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Expanding the Evidence Base for Accreditation and QI: Progress in Practice-Based Research Networks

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UNIVERSITY OF KENTUCKY
Center for Public Health Systems and Services Research

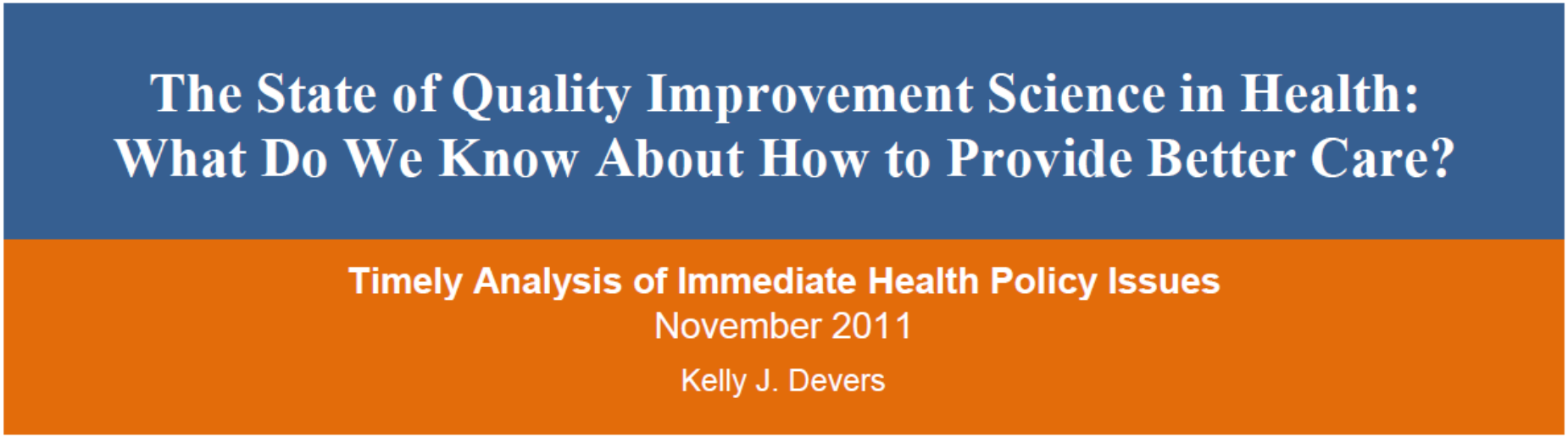
PUBLIC HEALTH Practice-Based Research Networks
National Coordinating Center

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

What do we know about QI?



- Reported QI effects are positive but modest
- Evidence for the effects of QI is not very strong
- Greater effort is needed to understand reasons for variation in QI results and spread

http://www.rwjf.org/qualityequality/product.jsp?id=73634

What do we know about QI?

Quality Improvement Interventions in Public Health Systems
A Systematic Review

Julia A. Dilley, PhD, Betty Bekemeier, PhD, MPH, Jeffrey R. Harris, MD, MPH, MBA

Context: Public health leaders are making difficult decisions about how to maximize the effectiveness of public health services with diminishing funds. Quality improvement (QI) interventions seek to improve the efficiency and effectiveness of public health programs, services, or organizations. The purpose of this study was to review the literature to describe public health system QI interventions and their impact on public health practices and health outcomes.

Evidence acquisition: A systematic review was conducted using PRISMA guidelines. Three databases were searched for peer-reviewed articles that included public health quality improvement–related terms in their abstracts. Articles published in 1990–2010 that described results from QI interventions conducted within the U.S. public health system were included.

Evidence synthesis: Fifteen studies were identified, reporting on 18 separate QI interventions. Studies fell naturally into three functional categories: organization-wide QI, program- or service-specific QI, and administrative or management function QI. Few of the studies linked their improvements directly to a health outcome or predictors of health outcomes. Studies generally were implemented in state-level or large local public health departments.

Am J Prev Med 2012;42(5S1):S58–S71

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)

