PHSSR Research-In-Progress Series:

Bridging Health and Health Care

Thursday, February 19, 2015 1:00-2:00pm ET

Identifying & Learning from Positive Deviant Local Public Health Departments in Maternal and Child Health

Conference Phone: 877-394-0659
Conference Code: 775 483 8037#
Please remember to mute your phone and computer speakers during the presentation.

PHSSR National Coordinating Center at the University of Kentucky College of Public Health

PUBLIC HEALTH | SERVICES & SYSTEMS RESEARCH
PRACTICE-BASED RESEARCH NETWORKS

Agenda

Welcome: Rick Ingram, DrPH, National Coordinating Center

Presenter:

"Identifying & Learning from Positive Deviant Local Public Health Departments in Maternal and Child Health"

Tamar A. Klaiman, PhD, MPH, Assistant Professor of Health Policy and Public Health, University of the Sciences, Philadelphia

Commentary:

Betty Bekemeier, PhD, MPH, **FAAN**, Assistant Professor in the School of Nursing and Adjunct Assistant Professor at the School of Public Health, University of Washington

Jerie Reid, MS, RD, CDN, Director of Public Health, Clinton County Health Department, New York

Questions and Discussion

Future Webinar Announcements

PHSSR Mentored Researcher Development Awards

- 2-year awards providing protected time to complete PHSSR project, with research mentor and practice mentor (2013-2015)
- Four award recipients will present over next six weeks

Identifying and Learning from Positive Deviant Local Public Health Departments in Maternal and Child Health – Tamar A. Klaiman, PhD, MPH, University of the Sciences, Philadelphia
Leveraging Electronic Health Records for Public Health: From Automated Disease Reporting to Developing Population Health Indicators – Brian Dixon, PhD, Indiana University (Mar 4)
Evaluating the Quality, Usability, and Fitness of Open Data for Public Health Research – Erika G. Martin, PhD, MPH, State University of New York- Albany (Mar 11)
Restructuring a State Nutrition Education and Obesity Prevention Program: Implications of a Local Health Department Model – Helen W. Wu, PhD, University of California Davis (April 1)

Presenter

Tamar Klaiman, PhD, MPH

Assistant Professor of Health Policy and Public Health

University of the Sciences in Philadelphia

2013 PHSSR Mentored Researcher Development Award recipient

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USciences
University of the Sciences

Learning from Positive Deviant Local Health Departments in Maternal and Child Health

Tamar Klaiman, PhD, MPH; Athena Pantazis, MPH; Anjali Chainani, MPH; Betty Bekemeier, PhD, MPH, FAAN

Acknowledgement

- Funding provided by the Robert Wood Johnson Foundation *Public Health Services and Systems Mentored Research Award*

