Cycle 1 2021 Funding Cycle

PCORI Funding Announcements: Improving Methods for Conducting Patient-Centered Outcomes Research (PCOR)

Published January 5, 2021

This PCORI Funding Announcement (PFA) applies to the funding cycle that closes May 4, 2021, at 5 pm ET. Submission Instructions, templates, and other resources are available at https://www.pcori.org/funding-opportunities/announcement/improving-methods-cycle-1-2021.
About PCORI

The Patient-Centered Outcomes Research Institute (PCORI) was authorized by Congress in 2010 as a nonprofit, nongovernmental organization. PCORI’s purpose, as defined by our authorizing legislation, is to help patients, caregivers, clinicians, policy makers, and other healthcare system stakeholders make better-informed health decisions by “advancing the quality and relevance of evidence about how to prevent, diagnose, treat, monitor, and manage diseases, disorders, and other health conditions” and by promoting the dissemination and uptake of this evidence.

PCORI is committed to transparency and a rigorous stakeholder-driven process that emphasizes patient engagement. PCORI uses a variety of forums and public comment periods to obtain public input to enhance its work. PCORI helps people make informed healthcare decisions and improves healthcare delivery and outcomes by producing and promoting high-integrity, evidence-based information that comes from research guided by patients and other stakeholders.
## Overview

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<tr>
<th>Key Dates</th>
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<tr>
<td>Online System Opens</td>
<td>January 5, 2021</td>
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<tr>
<td>Town Hall</td>
<td>January 13, 2021, 12 pm ET</td>
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<td>LOI Deadline</td>
<td>February 2, 2021, by 5 pm (ET)</td>
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<td>LOI Status Notification</td>
<td>March 2, 2021</td>
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<td>Application Deadline</td>
<td>May 4, 2021, by 5 pm (ET)</td>
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<td>Merit Review</td>
<td>July 2021</td>
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<td>Awards Announced</td>
<td>November 2021</td>
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<td>Earliest Project Start Date</td>
<td>March 2022</td>
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<tr>
<th>Maximum Project Budget (Direct Costs)</th>
<th>$750,000</th>
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<tr>
<td>At the time of contract execution, PCORI sets aside the funds associated with an awarded project to be made available throughout the contract’s period of performance. The maximum budget includes all research- and peer review–related costs. This PFA does not consider exceptions to the budget. PCORI will not review submissions exceeding the stated maximum budget.</td>
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<tr>
<th>Maximum Research Project Period</th>
<th>3 years</th>
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<td>This PFA does not consider exceptions to period-of-performance limits. PCORI will not review submissions exceeding the stated period of performance.</td>
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<th>Funds Available Up To</th>
<th>$12 million</th>
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<td>Because the nature and scope of the proposed research are expected to vary widely from application to application, it is anticipated that the size and duration of each award will also vary. PCORI reserves the right to change the funds available at any time.</td>
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<tr>
<th>Review Criteria</th>
<th>1. Study identifies critical methodological gap(s) in PCOR/CER</th>
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<td>2. Potential for the study to improve PCOR/CER methods</td>
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<td>3. Scientific merit (research design, analysis, and outcomes)</td>
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<td>4. Investigator(s) and environment</td>
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<td>5. Patient-centeredness</td>
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<td>6. Patient and stakeholder engagement</td>
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<tr>
<th>Contact Us</th>
<th>Programmatic Inquiries: <a href="mailto:sciencequestions@pcori.org">sciencequestions@pcori.org</a>, phone (202-627-1884), or online (<a href="http://www.pcori.org/PFA/inquiry">http://www.pcori.org/PFA/inquiry</a>).</th>
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<tr>
<td></td>
<td>Administrative, Financial, or Technical Inquiries: <a href="mailto:pfa@pcori.org">pfa@pcori.org</a> or phone (202-627-1885).</td>
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<tr>
<td></td>
<td>PCORI will respond within two business days. However, we cannot guarantee that all questions will be addressed two business days prior to a Letter of Intent (LOI) or application deadline. Applicants are asked to plan accordingly; it is the applicant’s responsibility to submit the application on or before the application deadline.</td>
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<tr>
<td>Other</td>
<td>Deadlines are at 5 pm (ET). If deadlines fall on a weekend or a federal holiday, the deadline will be the following Monday or the next day after the federal holiday.</td>
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New or Revised for the Cycle 1 2021 Funding Cycle:

**Standing 2021 Broad and Methods PFAs**
Starting with Cycle 1 2021, PCORI will post all submission materials for the Broad and Methods PFAs and open PCORI Online for the Letter of Intent (LOI) phase of application submission at the start of the Cycle Year (i.e. Cycles 1-3 of any given year). In addition to the PFAs, the Submission Instructions, applicant templates and resources, and cycle deadlines will also be posted on PCORI’s website and available in PCORI Online. Applicants may submit an LOI for any of the available cycles up until the LOI deadline for that cycle. PCORI will strive to make only necessary administrative updates to the Submission Instructions and applicant templates throughout the Cycle Year.

