



Learning from Positive Deviant Local Health
Departments in Maternal and Child Health
PHSSR Research in Progress Webinar
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Research Objective

To identify and learn from LHDs in that perform better than expected in MCH outcomes compared to peers



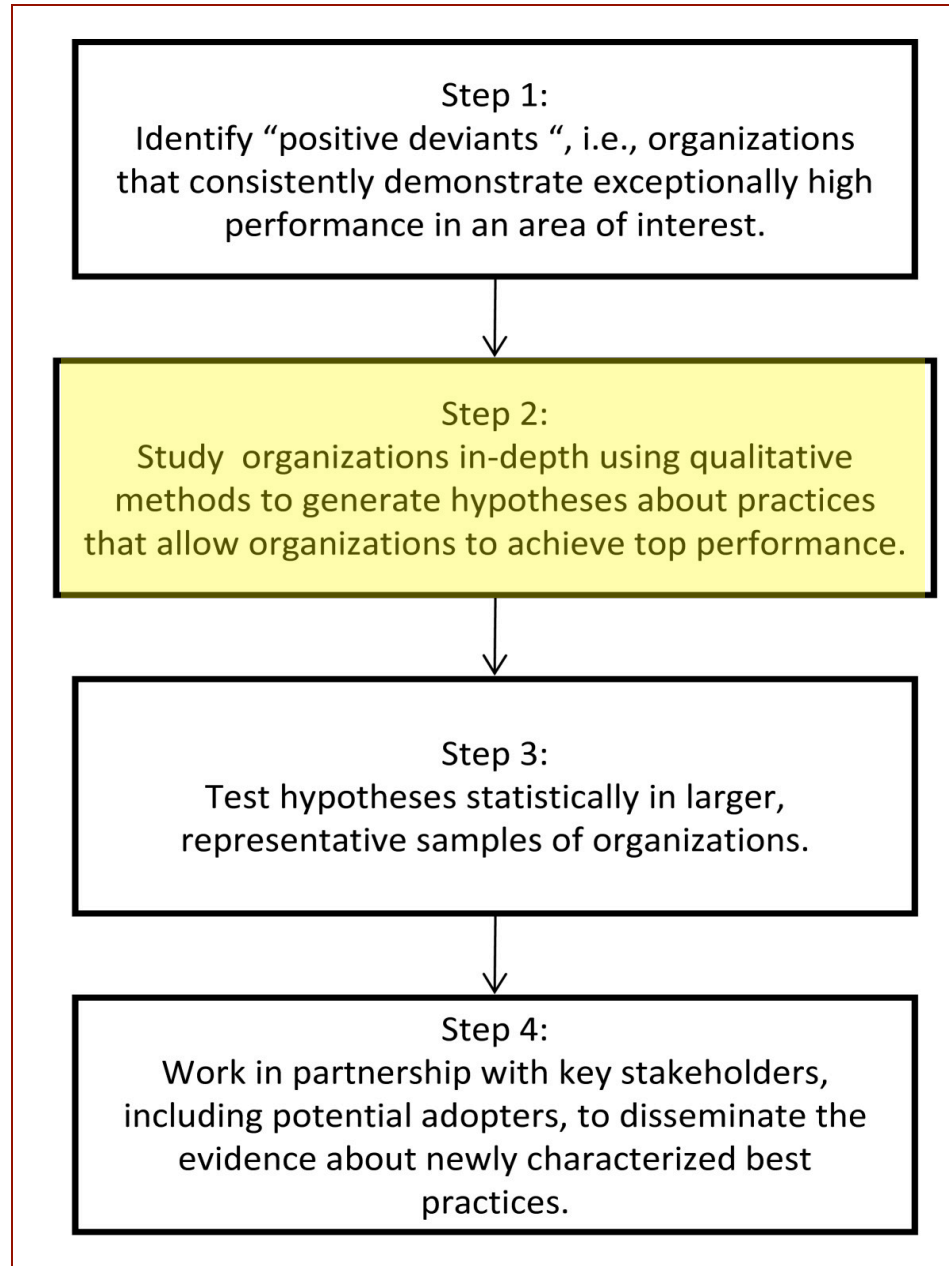
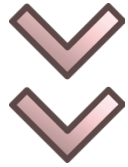
Framework: Positive Deviance

