing and promoting high integrity, evidence-based information that comes from **research guided by patients, caregivers and the broader health care community.**



PCORI: Past, Present, Future

- Our mission is to fund new clinical research and disseminate the results of that research
- Multiple funding sources
 - Federal appropriations
 - Health insurance fee
 - Trust fund transfers
- Funding is stable through the end of 2019
- Major recipients of PCORI funding are health science universities
 - 13 awards to date in South Carolina



We Fund Comparative Clinical Effectiveness Research

- Generates and synthesizes evidence comparing benefits and harms of at least two different methods to prevent, diagnose, treat, and monitor a clinical condition or improve care delivery
- Measures benefits in real-world populations
- Describes results in subgroups of people
- Helps consumers, clinicians, purchasers, and policy makers make informed decisions that will improve care for individuals and populations
- Informs a specific clinical or policy decision



Focus on Comparative Clinical Effectiveness Research (CER)

CER includes:

- Studies that compare health outcomes and the clinical effectiveness, risks, and benefits of two or more approaches to healthcare
 - Directly compare clinical strategies that are discrete and reproducible
 - Examine the outcomes that patients and clinicians believe are important

As a funder, we have a system for evaluating projects

- Outreach to stakeholder groups to identify priorities
- Funding announcements (PFA's)
- Review of letters of intent
- Merit review of full applications
- Peer review of final reports

The proposal for a new project should:

- Explain how the research is comparative
- Name the comparators
- State why the comparisons are important to decision-makers



What is the Starting Point of Comparative Effectiveness?

- Examine the choices people make about the options for managing a disease
- Consider how compelling it is to make a choice among these options
- Consider how the need to compare these options could inform the focus of new research
 - Heterogeneity of the patient population
 - Understanding the important benefits and harms
 - Clarity about gaps in the current evidence base



What is Patient Centered Outcomes Research?

- Examines comparative effectiveness questions: comparison of options for managing a specific clinical condition
- Features collaboration involving researchers, patients, and other stakeholder partners
 - Getting the research question right
 - Conducting research in real world delivery settings
 - Leveraging partnerships to ensure project success
- Can use various designs and approaches
 - Randomized controlled trials
 - Prospective registries
 - Other observational designs



Comparators of Interest

- Specific drugs, devices, and procedures
- Medical and assistive devices and technologies
- Techniques for behavioral modification
- Complementary and alternative medicine
- Delivery-system interventions



Research We Do Not Fund

PCORI does not fund research whose findings will include

- Cost-effectiveness analyses
- Development of clinical practice guidelines
- Coverage recommendations
- Payment or policy recommendations

NOTE: PCORI does fund studies that explore the burden of costs on patients—for example, out-of-pocket costs.



Our National Priorities for Research

Assessment of Prevention, Diagnosis, and Treatment Options

Research that:

- Compares the effectiveness and safety of alternative prevention, diagnosis, and treatment options
- Determines which ones work best for different people with a particular health problem



Our National Priorities for Research

Assessment of Prevention,
Diagnosis, and Treatment
Options

Improving Healthcare Systems

Research that:

- Compares health system–level approaches to improving access
- Supports patient self-care, innovative use of health information technology, care coordination for complex conditions, and effective workforce deployment



Our National Priorities for Research

Assessment of Prevention,
Diagnosis, and Treatment
Options

Improving Healthcare Systems

**Communication and
Dissemination Research**

Research on:

- Providing information produced by CER
- Empowering people to ask for and use the information
- Supporting shared decision making between patients and their providers



Our National Priorities for Research

Assessment of Prevention,
Diagnosis, and Treatment
Options

Improving Healthcare Systems

Communication and
Dissemination Research

Addressing Disparities

Research on:

- Prevention, diagnosis, or treatment effectiveness
- Preferred clinical outcomes across patient populations
- Health care required to achieve best outcomes in each population



Our National Priorities for Research

Assessment of Prevention,
Diagnosis, and Treatment
Options

Improving Healthcare Systems

Communication and
Dissemination Research

Addressing Disparities

**Accelerating Patient-Centered
Outcomes Research and
Methodological Research**

Research on:

- Building data infrastructure
- Improving analytic methods
- Training researchers, patients, and other stakeholders to participate in this research