To maintain responsiveness to health research needs and stakeholder interests, PCORI may revise the details of a priority area, address policy changes, and add or remove Special Areas of Emphasis (SAEs) in a PFA. SAEs aim to encourage applications on a particular healthcare topic—not to restrict applications to only the SAEs. SAEs may include dedicated funds.

Announcement of any updates and any revised documents will be posted on PCORI’s website no later than four weeks before each cycle’s LOI deadline. PCORI will also clearly indicate on the PFA webpage if no changes have been made since the Cycle 1 posting.

**Piloting a Process for Application Deferrals**
Starting with Cycle 1 2021, PCORI will pilot a new application submission deferral process for the Broad and Methods PFAs only. Deferrals will be available to applicants who submitted an LOI to the Broad or Methods PFAs and were invited to submit a full application. Applicants will be limited to two sequential deferrals, which may cross Cycle Years (e.g., an applicant who is invited to submit a full application for Cycle 2 may defer submission to Cycle 3, and then may potentially again request a deferral to Cycle 1 2022).

To request a deferral, the Principal Investigator (PI) must email pfa@pcori.org prior to the application deadline, copying the institutional Administrative Official (AO). For a request to be granted, the deferral request must be submitted before the application deadline and the AO must be included in the request email. As noted above, applicants will be limited to two deferrals. Applicants will be notified of the status of their request within one business day of its receipt.

Under this pilot program, applicants will not need to re-upload their LOI or re-complete application fields for the next cycle to which they deferred within PCORI Online. Deferral requests received after the application deadline will be rejected and applicants will be encouraged to submit a new LOI for the next posted cycle.

Applicants proposing projects that fall under an SAE for a particular cycle should note that if they elect to defer their application submission to a later cycle, the SAEs might change (as stated above). However, for the Broad PFA, any changes to SAEs would not affect application responsiveness determinations.

In contrast, the Methods PFA requires that submissions address a specific programmatic priority area named in the PFA, and these might change from cycle to cycle within a Cycle Year. In addition, if program priority areas or guidance on such topics in a PFA are updated by PCORI, it is possible that a
deferred application could be determined to be non-responsive based on the updated information at the time of final submission.

Specific Changes to the Cycle 1 2021 Methods PFA:

- The term “Research Area of Interest” has been replaced by “Programmatic Priority Area.”
- New Programmatic Priority Area: Methods to Improve the Use of Artificial Intelligence (AI) and Machine Learning (ML) in Clinical Research
  - The Priority Area for AI and ML replaces the one for “Methods to Improve the Use of Natural Language Processing (NLP).”
- Consistent with PCORI’s reauthorization legislation of 2019, applicants may propose research that captures, as appropriate, the potential burdens and economic impacts of interventions studied in a proposed CER. Please see the Cost Effectiveness and Cost section for more information.
- All policies and PCORI research requirements have been moved into a new section, called PCORI Policies that Govern Awardees Related to Data Access, Privacy, and Public Reporting, at the end of this document.

See the Submission Instructions for updates to the templates and other requirements.
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I. Introduction

Summary

In this Patient-Centered Outcomes Research Institute (PCORI) Funding Announcement (PFA) for Improving Methods for Conducting Patient-Centered Outcomes Research (PCOR), also referred to as the “Methods PFA,” PCORI aims to fund studies that address high-priority methodological gaps in PCOR and comparative clinical effectiveness research (CER).

Background

The availability of multiple options for prevention, diagnosis, and treatment in health care presents a significant challenge to patients and clinicians trying to make informed care decisions. Deciding between alternative options in health care requires an understanding of how to balance the benefits and risks of each treatment option and an understanding of how each option might apply differently to different patients, given their unique personal characteristics. However, limitations in the design, implementation, and analysis of clinical research may produce biased study results that can have serious consequences for patients.

The PCORI Methodology Standards address some of the challenges related to the planning, conduct, and reporting of PCOR/CER, but these standards are not exhaustive. PCORI and its Methodology Committee recognize the need to better understand and advance the appropriate use of these methods for PCOR/CER. PCORI seeks to fund projects that address important methodological gaps and lead to improvements in the strength and quality of evidence generated by PCOR/CER studies.

Programmatic Priority Areas

PCORI has invested extensively in methodological research to advance the field of PCOR. The funded portfolio now includes more than 110 projects awarded under previous cycles of the Methods PFA. With the maturing of the current portfolio of funded projects, PCORI’s funding priorities have focused on a specific set of program priorities.