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

Context
is Everything



Framework: Positive Deviance Method



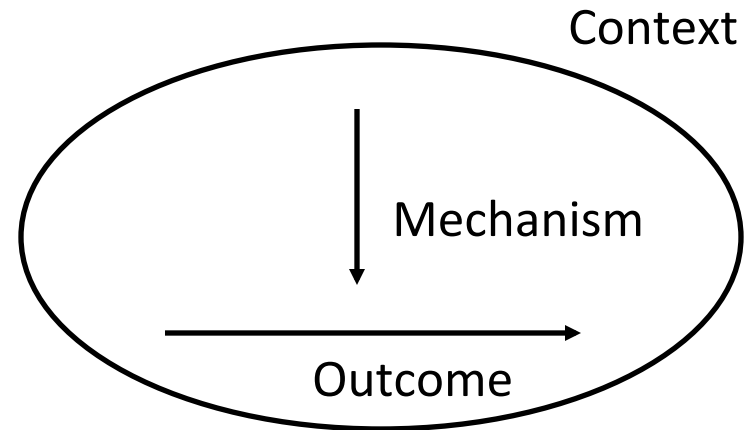
Framework: Realist Evaluation (Pawson and Tilley)

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		
			<i>non-PDs</i>	<i>PDs</i>	<i>non-PDs</i>	<i>PDs</i>	<i>non-PDs</i>	<i>PDs</i>	<i>non-PDs</i>	<i>PDs</i>	
FL	<i>Rural</i>	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)
	<i>Micro</i>	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)
	<i>Metro</i>	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	<i>Rural</i>	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)
	<i>Micro</i>	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)
	<i>Metro</i>	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	<i>Rural</i>	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)
	<i>Micro</i>	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)
	<i>Metro</i>	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	<i>Rural</i>	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)
	<i>Micro</i>	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)
	<i>Metro</i>	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)



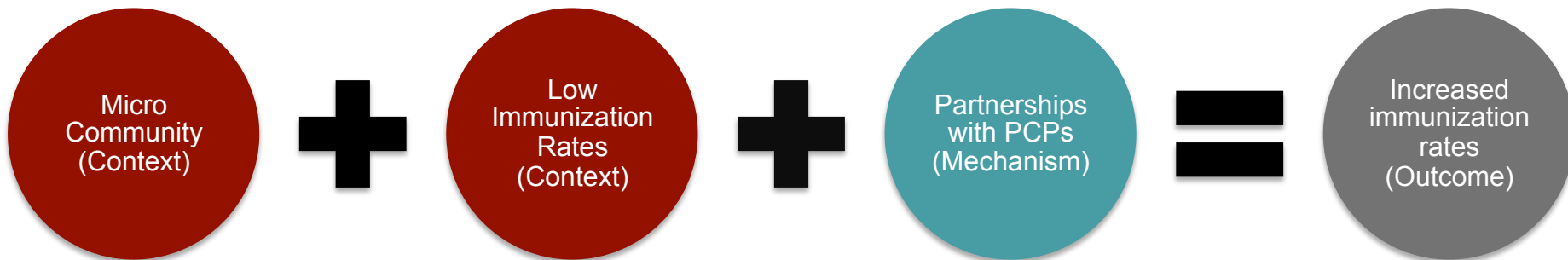
Results

- 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



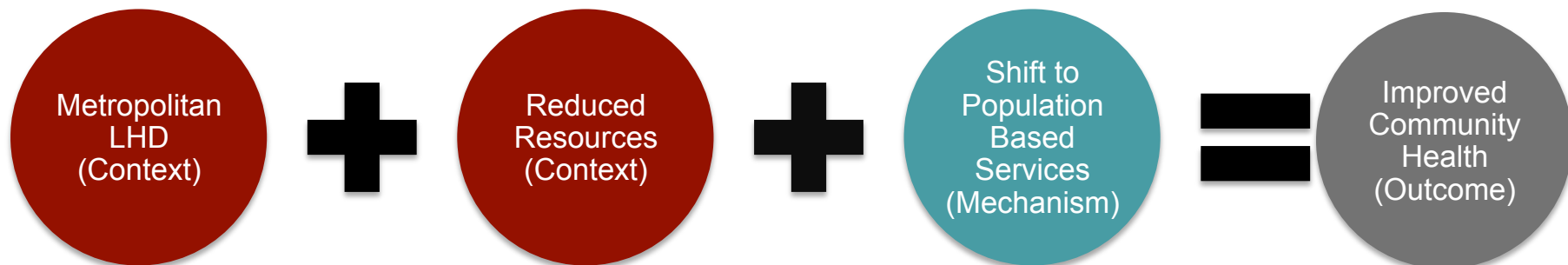
Results

- 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, APH 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



Questions??