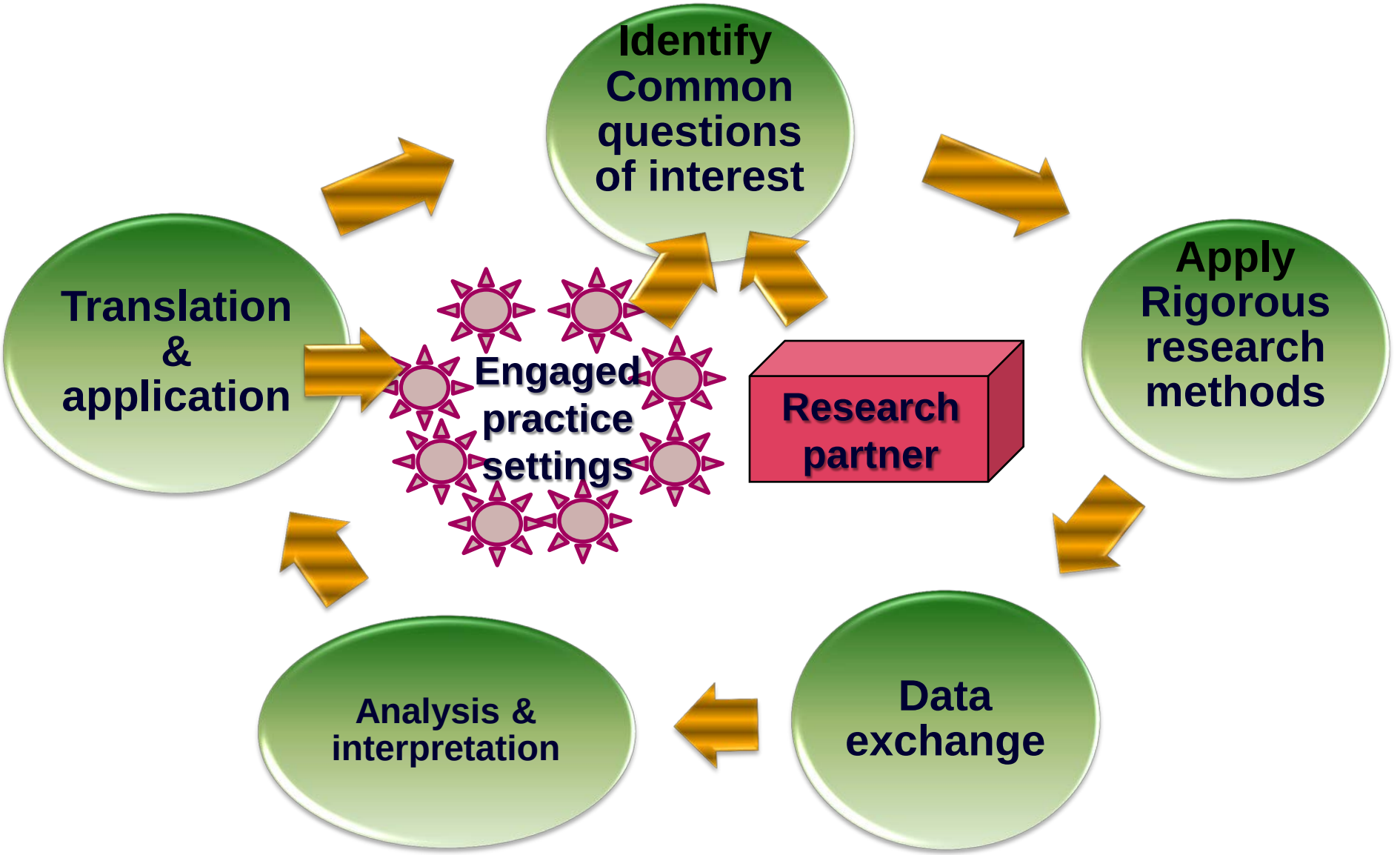
How can PBRNs help?