PCORI has identified four programmatic priority areas. (See the blue tables below for additional details.) Proposed research should be justified with respect to the published scientific literature and designed to advance methods for PCOR/CER. Projects that seek to disseminate an approach or focus on infrastructure development will not align with program priorities.

Regardless of a proposed project’s status in regard to previous Letter of Intent (LOI) submissions and full applications, PCORI reserves the right to reject the LOI if the project overlaps significantly with other funded projects or in other ways no longer aligns with PCORI’s program priorities.
### Methods Related to Ethical and Human Subjects Protections (HSP) Issues in PCOR/CER

PCORI is interested in funding projects to address important ethical and HSP issues related to the conduct of PCOR/CER. Applications responding to this priority area must include an empirical component. PCORI will consider purely conceptual and theoretical work to be nonresponsive. PCORI will give preference to proposals that seek to develop or test new approaches rather than those that conduct primarily descriptive work.

The following topics are priorities for this area:

- **a)** Informed consent processes for participation in clinical research in the context of randomized controlled trials (RCTs), cluster randomized trials, pragmatic trials, adaptive trials, as well as observational studies, including those conducted in learning healthcare system settings, and natural experiments. Applications examining alterations of consent are welcome.

  *Note: PCORI will consider projects focusing on informed decision making and consent in the context of clinical care to be nonresponsive.*

- **b)** Assessing the concept of minimal risk in clinical research (including clinical trials)

- **c)** Review and monitoring activities, including protocol adherence and adjudication of study outcomes

### Methods to Improve Study Design

PCORI is interested in funding projects that foster improvements in clinical research study designs to address PCOR/CER questions. PCORI will give preference to proposals that seek to evaluate the proposed approaches using both simulations and data from real-world studies.

The following topics are priorities:

- **a)** Methods to improve the design and conduct of cluster randomized trials and Sequential Multiple Assignment Randomized Trials (SMART)

- **b)** Methods to manage adaptation of treatment strategies, while minimizing threats to internal validity in studies of complex interventions

- **c)** Methods to improve the design and conduct of PCOR/CER studies in circumstances limiting the use of RCTs

### Methods to Support Data Research Networks

PCORI is interested in funding projects that improve the quality of data and analyses for multisite PCOR/CER using data research networks. PCORI will consider projects that focus on infrastructure development and/or capacity building for specific platforms to be nonresponsive.

The following topics are priorities:

- **a)** Methods to improve distributed analyses in data research networks

  - Methods to evaluate optimal network designs and analytical approaches (e.g., distributed regression and meta-analysis)

- **b)** Methods to improve data quality in data research networks

  - Methods to assess dimensions of data quality (e.g., completeness, accuracy, consistency)
  
  - Methods to prevent, mitigate, or impute missing or inaccurate data and improve understanding of mechanisms of missingness and implausibilities in electronic health
Methods to Improve Use of Artificial Intelligence and Machine Learning in Clinical Research (NEW)

This Priority Area replaces the one for “Methods to Improve the Use of Natural Language Processing.” This change signals PCORI’s broader interest in funding methodological research that seeks to improve how massive amounts of data from a variety of electronic health data (EHD) sources can be (1) appropriately analyzed and integrated into clinical care and healthcare delivery systems, and (2) used to facilitate population health models and social determinants of health (SDoH) analyses.

Proposals should address mechanisms seeking to improve equitable, inclusive data collection and aggregation.

The following topics are priorities:

a) Methods for developing effective predictive models for individual patients or populations of patients from EHD, including approaches to integrate heterogenous data sources (e.g., with differing noise properties, quality, and measurement frequencies); approaches to extracting informative representations from unstructured data (e.g., continuous temporal measurements, images, or text); and approaches to modeling longitudinal EHD

b) Methods for causal inference machine learning to estimate heterogeneous treatment effects

c) Methods to assess dimensions of data quality (e.g., methods to assess data validity and reproducibility of model training data sets; approaches to data collection and provenance that minimize bias and unfairness)

II. General Requirements for PCORI Research

This section includes language that is specific to PCORI’s requirements for programmatic responsiveness under this funding announcement. Applicants should use this section as guidance when preparing their applications. For information related to administrative and technical requirements for LOI and application submission, please consult the PCORI Submission Instructions.

