Integrating Research into Clinical Practice

Pediatric Gastroenterology SIG Annual Meeting

March 19, 2020
Agenda

• Moderator:
  • Jennifer Verrill Schurman, PhD, ABPP; Children’s Mercy KC

• Panelists:
  • Shayna Skelley Coburn, PhD; Children’s National (Celiac)
  • Rose Schroedl, PhD; Nationwide Children’s (Motility)
  • Amy Hale, PhD; Boston Children's Hospital (Motility/FAP)
  • Lindsey Burrell, PhD; Children’s Healthcare of Atlanta (Feeding)
Why is this topic so important?

1. Psychologists want to help people.
   To do that, we need to apply the evidence base (if one exists) or help to create one (if it doesn’t).

2. Publication is academic currency.
   If you want to get promoted, you are probably going to need to publish something.
Clinical Data Collection
Why collect clinical data?

- Staple of most health research
- Supports informed decision-making
  - Individual level (patient)
  - Administrative level (program)
  - Population level (CPGs)
- Resources built into clinical ops
- Available to query as questions arise
- Time saving on back end
Clinical data defined

• Programmatic level:
  • Electronic Medical Record data
  • Claims/financial data
  • Health surveys
  • Patient registries

• Population level (across institutions):
  • Patient/disease registries (e.g., SPLIT)
  • Administrative data (e.g., HCUP)
  • Clinical trial registries and databases
Clinical data capture considerations

- Decide whether it will be a clinical database or registry, and understand the implications of each
- Use standardized questionnaires, when appropriate
- Structure questions/responses to be easily interpreted, monitored, and compared
- Ensure outcome measurement is optimized in tool and timing
- Determine impact to clinic flow and how best to implement
- Batch changes over long enough periods to allow interim analyses
“Small n” Designs
Why do “small n” trials?

- Identify relevant clinical populations for EBTs
- Clarify clinical (vs. statistical) significance of outcome improvements
- Explore effectiveness and feasibility of new intervention approaches
- Develop ways to address implementation barriers in translation from research to clinical care
- Do not require many resources
- Can be done (relatively) quickly
Designing your “small n” trial

• Collect relevant practice-based data
  • Clear outcome variable consistent with study goals
  • Use standardized measures with known reliability/validity
  • Must be sensitive to short-term change

• Collect at key time points
  • Some baseline data/assessment
  • Multiple data/assessment points (using same metric)

• Is one patient enough? It depends…
  • Case studies appropriate for novel translation
  • Replication with heterogeneous patients more compelling
  • Multiple baseline and/or reversal designs even more so
Quality Improvement
Why engage in QI?

- Efficacy
- Could it work?

- Effectiveness
- Does it work?

- Implementation
- How can I make it work in my setting?
Why engage in QI?

• Improving “quality” within healthcare systems is deceptively challenging
• Speaks a language healthcare administrators/colleagues understand
• Provides structured framework for “scientifically” testing solutions (PDSA)
• Can help spread adoption more broadly/quickly (↓17 year lag)
• With a little reframing, you already know how to do it!
Designing QI for publication

• Delineate your quality gap and primary improvement aim in concrete terms (e.g., 80% of patient contacts within 6 months)
• Consider different categories of measurement (outcome, process, balancing)
• Stick with small tests of change within Plan-Do-Study-Act cycles
• Collect data as continuously as possible to allow temporal trending on run/control charts
• Keep track of barriers, resources, timing, lessons learned
• See the SQUIRE guidelines for more
Clinician-Researcher Partnerships
Why seek a research partner?

• Expands your available resources
• Reduces your educational burden
• Increases accountability/production
• Promotes translational research
  ✓ Speeds uptake of research into practice
  ✓ Makes research questions more meaningful
• Challenges views, assumptions, and roles (on both sides)
Keys to effective partnership

• Works best when knowledge users and researchers are equal partners throughout process; to that end, …
  ✓ Know your own value
  ✓ Find someone with complementary skills/resources
  ✓ State individual and project goals explicitly up front
  ✓ Understand your partner’s context/metrics
  ✓ Create a schedule of deliverables
  ✓ Check in early and often
  ✓ Honor your commitments
Take home points

- Plan ahead
- Define your scope
- Known your strengths
- Access your resources
- Automate what you can
- Iterate thoughtfully
- Seek mentorship

Slides available at: https://www.childrensmercy.org/GIConnect/