- 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

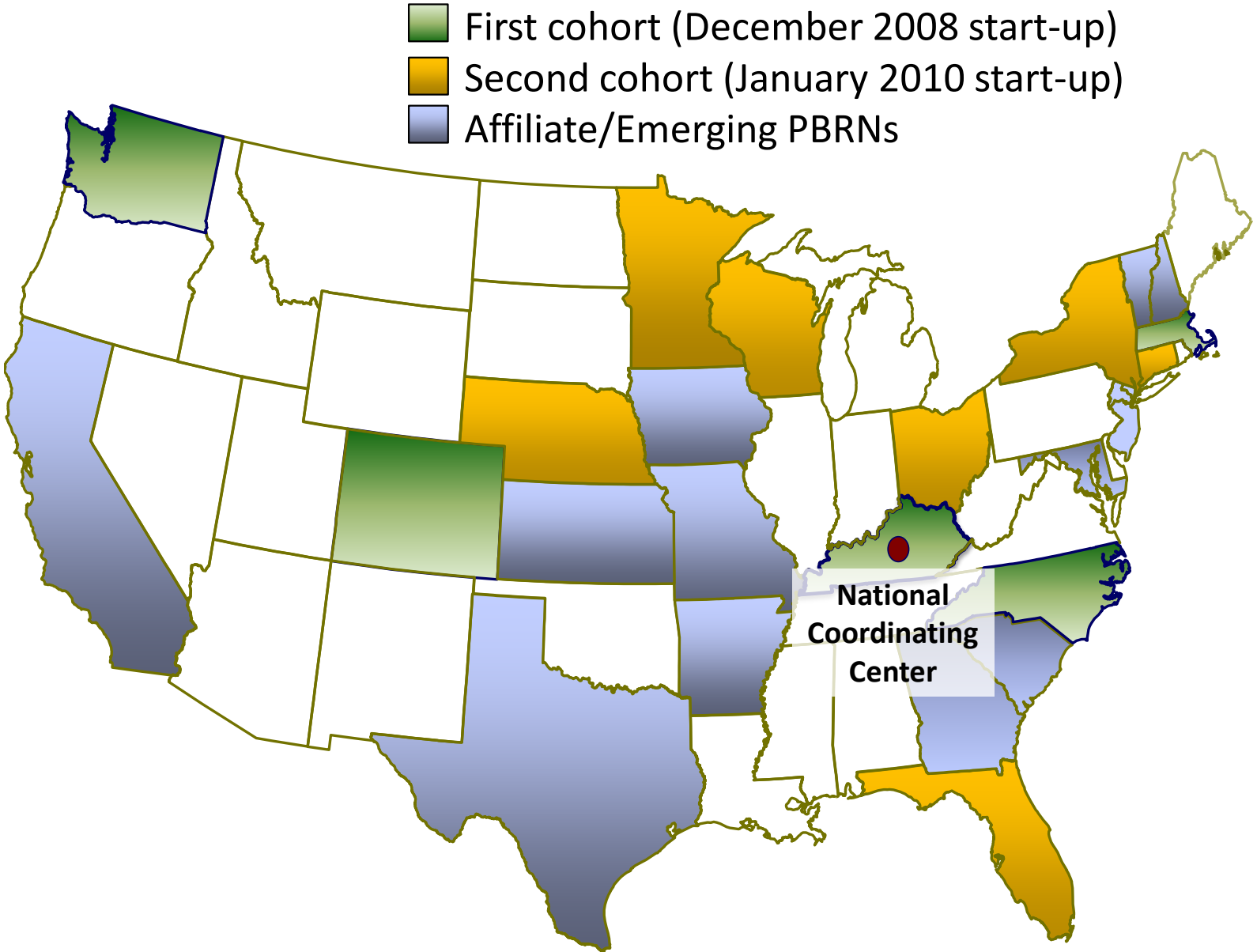
What are Public Health PBRNs?

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***.