Categories of Non-responsive

Applications to the Methods PFA that propose the following types of research will be considered nonresponsive:

- Nonmethodological research
  - Develops a discrete intervention or healthcare practice
  - Compares the efficacy of two or more health interventions

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1 Includes data from EHRs, administrative claims, physiological measurements, lab test results, medications administered, imaging test results, progress and discharge reports, genomic profiles, and personal devices (activity and heart rate monitors, cell phone sensors, and apps), among other sources.
Develops best practices for healthcare delivery

- **Narrowly focused research**
  - Develops, refines, and validates disease- or condition-specific measures

Consistent with PCORI’s authorizing law, PCORI does not fund research whose findings will include:

- Coverage recommendations
- Payment or policy recommendations
- Creation of clinical practice guidelines or clinical pathways
- Establishment of efficacy for a new clinical strategy
- Pharmacodynamics
- Study of the natural history of disease
- Basic science or the study of biological mechanisms

**Cost Effectiveness and Cost**

PCORI’s authorizing law was amended by reauthorization legislation in 2019 to include a new mandate to consider, as appropriate, the full range of clinical and patient-centered outcomes data relevant to patients and stakeholders. The reauthorizing language clarifies that in addition to the relevant health outcomes and clinical effectiveness, relevant outcomes may include the potential burdens and economic impacts of the utilization of medical treatments, items, and services.

As such, where PCORI previously directed in its past Funding Announcements that proposed studies could not employ direct measurements of cost, PCORI now allows and encourages proposed studies that include collection of data describing these potential burdens and economic impacts when relevant to patients and caregivers or to other stakeholders, as further described below and in the accompanying FAQs. PCORI’s intention is that PCORI-funded research capture such burdens and economic impacts to provide the full range of outcomes data relevant to decision makers.

Specifically, applications responding to this PFA may:

- Include data collection on burdens or economic impacts associated with interventions, that are relevant to patients, caregivers and other stakeholders. PCORI-funded studies have often included impacts on healthcare utilization; data that capture costs of these impacts will now be considered responsive.
- Include data collection on burdens and economic impacts relevant to other stakeholders, such as medical out-of-pocket costs, time costs, other costs patients or caregivers incur in the course of seeking care (i.e., for childcare or transportation), or productivity costs.

However, proposed research **may not measure economic impacts as the primary outcome** of a

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proposed study. Proposals that have economic measures as the primary outcome will be considered non-responsive.

Further, consistent with past Funding Announcements, PCORI will consider an application nonresponsive if the proposed research:

- Conducts a formal cost-effectiveness analysis of alternative approaches to providing care.
- Directly compares the costs of care between two or more alternative approaches to providing care, or relies on modeling to develop estimates of “total costs of care” designed to enable such comparisons.

For further information, please reference our cost-effectiveness analysis FAQs.

PCORI has a continued interest in studies addressing questions about conditions that lead to high costs to individuals or society. This interest is reflected in our review criterion on the condition’s impact on the health of individuals and populations. Thus, as addressed in the FAQs, PCORI is interested in studies that:

- Examine the effect of costs on patients, such as patients’ out-of-pocket costs, hardship, or lost opportunity, or costs as a determinant of or barrier to access to care
- Address cost-related issues, such as the resources needed to replicate or disseminate a successful intervention
- Evaluate interventions to reduce health system waste or increase health system efficiency

In Fall 2020, PCORI proposed draft principles that will serve as a point of reference for providing guidance to potential applicants on what is included in “the full range of clinical and patient-centered outcomes relevant to, and that meet the needs of, patients, clinicians, purchasers, and policy makers,” consistent with PCORI’s authorizing law. The draft principles will be finalized following review of robust stakeholder input PCORI received during a 60-day public comment period that ended November 13, 2020. These draft principles will inform both PCORI’s expectations for applicants and the corresponding review evaluation of applications submitted in response to this PFA. Final principles and guidance are expected to be available in Spring 2021.

Avoiding Redundancy

PCORI encourages potential applicants to review funded research at pcori.org. We intend to balance our funded portfolio to achieve synergy and avoid redundancy where possible.

Methodological Considerations

The PCORI Methodology Standards represent minimal requirements for the design, conduct, analysis, and reporting of scientifically valid PCOR. Regardless of study design, applications must adhere to all relevant PCORI Methodology Standards, and all deviations need to be justified. Applicants should address additional best practices—including relevant guidelines for conducting clinical trials developed by other organizations—in the application for PCORI funding.
Leveraging Existing Resources, Including PCORnet

PCORI is interested in new research that derives data from a wide variety of sources and that uses study designs appropriate for the goals of the proposed project. PCORI encourages investigators to propose studies that leverage existing resources, such as adding PCOR to an existing large clinical trial or analyzing existing large databases that contain valuable, relevant information that may be used to answer important CER questions. Another possible resource is established patient outcomes registries, especially when they can be linked to electronic medical record data from healthcare delivery systems or administrative claims data from public or commercial insurers. In circumstances where randomized controlled trials are not practical or ethically acceptable, studies leveraging established patient outcomes registries can have meaningful and complementary roles in evaluating patient outcomes. PCORI does not intend for this PFA to support the development of new data networks or patient registries, but rather to support the effective utilization of existing data resources for proposed new CER studies.