PCORI's “Broad” Funding Announcements

- Recurring announcements: generally issued twice a year.
- Investigator initiated topics
- First step is Letter of Intent
- Limits on budget and duration
 - Up to \$2 million in direct costs (exception for Improving Healthcare Systems)
 - Up to 3 years in duration
- Re-submissions allowed and often encouraged



Pragmatic Clinical Studies to Evaluate Patient-Centered Outcomes

Objective of this program:

- Address critical clinical and health-related comparative effectiveness questions faced by patients, their caregivers, and their clinicians
- Includes list of priority clinical areas, but investigator-initiated topics are permitted

We seek to fund:

- Large clinical trials that use efficient approaches
- Large scale observational studies

Available Funds and Duration:

- Up to \$10 million in total direct costs per project
- Projects should be completed within 5 years



Comparative Effectiveness of Pulmonary Embolism Prevention after Hip and Knee Replacement (PEPPER)

Engagement

- Included stakeholders represent the population of interest, a patient advisory board, advocacy groups, and orthopedic surgeons/clinicians.

Potential Impact

- Orthopedic surgeons typically use one of three main regimens to prevent VTEs, and the guidelines for use of blood thinners have historically been conflicted. This study aims to provide definitive evidence about the benefits and harms of the 3 regimens, including patient preferences about the trade-offs and risks.

Methods

- Pragmatic randomized controlled trial.

This is a large-scale, pragmatic, randomized-controlled trial comparing three commonly used regimens to prevent venous thromboembolism (PE and DVT) and death. It will test which of the three regimens—uncoated aspirin, low-intensity warfarin, or Rivaroxaban—are preferable for improving patient-reported outcomes and safety due to fewer adverse bleeding events and surgical complications.



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Pragmatic Clinical Studies Program

Seeks to produce information that can be directly adopted by providers:

- Compares two or more options for prevention, diagnosis, treatment, or management of a disease or symptom
- Addresses critical clinical choices faced by patients, caregivers, clinicians, and systems
- Often conducted in routine clinical settings
- Though often large, usually less complex protocols than traditional trials
- Topics of special interest from stakeholders



Pragmatic Clinical Studies

Selected research topics of particular interest

- Benefits and harms of continuous ambulatory peritoneal dialysis compared with hemodialysis in patients with end-stage renal disease
- Biologic agents in the management of Crohn's disease
- Integration of mental and behavioral health services into the primary care of the general population
- Reduction of cardiovascular disease risk in underserved populations
- Surgical options for hip fracture in the elderly
- Treatment strategies for autism spectrum disorder



Essential Characteristics of Studies

- Involve broadly representative patient populations in typical clinical care and community settings
- Have strong endorsement and study participation by relevant national or regional patient organizations, professional organizations, and/or payer or purchaser organizations
- Have a sample size large enough to allow precise estimates of effect sizes and support evaluation of differences in treatment effectiveness in patient subgroups
- Measure health outcomes that are meaningful to the patients



How to Justify Investigator Initiated Topics

- The need for such a topic must be supported by a critical gap identified by a credible and recent systematic review.
- Head to head comparison of two or more options that currently presents considerable decisional uncertainty.
- These options have been shown to be efficacious, effective, or are commonly used.
- Plans for partnership with relevant national and/or regional professional and stakeholder organizations.



The Case of Usual Care

- “Usual care” is typically a suboptimal comparator for CER studies.
- It is ill-defined, difficult to quantify, and subject to considerable geographic and temporal variations, thus limiting interpretability, applicability, and reproducibility.
- If the applicant proposes “usual care” as a rational and important comparator in the proposed study, then it must be described in detail, coherent as a clinical alternative, and properly justified as a legitimate comparator (e.g., usual care is guidelines-based).
- The applicant needs to address why usual care is being proposed instead of an active comparator.
- Additionally, it should be accompanied by an explanation of how the care given in the usual care group will be measured and how appropriate inferences will be drawn from its inclusion.