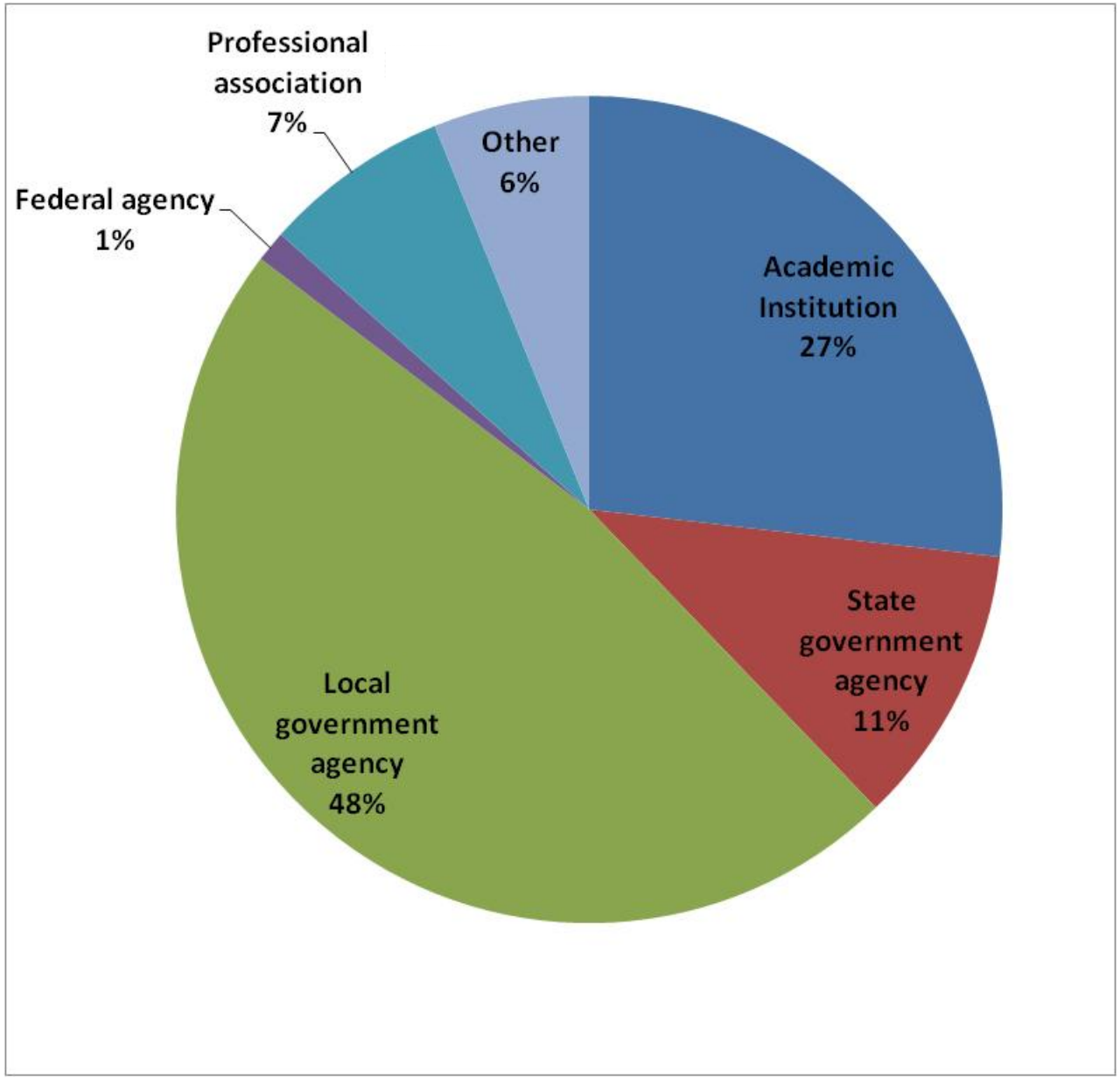
The Logic of Public Health PBRNs



The Robert Wood Johnson Foundation's Public Health PBRN Program



PBRN Participants



Selected PBRN Studies on Quality, QI, & Accreditation

	CO	Effects of Community Partnerships on Adoption of Evidence-Based Prevention
	CT	Measuring Quality in Local Public Health Emergency Preparedness
	FL	Local Public Health Responses to the County Health Rankings
	KY	Effects of QI Intervention on Evidence-Based Diabetes Prevention
	MA	Local Variation in Food Safety and Infectious Disease Control Practices
☑	**MN**	Measuring QI Maturity and Correlates in Public Health Settings
	MN	A Taxonomy of QI Methods, Techniques and Results in Public Health
	MO	Effects of Public Health Accreditation on QI Philosophy
	NY	Effects of Integrated HIV/AIDS and STD Service Delivery
	OH	Local Variation in Prevention, Investigation, and Intervention Practices for Foodborne Illness in Ohio
	OH	Variation in Local Enforcement of a State Clean Indoor Air Law
	OH	Analyzing Concordance between Position Descriptions and Practice Standards for Public Health Nurses
☑	**WI**	Measuring the Quality of Community Health Improvement Planning
	WA	Local Variation in Adherence to Communicable Disease Practices

Examples: Obesity prevention practices in CO

- ***Question of interest:*** How does the public health delivery system influence adoption and implementation of evidence-based strategies to promote healthy eating and active living through the LiveWell Colorado initiative?
- ***Practice settings:*** 25 local communities in CO
- ***Factors examined:***
  - Use of local data
  - Adherence to evidence-based strategies
  - Success strategies measured in RE-AIM
  - Network characteristics associated with success

- ***Study design:*** observational practice variation study, mixed-method

Examples: Communicable disease protection in MA

- ***Question of interest:*** How does the public health delivery system influence adoption and implementation of evidence-based strategies for food safety and infectious disease investigation?
- ***Practice settings:*** 351 municipalities in MA
- ***Factors examined:***
  - Adherence to consensus practices
  - Timeliness of investigation
  - Role of staffing, funding, IT, and partnerships

- ***Study design:*** observational practice variation study, mixed-method

Examples: Diabetes prevention in KY

- ***Question of interest:*** How does the public health delivery system influence adoption and implementation of evidence-based self-management strategies for diabetes?
- ***Practice settings:*** 6 health department jurisdictions serving 30 counties
- ***Factors examined:***
  - Adherence to EBPs
  - RE-AIM measures of success
  - Strength of collaboration

- ***Study design:*** pre-post design with QI intervention

Examples: Studying Production Processes

Multi-Network Practice and Outcome Variation (MPROVE) Study, 2012-13

Measures of Interest

- ***Availability/Scope:*** specific activities produced
- ***Volume/Intensity:*** Frequency of producing activity over period of time
- ***Capacity:*** Labor and capital inputs assigned to an activity
- ***Reach:*** Proportion of target population reached by activity
- ***Quality:*** effectiveness, timeliness, equity of activity
- ***Efficiency:*** resources required to produce given volume of activity

Conclusions: getting inside the box

- Engagement of practice and research partners
- Sensitive and specific measures
- Research designs in real-world settings

- What works best
  in which settings and why
- Informed public health decisions
- Smarter investments and greater value

For More Information

PUBLIC HEALTH
Practice-Based Research Networks
National Coordinating Center

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