Patient and Stakeholder Engagement

In PCORI-funded research, patients and other healthcare stakeholders are viewed as partners who leverage their lived experience and/or professional expertise to influence research to be more patient centered, relevant, and useful. Engagement approaches and practices, including the choice of stakeholder partners, should be tailored to support the objectives of the research. Highly technical applications should consider whether engaging other stakeholders or end-users (e.g., data architects, clinicians, domain experts, health services researchers with different expertise than that of the research team members, policy makers) would be of value in the methodological research process.

When developing an engagement strategy, PCORI encourages applicants to consider the time and resources needed to identify, confirm, and prepare stakeholders for collaborating; the infrastructure needed to manage stakeholder engagement activities; and the specific decision points that will draw on the expertise of stakeholder partners. Applicants' use of multiple approaches that are along a continuum of engagement from input to shared leadership are allowable and encouraged. For example, study teams may find it useful to solicit input from a large group of stakeholders using quick-turnaround methods (e.g., focus groups, surveys, crowd-sourcing, virtual or in-person roundtables and community forums) in addition to engaging stakeholders via ongoing consultative groups (e.g., advisory committees, working groups), collaborative arrangements, and leadership positions (e.g., co-investigators, multidisciplinary steering committees) that are sustained over the course of the study.

For this PFA, applicants should provide an overview of their engagement approach that should include (1) a proposed list of patient and other healthcare research partners (include names and affiliations, if available), the perspectives they will represent, and justification for their inclusion; (2) the goals for working with stakeholders, which may include affecting the acceptability, feasibility, rigor, and/or relevance of the study; and (3) a description of how the team will collaborate with and/or gather input from stakeholders at key decision points throughout the study. Funded awardees are required to submit

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a more detailed engagement plan six months after contract execution.

**Populations Studied and Recruited**

PCORI seeks to fund research that includes diverse populations with respect to age, gender, race, ethnicity, geography, or clinical status so that possible differences in outcomes may be examined in defined subpopulations. PCORI recognizes that some proposed studies might represent important PCOR opportunities, even in the absence of a broadly diverse study population. However, the burden is on the applicant to justify the study’s significance in the absence of diversity; to discuss which subgroups are most important; and to explain how the subgroups will be analyzed, including whether the study will be powered to examine the question of effectiveness in subgroups.

PCORI is particularly interested in including previously understudied populations for whom effectiveness information is especially needed, such as hard-to-reach populations or patients with multiple conditions. Thus, comparisons should examine the impact of the strategies in various subpopulations, with attention to the possibility that the strategy’s effects might differ across subpopulations. PCORI has developed the following list of populations of interest to guide our efforts in research and engagement. (Note that the Addressing Disparities Priority Area requires that proposed research focus on at least one of the groups indicated by an asterisk below. See the Broad PFA for more information.)

- Racial and ethnic minority groups*
- Low-income groups*
- Women
- Children (age 0–17 years)
- Older adults (age 65 years and older)
- Residents of rural areas*
- Individuals with special healthcare needs, including individuals with disabilities*
- Individuals with multiple chronic diseases
- Individuals with rare diseases
- Individuals whose genetic makeup affects their medical outcomes
- Patients with low health literacy, numeracy, or limited English proficiency*
- Gender and sexual minorities*
- Veterans and members of the Armed Forces and their families

**Protection of Human Subjects**

PCORI follows the Federal Policy for the Protection of Human Subjects (45 CFR part 46), including the Common Rule. For more detailed information, please see Section 5, titled “Human Subjects Research Policy,” in the Supplemental Grant Application Instructions for All Competing Applications and Progress
Reports, which is issued by the US Department of Health and Human Services (HHS). In referencing the HHS Supplemental Grant Application Instructions, note that PCORI does not require that applicants comply with sections of that policy that refer to requirements for federal wide assurance and the inclusion of women, minorities, and children in the proposed studies. Instead, PCORI expects applicants to address diversity in study participants in the Research Plan, through a focus on subpopulations, as described in the above section on Populations Studied and Recruited. Awardees must also comply with appropriate state, local, and institutional regulations and guidelines pertaining to the use of human subjects in research.

PCORI requires awardees to ensure that there is a Data and Safety Monitoring Plan, which may include the need to appoint a Data and Safety Monitoring Board, as provided in the PCORI Policy on Data and Safety Monitoring Plans for PCORI-Funded Research.6

PCORI merit reviewers will examine plans for protection of human subjects in all applications and may provide comments regarding the plans (see How to Evaluate Human Subjects Protections?). Reviewers’ comments on human subject research are not reflected in the overall application score, but PCORI staff might use them during potential funding negotiations. Final determinations about the adequacy of human subject protections rest with the Institutional Review Board or international equivalent that has jurisdiction for the study.