PCORI Methodology Standards

- 48 standards in 12 groups.
 - 5 categories of “cross-cutting” standards
 - 7 categories of standards that depend on study design and data sources
- The Methodology Standards do not address all issues related to study designs and methods.
- Note that PCORI is not using a specific set of methodological standards for “pragmatic studies.”
 - Consider design tradeoffs (e.g., blinding vs not blinding)
 - Refer to other respected sources for additional guidance



Themes in the PCORI Methodology Standards

- Rationale for the study question
 - Justification of the evidence gap
 - Explaining how the results will influence decision making
- Ensuring high-quality data
 - Justifying choice of instruments
 - Ensuring good data management
 - Preventing missing data
- Planning for heterogeneity of the patient population
- Planning for external validity
 - Engagement as an essential part of the study (partnerships)



Justification for the Design Elements of a Pragmatic Clinical Study

- **Consider and evaluate tradeoffs**
 - Eligibility criteria
 - Flexibility of interventions
 - Adherence and fidelity of interventions
 - Range and types of outcomes
 - Follow up intensity
 - Etc.



What PCORI looks for when reviewing LOIs?

- Importance and relevance of the topics to PCORI priorities, as evidenced by critical gaps identified by clinical guideline developers and/or a recent relevant systematic review.
- Clarity and credibility of applicants' responses to the LOI questions such as well-described comparators, clear research methods (e.g., study design, sample size, effect size)
- Programmatic fit and balance



PCORI Methodology Standard* RQ1 – Identifying Gaps in Evidence

- “Gap analysis and systematic reviews should be used to support the need for a proposed study. If a systematic review is not available, a systematic review should be performed using accepted standards in the field (see standard SR-1), or a strong rationale should be presented for proceeding without a systematic review. In the case where a systematic review is not possible, the methods used to review the literature should be explained and justified.”

<http://www.pcori.org/assets/2013/11/PCORI-Methodology-Report-Appendix-A.pdf>



We Fund Research That...

Meets these criteria:

1: Potential for the study to fill critical gaps and generate actionable evidence

Addresses a *clinical uncertainty or decisional dilemma* experienced by patients and other stakeholders

2: Potential for the study to be adopted into clinical practice and improve delivery of care

Has the potential to lead to *improvements in clinical practice and patient outcomes*

3: Scientific merit (research design, analysis and outcomes)

Has a research design of sufficient technical merit to ensure that the *study goals will be met*



4: Patient-centeredness

Focuses on improving *patient-centered outcomes* and employs a *patient-centered research design*

5: Patient and stakeholder engagement

Includes patients and other stakeholders as *partners throughout the entire research process*



Patient-Centeredness vs. Patient Engagement

- **Patient-Centeredness**

- Does the LOI mention outcomes (both benefits and harms) important to patients?
- Are the interventions being proposed for comparison available to patients now?

- **Patient and Stakeholder engagement**

- Does the LOI mention intent to build an interdisciplinary study team that includes appropriate patient and stakeholder representation in consultation with PCORI?



Summing Up

- Comparative effectiveness research is challenging
 - Driven by the needs of decision makers
 - Improves evidence about treatments and care strategies currently in use
- The research must be rigorous
 - Integrity and quality of the data
 - Fidelity of the interventions
 - Sufficiently large sample sizes
- This takes a lot of planning
 - Scientific considerations
 - Partnerships and logistics



Where can you find help?

Quick Links for Applicants

Key Terms Glossary

Frequently Asked Questions (FAQs)

PCORI Online User Manual: Start a LOI

PCORI Online User Manual: Submitting an Application

PCORI Funded Projects: Sample Engagement Plans

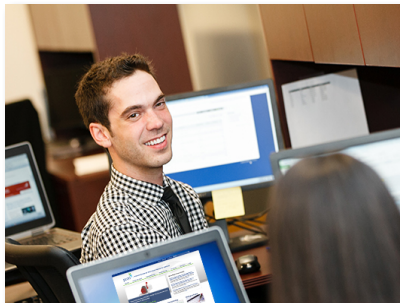
Visit pcori.org/apply

- Application Guidelines
- FAQs
- PCORI Online User Manuals
- Sample Engagement Plans



Schedule a Call with a Program Officer

- Submit a request at pcori.org/content/research-inquiry
- Call 202-627-1884 (programmatic inquiries)
- E-mail sciencequestions@pcori.org



Contact our Helpdesk

- E-mail pfa@pcori.org
- Call 202-627-1885 (administrative and technical inquiries)



Thank You

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