Research Objective

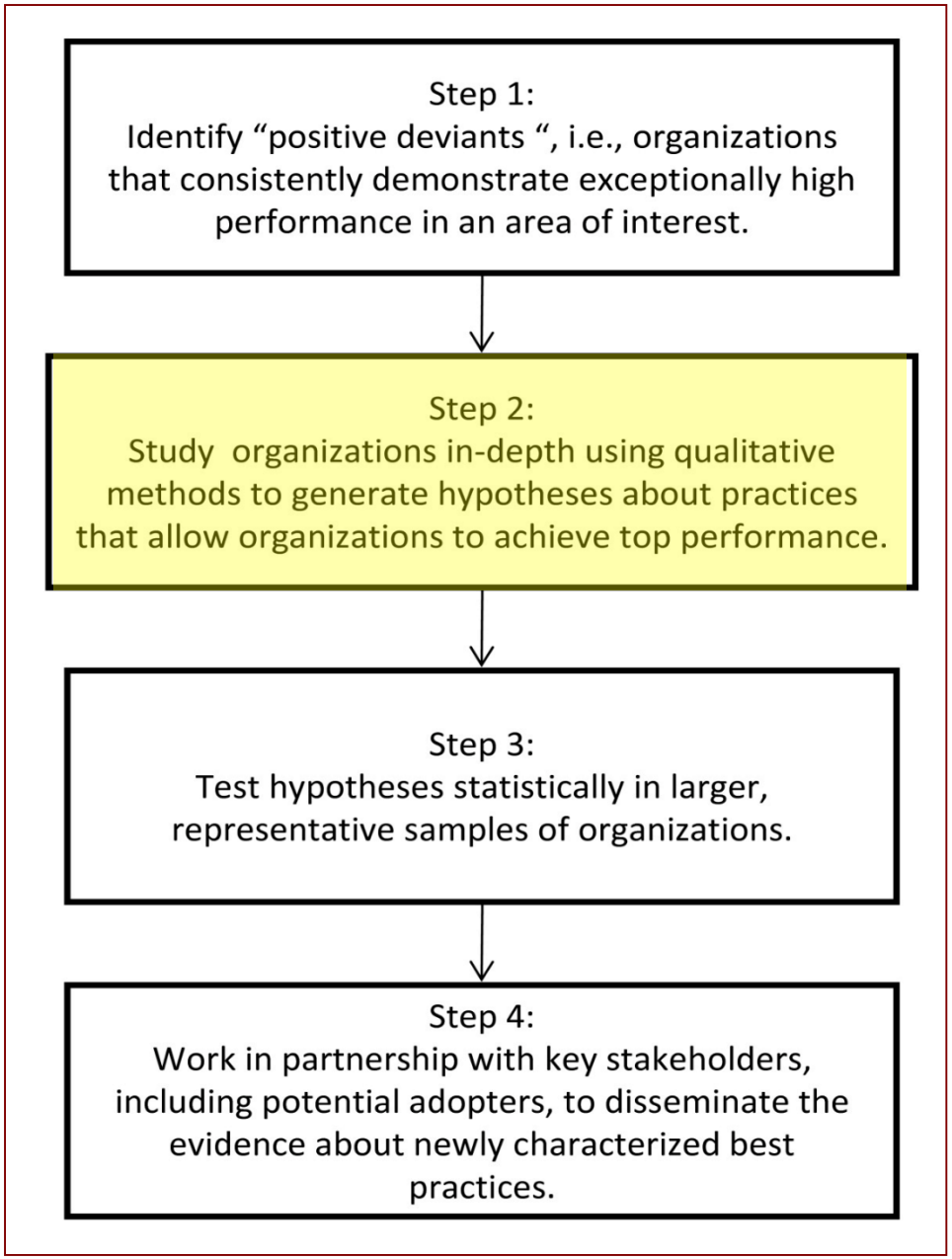
To identify and learn from LHDs in

that perform better than expected in MCH outcomes compared to peers

Framework: Positive Deviance

- Used to identify and learn from units that perform beyond expectations
- Defined by context
- Performance Improvement

Framework: Positive Deviance Method



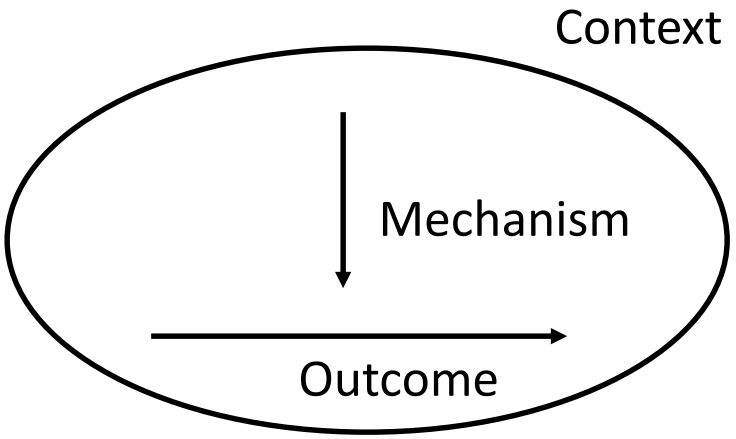
Framework: Realist Evaluation (Pawson and Tilley)

Context: LHD environment (budget, population, geography)

Mechanisms: leadership, partnerships, service provisions

Outcomes:

- Teen pregnancy rates
- Low birth weight
- Pre-natal care
- Infant mortality rate



C + M = O

Methods

1) Quantitative analysis to identify Positive Deviants
2) In-depth interviews with positive deviants

Methods - Quantitative

- 2009-2010 Public Health Activities and Services Tracking (PHAST) data
  - WA (n=35), FL (n=67), NY [n=48 (excluded NYC)] uniquely detailed and matched annual MCH-related county-level expenditure data

Multiple Regression: Contextual Factors & Modifiable Activities

- Types of factors:
  - (Z) were those over which LHDs have no control, including population size, geography, and (arguably) the size of their budgets.
  - (X) Variables over which LHD leaders and boards have some internal control (X), such as assuring service through alternative providers in the community, having a clinician as an LHDs “top executive,” and the types of services the LHD provides.
  - (Y) MCH health outcomes in terms of county-level rates of teen births, late or no prenatal care, infant mortality, and the percent of low weight births.