The awardee institution, whether domestic or foreign, bears ultimate responsibility for safeguarding the rights and welfare of human subjects in PCORI-supported activities.

Required Education of Key Personnel on the Protection of Human Subject Participants

PCORI requires that all applicants adhere to the National Institutes of Health (NIH) policy on education in the protection of human subject participants in the conduct of research. This applies to all individuals listed as key personnel in the application. The policy and FAQs are available on the NIH website.8

III. LOI Review

Applying for funding from PCORI is a two-stage process. An LOI must be submitted, and an applicant must be invited to submit an application.

LOIs are evaluated based on the following:

- Responsiveness to the Methods PFA
- Importance and relevance of the topics to PCORI priorities, as evidenced by critical gaps in current methodological understanding and supported by the scientific literature
- Clarity and credibility of responses to the LOI questions
- Sufficient detail and scientific rigor of the proposed methods

• Programmatic fit and balance, considering whether the LOI significantly overlaps with previously funded studies or concurrent LOIs and/or applications

Only applicants whose LOIs are deemed most responsive to this PFA will be invited to submit a full application. A minimum of two PCORI staff members review the LOIs, which are not scored during review.

The LOI Template provides guidance on responding to each item. Please refer to the Submission Instructions for due dates and information on how to submit an LOI via PCORI Online.

IV. Merit Review
PCORI’s merit review process is designed to support the following goals:

• Identify applications that have the strongest potential to help patients, caregivers, clinicians, policy makers, and other healthcare system stakeholders make informed decisions to improve patient outcomes.

• Implement a transparent, fair, objective, and consistent process to identify these applications.

• Elicit high-quality feedback that reflects a diversity of perspectives to ensure that the PCORI-funded research reflects the interests and views of patients and other stakeholders and those who care for them, and that it meets the criteria for scientific rigor.

• Fund projects that fill important evidence gaps and have strong implementation potential.

• Regularly evaluate and continually improve the merit review process and policies in support of PCORI’s mission.

PCORI merit review is a multiphase process that includes PFA development; staff evaluation of LOIs; the review panel’s preliminary review of full applications; an in-person panel discussion of a subset of full applications (identified by PCORI’s Research Priority Area Program staff and based on the preliminary review and program priorities); the Selection Committee’s recommendation of applications for funding; and, finally, Board of Governors (Board) award approval.

Preliminary Review
PCORI conducts rigorous merit review of the full applications it receives. Note that PCORI may eliminate applications from the review process for administrative or scientific reasons (e.g., nonresponsiveness). An application may be administratively withdrawn if it is incomplete; submitted past the stated due date and time; or does not meet the formatting criteria outlined in the Methods Submission Instructions, in the PCORI templates, and in PCORI Online. An application can be scientifically withdrawn if it is not responsive to the guidelines described in this PFA, includes a cost-effectiveness analysis, or otherwise does not meet PCORI programmatic requirements.

PCORI Merit Review Officers (MROs) recruit each review panel based on the number of invited LOIs and topic areas represented by the invited LOIs. MROs recruit the Panel Chair, scientist reviewers who are subject matter experts, patient representatives, and representatives of other stakeholder groups. All panel members receive training during the review cycle to ensure that they understand the programmatic and organizational goals of review.
Below are PCORI’s merit review criteria. PCORI’s merit review panels use these criteria during the preliminary and in-person review phases to evaluate and score all submitted applications and to ensure consistency and fairness in how applications are evaluated.

**Criterion 1. Study identifies critical methodological gap(s) in PCOR/CER**

The application should address the following:

- Does the application identify and make a persuasive argument for addressing critical gaps in current PCOR/CER methods and provide sufficient support from the published scientific literature?

**Criterion 2. Potential for the study to improve PCOR/CER methods**

The application should address the following:

- Does the application articulate clearly how the development, refinement, or comparison of methods, and/or the novel application of methods to PCOR/CER improves the validity, trustworthiness, and usefulness of PCOR/CER findings?
- Are the PCOR/CER methods generated from this study likely to inform best practices or standards for PCOR/CER?

**Criterion 3. Scientific merit (research design, analysis, and outcomes)**

The application should address the following:

- Does the application provide a clear conceptual framework or theoretical model and empirical evidence that inform the study design, key variables or constructs, analytical approach, and relationships being tested or explored?
- Does the application demonstrate adherence to the relevant PCORI Methodology Standards and describe methods that reflect state-of-the-art thinking and practice in the relevant methodological area?
- Are the study scope and timeline realistic, including the completion of specific scientific and engagement milestones?

