

# Assessment of Prevention, Diagnosis, and Treatment Options

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## Session Objectives

- Describe the APDTO Program and available opportunities
- Discuss the LOI and application process
- Provide examples of what we are looking for
- Answer questions!



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- 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

Adapted from *Initial National Priorities for Comparative Effectiveness Research*,  
Institute of Medicine of the National Academies



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- Performed in real-world populations
- Informs a specific clinical or policy decision
- Describes results in subgroups of people
- Applies appropriate methods and data sources



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- Addresses a current gap in knowledge
- Addresses consequential choices faced by patients, clinicians, and other stakeholders
- Allows patients and caregivers to compare benefits and harms of options and provide relevant information about outcomes



## “Broad” Studies

**Seeks to produce information that can be directly adopted by providers.**

- Compares two or more options for prevention, diagnosis, treatment, or management
- Often conducted in routine clinical settings
- Less complex than traditional trials

### Overview

- Two Funding cycles per year
- Funds Available per Cycle: \$20-30M
- Maximum Project Duration: 3 years
- Maximum Direct Costs per Project: \$2M



## Trends in APDTO Studies

- Clinical trials with larger sample sizes
  - Leveraging existing research collaborations
  - Partnering with clinical delivery sites
- Well designed observational studies
  - Built on registries and other high quality data sources
- Good response to PCORI's priority for research on rare conditions



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## Pragmatic Clinical Studies

**Seeks to produce information that can be directly adopted by providers.**

- Compares two or more options for prevention, diagnosis, treatment, or management
- Often conducted in routine clinical settings
- Less complex than traditional trials
- *Large and able to focus on subgroups*
- *Focused on high priority topics designated by PCORI*

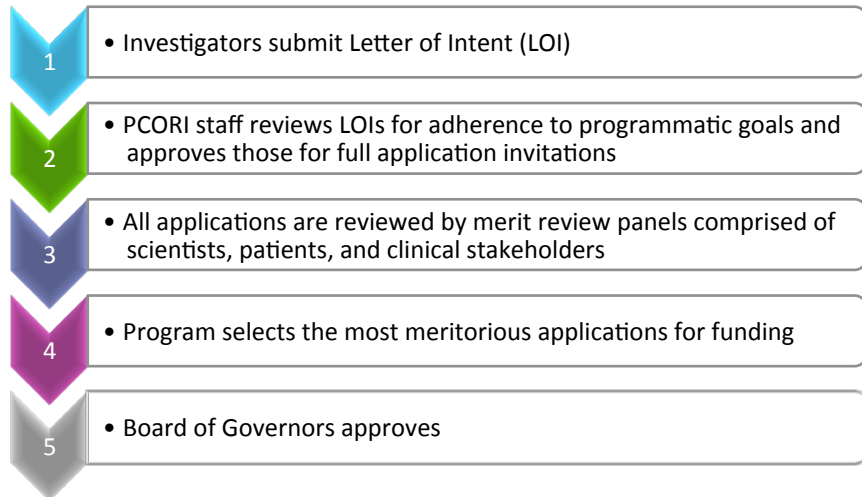


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### Overview

- Two Funding cycles per year
- Funds Available per Cycle: *\$90M*
- Maximum Project Duration: *5 years*
- Maximum Direct Costs per Project: *\$10M*

## Steps in the Review of Proposals



## Strong LOIs

- Clear decisional dilemma
- Well-documented evidence gap
- Viable comparators
- Scientifically solid
- Plan for stakeholder involvement
- Doesn't duplicate current PCORI efforts



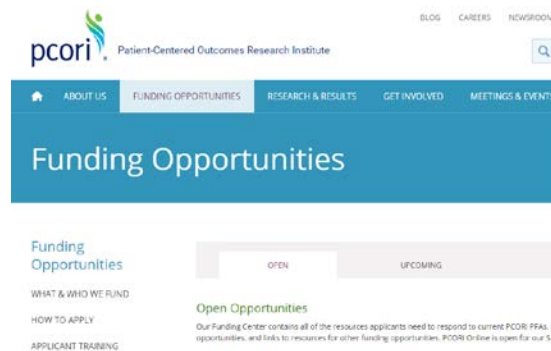
## Most Serious Deficiencies in LOIs

- Study appears to seek to establish efficacy
- Gap is not well documented
- Sample size is not well-justified
  - Number is too low to be robust and convincing
  - Effect size is not based in evidence
- Engagement is weak

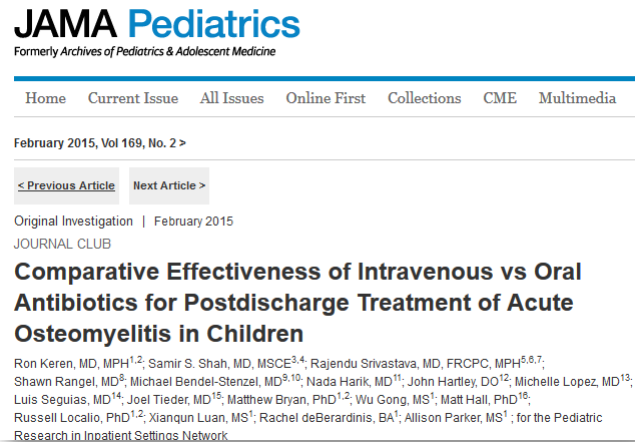


## Applications

- Review the PFA carefully
- Follow instructions for completion



## Example of a Successful Project



Keren R, et al. JAMA Pediatr. 2015;169(2):120-128.



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## Comparative Effectiveness of Intravenous vs. Oral Antibiotic Therapy for Serious Bacterial Infections

PI: Ron Keren, MD, MPH  
Children's Hospital of Philadelphia

### Study Objective

- To compare oral antibiotics vs. intravenous antibiotics delivered via a central venous catheter in children who require prolonged home antibiotic therapy after hospitalization for three different serious bacterial infections: perforated appendicitis, complicated pneumonia, and osteomyelitis



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## Documenting the evidence gap

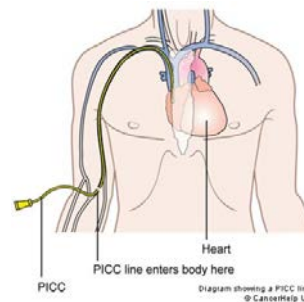
IDSA GUIDELINES

Clinical Practice Guidelines by the Infectious Diseases Society of America  
Methicillin-resistant coagulase negative staphylococci  
37. The optimal route of administration of antibiotic therapy has not been established. Parenteral, oral, or initial parenteral therapy followed by oral therapy may be used depending on individual patient circumstances (A-III).

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## Intravenous vs. Oral Antibiotic Therapy - Rationale

- Peripherally inserted central catheters (PICCs) are effective for delivering high concentrations of antibiotic but are fraught with infectious, thrombotic, and mechanical complications.
- Oral antibiotics with high bioavailability make oral step-down therapy an appealing alternative.
- Only small case series and no clinical trials document the effectiveness of oral antibiotics in this setting.





## Comparative Effectiveness of Intravenous vs. Oral Antibiotic Therapy for Serious Bacterial Infections

- Study Conclusions:

- Given the magnitude of complications

**Bone and Joint Infections**  
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NEW GUIDELINE  
IN DEVELOPMENT\*

"Diagnosis and Management of Bone and Joint Infections in Children"  
"Clinical Practice Guideline on The Diagnosis and Management of Bone and Joint Infections in Children"

[http://www.idsociety.org/Organ\\_System/#Skeletal](http://www.idsociety.org/Organ_System/#Skeletal)  
(Bones & Joints) accessed June 16, 2015



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## Questions?



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