Methods: Quantitative

- **Step 1:** Regressed $Y=a+b^1(Z)+e$ to assess variance explained by factors outside of LHD control (Context)
- **Step 2:** Added X variables $Y=a+b^1(Z)+b2(X)+e$ to assess variance explained by LHD-controlled variables (Mechanism)
- **Step 3:** Likelihood ratio test to determine whether the internal control variables improved the explanatory power of the model

See: Klaiman, T.; Pantazis, A.; Bekemeier, B. (2014). "A Method for Identifying Positive Deviant Local Health Departments in Maternal and Child Health." *Frontiers in Public Health Systems and Services Research*. 3(2): Article 5. Available at http://uknowledge.uky.edu/frontiersinphssr/vol3/iss2/5/

Results

- 50 positive deviant LHDs across 3 states:
  - WA= 10 (29%)
  - FL= 24 (36%)
  - NY = 16 (33%)
- 45 of 50 LHDs (90%) had better than expected MCH outcomes over 2 years,
- 25 LHDs (50%) had 2 or more exceptional outcomes in a single study year

Results: MCH Expenditures – PDs and non-PDs

State		LHDs	PDs (%)	Total Maternal Child Health Expenditures*		WIC Expenditures		Family Planning Expenditures		Maternal, Infant, Child and Adolescent Health Expenditures	
				non-PDs	*PDs*	*non-PDs*	*PDs*	*non-PDs*	*PDs*	*non-PDs*	*PDs*
FL	*Rural*	18 (27%)	7 (29%)	$ 5.78-35.67 (19.68)	$ 7.64-33.26 (22.71)	$ 0-21.20 (1.91)	$ 0-0.89 (0.22)	$ 4.49-15.42 (9.35)	$ 2.38-16.03 (8.49)	$ 0.01-23.60 (8.42)	$ 4.48-22.41 (14.00)
	Micro	10 (15%)	2 (8%)	$ 8.56-46.36 (20.80)	$ 28.05-36.26 (32.98)	$ 0.02-11.45 (4.80)	$ 0.02-11.05 (5.52)	$ 4.01-15.84 (6.27)	$ 9.12-20.72 (14.13)	$ 0.06-30.82 (9.73)	$ 10.57-16.09 (13.33)
	Metro	39 (58%)	15 (63%)	$ 7.26-27.69 (15.49)	$ 7.49-56.38 (16.93)	$ 0-11.89 (5.40)	$ 0.02-15.01 (5.15)	$ 1.22-9.59 (4.06)	$ 1.97-10.87 (4.33)	$ 0.26-16.85 (6.02)	$ 0.32-32.04 (7.44)
NY	*Rural*	9 (19%)	4 (25%)	$ 0.25-14.06 (5.77)	$ 1.18-16.61 (7.94)	$ 0-8.70 (1.76)	$ 0.26-7.48 (2.42)	$ 0-13.87 (2.54)	$ 0.03-8.77 (4.46)	$0.10-6.13 (1.47)	$ 0.04-3.03 (1.06)
	Micro	13 (27%)	5 (31%)	$ 0.30-12.90 (2.56)	$ 1.38-20.55 (9.92)	$ 0.01-8.05 (1.40)	$ 0.12-10.12 (3.28)	$ 0-6.52 (0.43)	$0.04-17.37 (4.75)	$ 0.08-2.41 (0.72)	$ 0.24-3.62 (1.89)
	Metro	26 (54%)	7 (44%)	$ 0.02-13.70 (4.81)	$ 1.07-20.39 (7.50)	$ 0-7.77 (2.28)	$ 0-6.54 (3.71)	$ 0-3.11 (0.30)	$ 0-3.18 (0.62)	$ 0-8.31 (2.22)	$ 0.86-11.14 (3.17)
WA	*Rural*	11 (31%)	3 (30%)	$ 3.44-32.20 (15.16)	$ 17.17-25.95 (21.22)	$ 0-8.68 (3.96)	$ 4.98-8.97 (7.31)	$ 0-17.86 (3.84)	$ 0-10.27 (5.55)	$ 2.36-18.83 (7.37)	$ 3.14-11.81 (8.36)
	Micro	11 (31%)	3 (30%)	$ 1.21-9.40 (5.77)	$ 2.36-6.21 (4.48)	$ 0-5.33 (2.90)	$ 0-3.43 (1.55)	$ 0 - 0.64 (0.08)	$ 0-0.01 0	$ 1.02-4.67 (2.79)	$ 1.09-5.11 (2.92)
	Metro	13 (37%)	4 (40%)	$ 0.82-27.52 (9.30)	$ 0.73-11.71 (7.32)	$ 0-4.71 (1.78)	$ 0-4.98 (2.76)	$ 0-10.09 (2.15)	$ 0-2.87 (1.14)	$ 0.82-18.78 (5.36)	$ 0.73-5.36 (3.42)
Combined	*Rural*	38 (25%)	14 (28%)	$0.25-35.67 (15.44)	$1.18 - 33.21 (17.68)	$ 0-21.20 (2.56)	$ 0-8.97 (2.34)	$ 0-17.86 (6.18)	$ 0-16.03 (6.61)	$ 0.01-23.60 (6.71)	$ 0.04-22.41 (8.73)
	Micro	34 (23%)	10 (20%)	$0.30-46.36 (9.72)	$ 1.38 - 35.26 (13.05)	$ 0-11.45 (3.00)	$ 0-11.05 (3.21)	$ 0-15.84 (2.31)	$ 0-20.72 (5.23)	$ 0.06-30.82 (4.40)	$ 0.23-16.09 (4.62)
	Metro	78 (52%)	26 (52%)	$ 0.17-27.69 (10.50)	$0.73 - 56.37 (13.00)	$ 0-11.87 (3.64)	$ 0-15.01 (4.40)	$ 0-10.09 (2.36)	$ 0-10.87 (2.86)	$ 0.01-18.78 (4.50)	$ 0.32 - 32.04 (5.75)