**Criterion 4. Investigator(s) and environment**

This criterion should assess the appropriateness (i.e. qualifications and experience) of the investigator(s)/team and the environment’s capacity (i.e. resources, facilities, and equipment) to support the proposed project. It should not be an assessment of the institution’s quality.

The application should also address the following:

- How well qualified are the PIs, collaborators, and other researchers to conduct the proposed activities? Is there evidence of sufficient clinical or statistical expertise (if applicable)?
- Does the investigator or co-investigator have demonstrated experience conducting projects of a similar size, scope, and complexity?
- If the project is collaborative or dual-PI, do the investigators have complementary and integrated expertise? Are the leadership, governance, and organizational structures appropriate for the project?
  - (Dual-PI Option Only) Does the Leadership Plan adequately describe and justify PI roles
and areas of responsibility?

- Is the level of effort for each team member appropriate for successfully conducting the proposed work?
- Does the application describe adequate availability of and access to facilities and resources (including patient populations, samples, and collaborative arrangements) to carry out the proposed research?
- Is the institutional support appropriate for the proposed research?

**Criterion 5. Patient-centeredness**

**Note:** A study can be patient centered even if the end-user is not the patient, as long as patients will benefit from the study findings (e.g., methods to produce more valid, trustworthy, and useful PCOR/CER findings).

The application should address the following:

- Does the application articulate clearly how the study will improve PCOR/CER methods that address outcomes of interest to patients and their caregivers?

**Criterion 6. Patient and stakeholder engagement**

The application should address the following:

- Are patients and/or other relevant stakeholders meaningfully engaged in appropriate phases of the research?
- Does the proposed study demonstrate the principles of reciprocal relationships; co-learning; partnership; and trust, transparency, and honesty?
- If engagement is deemed inappropriate in some or all aspects of the proposed study, does the application justify why it is not appropriate?

**In-Person Review**

During preliminary review, all administratively and scientifically compliant applications are evaluated and scored by panels of external reviewers based on PCORI’s merit review criteria, including evaluation of adherence to the PCORI Methodology Standards. After preliminary review, PCORI program staff members evaluate panel scores and critiques to identify a subset of applications for merit reviewers to discuss at the in-person review meeting. Not all submitted applications move forward to in-person review.

During the in-person review, merit reviewers meet to discuss applications and to clarify further the merits of the proposed research. They also identify areas for improvement. Each application is re-scored based on the content of discussion. The Panel Chair and PCORI MRO lead the in-person panel meeting and ensure that all applications receive a fair and thorough review according to the standards outlined in the PFA.

**Post-Panel Review**

After the in-person meeting, PCORI program staff evaluate final merit review panel scores and comments, identify duplication or synergy among funded projects, and consider the fit of applications
within the programmatic vision. Program staff members then recommend projects to a Selection Committee, which includes members of the Board. The Selection Committee considers recommendations and works with staff to identify a slate of applications for possible funding based on merit review scores, programmatic balance and fit, and PCORI’s strategic priorities. This slate is then proposed to the Board for consideration and approval.

In addition, PCORI evaluates applicant risk before issuing a PCORI award. Factors considered include financial stability, quality of management systems, audit findings, and past performance on PCORI awards (e.g., compliance with PCORI reporting requirements, conformance to PCORI terms and conditions on previous awards, and timely achievement of milestones). Based on the risk assessment, PCORI may impose special terms and conditions on awardees or withhold contract issuance until such business risks are mitigated. **PCORI will not award new contracts to current awardees with overdue reports (progress, interim, final, etc.) until the overdue reports have been submitted to PCORI.**

**Summary Statements and Funding Recommendations**

Summary statements are provided to applicants approximately two weeks before funding decisions are announced. **If an application progresses to in-person discussion,** the applicant will receive a summary statement that will include the following:

- In-person panel discussion notes
- Final average overall score
- Preliminary reviewer critiques
- Application quartile, to help applicants understand how their application compared with other discussed applications, as appropriate

Summary statements for applications that do not progress to in-person discussion include only the preliminary reviewer critiques.

Funding recommendations are made by identifying meritorious applications that fit the programmatic needs and that satisfactorily address the merit review criteria while adhering to the PCORI Methodology Standards. Programs also consider the funds allotted for the current funding announcement when deciding which applications to recommend to the Board for approval. Applicants to this current cycle’s PFA will receive summary statements and notification of the funding status of their application no later than November 2021.

