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Driving QI with Research: Findings from Public Health PBRNs

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Multi-State Learning Collaborative Open Forum on Quality Improvement in Public Health
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Missed opportunities in public health practice

Less than 50% of the population at risk is reached by:

- Smoking cessation
- Aspirin use
- Influenza vaccination
- Hypertension control
- Nutrition and physical activity programming
- HIV prevention
- Family planning
- Substance abuse prevention
- Interpersonal violence prevention
- Home visitation for high-risk mothers and infants
The disconnect between discovery research and delivery research

For every $100 in federal health research spending, <$1 is devoted to delivery system research.

Woolf and Johnson 2005.
Critical research issues in QI

- Did “it” work?
- Are you sure that it worked?
- For whom did it work (and for whom not)?
- How did it work (or why did it not)?
- What were the active ingredients?
- Were there unintended effects?
- Were the effects worth the costs?
- How long can the effects be sustained?
- Can it be replicated in other settings?
- Comparison to other QI methods (CER)?
Research challenges in QI

Design and attribution: are changes due to QI?
- Hawthorne effects
- Other temporal changes
- Regression to the mean
- The counterfactual?

Measurement
- Are we measuring the right things?
- Sensitivity & specificity
- Is there enough time to observe changes?

The QI Intervention
- Fidelity
- Implementation cost
- Comparative effectiveness of alternative QI strategies
- Dose-response
- Context-specific effects (treatment heterogeneity)
How can PBRNs help?

- Practice partners to help design, tailor, and implement QI
- Multiple practice settings for analysis and comparison
- Research partners to help design studies that balance rigor, relevance, feasibility
- Collaborative interpretation of results in context
- Translating results to timely practice and policy actions
What are Public Health PBRNs?

A collection of *public health agencies* and their *partner organizations* engaged in an ongoing collaboration with an *academic research center* to conduct rigorous, applied studies of strategies for organizing, financing, and/or delivering public health services in *real-world community settings*. 
The PBRN Model

- Identify Common questions of interest
- Engaged practice settings
- Research partner
- Data exchange
- Analysis & interpretation
- Translation & application
- Apply Rigorous research methods

Common questions of interest
Rigorous research methods
Data exchange
Analysis & interpretation
Translation & application
Apply Rigorous research methods
Identify Engaged practice settings
Research partner
The Robert Wood Johnson Foundation’s Public Health PBRN Program

- First cohort (December 2008 start-up)
- Second cohort (January 2010 start-up)
- Affiliate/Emerging PBRNs

Map showing distribution of first and second cohorts across the United States.
Types of PBRN studies

- **Comparative case studies**: document processes, identify scope and scale of problems, examine innovations

- **Large-scale observational studies**: document practice variation across public health settings; identify causes & consequences of variation

- **Adoption/diffusion studies**: identify the pace and patterns through which evidence-based practices are adopted, and factors that facilitate and inhibit adoption

- **Quality improvement studies**: evaluate strategies for improving program operations & outcomes

- **Policy evaluations and natural experiments**: monitor effects of key policy and administrative changes
QI Quick Strike Research Projects

- Local QI Responses to the County Health Rankings (Florida)
- Implementation of QI Collaboratives for Small and Rural Public Health Settings (Georgia)**
- Effects of Public Health Accreditation on QI Philosophy (Missouri)
- Taxonomy of QI Methods, Techniques and Results in Public Health (Minnesota)**
- QI Strategies and Regional Public Health Structures (Nebraska)**
- Evaluation of a QI Initiative to Improve Workforce Diversity (Washington)

**Featured on today’s panel
Cross-Cutting Themes

- Variation in public health delivery results in inequities in prevention and risk protection
- QI provides mechanisms for understanding and reducing unwarranted variation in PH practice
- Practice-based research in public health can:
  - Expand evidence on QI
  - Accelerate translation of QI to practice
  - Inform policy regarding value of QI
For More Information

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