Methods – Qualitative

- 1 hour semi-structured phone interviews with LHD staff
  - Titles Included: Administrator and Director of Environmental Health, Community and Family Health Manager, Public Health and Human Services, Administrator, Director of Community and Family Services, Director, Dept. of Public Health and Social Services, Public Health, Public Health Nurse/Nursing Supervisor, Community Health Director
  - 3 focus areas
    - assessment and policy development
    - research and evaluation
    - regulatory oversight
  - Contacted 50 Positive Deviants
    - 32 completed interviews (April 2015 – February 2015)
    - 4 declined
    - 14 pending

Mays GP, et al., 2014

Methods – Qualitative to date

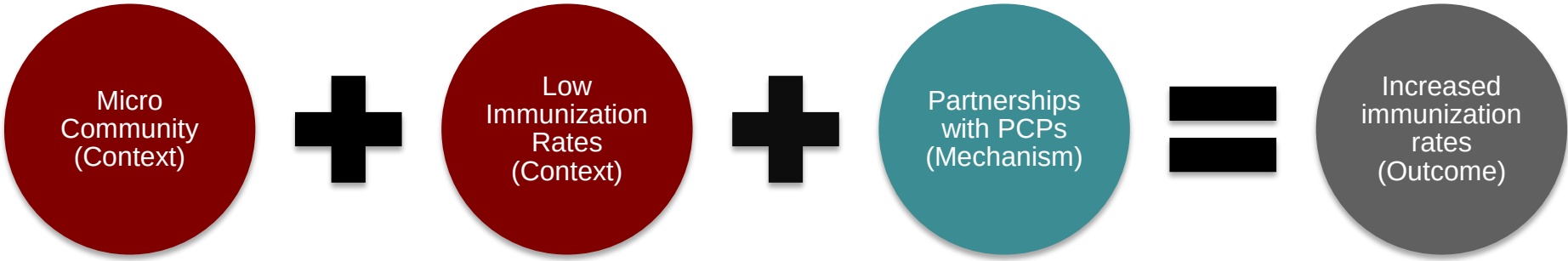
- FL
  - 24 PDs total
  - 18 interviews (75% response rate)
- WA
  - 10 PDs total
  - 7 interviews (70% response rate)
- NY
  - 16 PDs total
  - 7 interviews (44% response rate)

Results

- Partnerships
  - Community Partnerships
  - School Partnerships
  - Internal Partnerships

Results – Partnerships

"…we worked hard at cultivating our relationships with providers. We work with nursing staff and do more visits with providers to maintain our relationships with providers. That is the best success story we have." – Micro LHD discussing immunization registries