**V. PCORI Policies that Govern Awardees Related to Data Access, Privacy, and Public Reporting**

Applicants should be aware that all PCORI awardees are required to comply with the following requirements:

**Registering Research Projects**

PIs are required to use the naming convention “PCORI-PCORI application number” (i.e., PCORI-XXXX-XXXX). Clinical trials must be registered before enrollment of the first patient. All trials that meet the
definition on the NIH database\(^9\) (see Data Element Definitions) are required to register, if funded.

Funded clinical trials or observational outcomes studies must be registered at ClinicalTrials.gov.

Funded evidence-synthesis studies must be registered at PROSPERO.\(^{10}\) Funded patient registries must be registered at https://patientregistry.ahrq.gov/.

**PCORI Public Access Policy**

PCORI requires all awardees to adhere strictly to PCORI’s publication policies, which will be shared with awardees within the research contract.

**Standards for Privacy of Individually Identifiable Health Information**

On August 14, 2002, the Department of Health and Human Services issued a final modification to the Standards for Privacy of Individually Identifiable Health Information, the “Privacy Rule.” The Privacy Rule is a federal regulation under the Health Insurance Portability and Accountability Act (HIPAA) of 1996 that governs the protection of individually identifiable health information and is administered and enforced by the Department of HHS Office for Civil Rights.

Decisions about the applicability and implementation of the Privacy Rule reside with the researcher and his or her institution. The Office for Civil Rights\(^{11}\) provides information on the Privacy Rule, including a complete Regulation Text and a set of decision tools related to “Am I a covered entity?” Information on the impact of the HIPAA Privacy Rule on NIH processes involving the review, funding, and progress monitoring of grants, cooperative agreements, and research contracts is available from NIH.\(^{12}\)

**Data Management and Data-Sharing Plan**

In accordance with its authorizing legislation, PCORI is committed to publishing and disseminating all information and materials developed using PCORI funding. All recipients of PCORI contracts must agree to these principles and take steps to facilitate data availability.

PCORI encourages openness in research and making research data available for purposes of replication and reproducibility. As such, if an award is made, the awardee will be expected to adhere to PCORI’s Policy for Data Management and Data Sharing. The policy articulates PCORI’s requirement that certain awardees make the underlying data and data documentation (e.g., study protocol, metadata, and analytic code) from their PCORI-funded research projects available to third-party requestors.

A full data management and data sharing plan is not required at the time of application. If an award is made—specifically for the Pragmatic Clinical Studies (PCS) and the targeted PFA studies—the awardee is required to develop and maintain such a plan, which is described in detail in the PCORI Methodology Standards for Data Integrity and Rigorous Analyses, specifically Standard IR-7. This plan must be appropriate for the nature of the research project and the types of research project data and consistent with applicable privacy, confidentiality, and other legal requirements. The policy includes details about what data certain awardees will be expected to deposit into a PCORI-designated data repository and

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\(^9\) Available at https://prsinfo.clinicaltrials.gov/.

\(^{10}\) Available at http://www.crd.york.ac.uk/prospero/.

\(^{11}\) Available at http://www.hhs.gov/ocr/.

when that data would be available for third-party requests.

For research awards funded under Broad funding announcement (Assessment of Options, Improving Healthcare Systems, Addressing Disparities, Communication and Dissemination Research, Improving Methods), the policy calls for awardees to maintain the Full Data Package for seven years. PCORI may, in selective cases, notify the researcher of its intent to provide funds for the deposition of the Full Data Package in a PCORI-designated repository in circumstances where PCORI requests such deposition.

The information here is meant for informational purposes only and does not attempt to be an exhaustive representation of the Policy for Data Management and Data Sharing. Please refer to the policy in its entirety for additional information.

Peer Review and Release of Research Findings

PCORI has a legislative mandate to ensure the scientific integrity of the primary research it supports and to make study findings widely available and useful to patients, clinicians, and the general public within a specific timeframe. Accordingly, the Board adopted the Process for Peer Review of Primary Research and Public Release of Research Findings.13

In summary, awardee institutions are required to submit to PCORI for peer review a draft final research report that provides the methodological details, describes the main study results, and interprets the findings in clinical or other decisional contexts. After awardee institutions have responded to reviewers’ comments to PCORI’s satisfaction, the report will be accepted and considered final. PCORI will then prepare two 500-word standardized abstracts summarizing the study results (as detailed below), which the awardee institution will review and approve.

No later than 90 days after the draft final research report is accepted, PCORI will post the following materials on its website: (1) a 500-word abstract for medical professionals; (2) a 500-word standardized abstract summarizing the study results for patients and the general public; (3) a link to the study record on ClinicalTrials.gov (as applicable); and (4) ancillary information, including conflict of interest disclosures. The final research report, along with anonymized reviewer comments, will be made publicly available on the PCORI website no later than 12 months after its acceptance, except by prior mutual agreement with the awardee institution.

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