Results – Partnerships

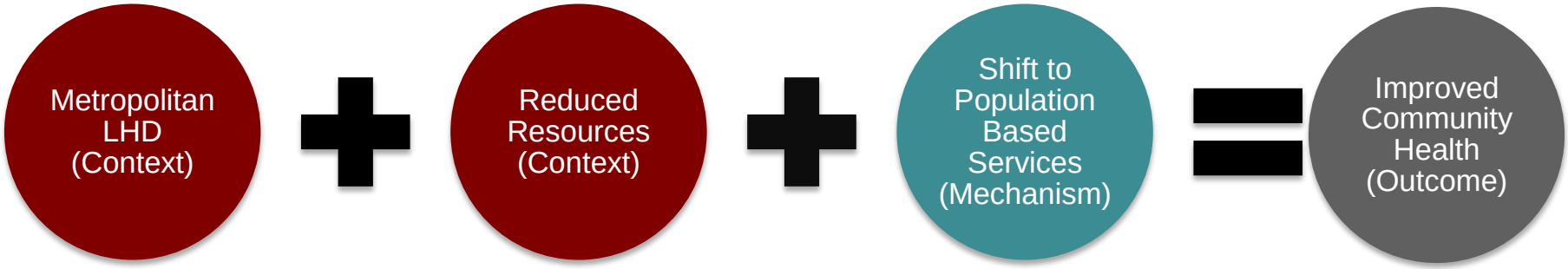
"Build community partnerships, not advocates for your programs … Partnership is where peers come together and develop strategies to reach specific goals…Prevention is not when you already have someone enrolled in a program." – Rural LHD discussing community resilience partnerships

Results

- Clearly Defined Goals
  - Direct Service (variations)
  - Population Based Services
  - Evidence-Based
    - CHA/CHIP Process
    - Hospital CHNA Process

Results – Clearly Defined Goals

"…we have enhanced our ability to influence a …larger population with this new approach... We may not be targeting them on a one on one bases, but we are greatly impacting the conditions in which we live work and play, which is significantly enhancing their lives. This will improve their health and the health of their children." – Metro LHD discussing shift of services



Results - Challenges

- Funding

  “When it came to basic budget decisions about what to preserve it wasn’t a matter of local assessment data. It was more a question about basic public health interventions for the public. Immunizations we know are important because of the leverage of health benefits per population.” – Micro LHD discussing termination of home visits

- Staff turnover

Implications

- Establishing Partnerships
  - Technical expertise
  - Data analysis
  - Administrative support
- Data-driven Activities
  - Community priorities
  - Population-based services

Next steps

- March 2015 - Complete NY interviews
- May 2015 - Interview negative deviants (Goal = 2 per state)
- July 2015 – qualitative analysis complete
- April – December – disseminate findings
  - Policy/Practice Briefs
  - Conferences (Keeneland, APHA, AcademyHealth)
  - Manuscripts

Thank you!

- Robert Wood Johnson Foundation
- Research Assistants
  - Anjali Chainani, MPH, MSW & Athena Pantazis, MA, MPH
- Interviewees
- Advisory Council
  - Betty Bekemeier, PhD, MPH, FAAN
  - Barry Kling, MSPH
  - Michael Stoto, PhD
  - JoAnne Fischer
  - Carol Brady

Commentary

Research:

Betty Bekemeier, PhD, MPH, FAAN
Associate Professor, School of Nursing
Adjunct Associate Professor, School of Public Health
University of Washington
PHSSR Project Research Mentor *bettybek@uw.edu*

Public Health Practice:

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Questions and Discussion

Archives of all Webinars available at:

http://www.publichealthsystems.org/phssr-research-progress-webinars

Upcoming Webinars -- March 2015

Wednesday, March 4 (12-1pm ET)

Leveraging Electronic Health Records for Public Health:
From Automated Disease Reporting to Developing Population Health Indicators
Brian Dixon, PhD, Indiana University ***– 2013 PHSSR MRDA Award***

Wednesday, March 11 (12-1pm ET)

Evaluating the Quality, Usability, and Fitness of Open Data for Public Health Research
Erika G. Martin, PhD, State University of New York-Albany ***– 2013 PHSSR MRDA Award***

Thursday, March 19 (1-2pm ET)

Cross-sector Collaboration Between Local Public Health & Health Care for Obesity Prevention
Eduardo J. Simoes, MD, University of Missouri and
Katherine A. Stamatakis, PhD, MPH, Washington University in St. Louis

Upcoming PHSSR Research in Progress Webinars
April 2015

Wednesday, April 1 (12-1pm ET)

Restructuring a State Nutrition Education and Obesity Prevention Program: Implications of a Local Health Department Model

Helen W. Wu, PhD, U. California Davis ***– 2013 PHSSR MRDA Award***

Wednesday, April 8 (12-1pm ET)

Public Health Services Cost Studies: Tobacco Prevention, Mandated Public Health Services

Pauline Thomas, MD, New Jersey Medical School & NJ Public Health PBRN

Nancy Winterbauer, PhD, East Carolina University & NC Public Health PBRN

Tuesday and Wednesday, April 21-22

2015 PHSSR KEENELAND CONFERENCE, Lexington, KY

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