Research Seminar

Friday, December 4, 2015   12:30 - 1:30 pm ET

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

Welcome: Rick Ingram, DrPH, Assistant Professor, U. of Kentucky College of Public Health

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

Presenter: Tamar Klaiman, PhD, MPH, University of the Sciences in Philadelphia t.klaiman@usciences.edu

Questions and Discussion
Presenter

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

PHSSR Mentored Researcher
Development Award Recipient, 2013

t.klaiman@uscience.edu
Learning from Positive Deviant Local Health Departments in Maternal and Child Health

December 4, 2015

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

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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
Framework: Positive Deviance Method

Step 1:
Identify “positive deviants”, i.e., organizations that consistently demonstrate exceptionally high performance in an area of interest.

Step 2:
Study organizations in-depth using qualitative methods to generate hypotheses about practices that allow organizations to achieve top performance.

Step 3:
Test hypotheses statistically in larger, representative samples of organizations.

Step 4:
Work in partnership with key stakeholders, including potential adopters, to disseminate the evidence about newly characterized best practices.
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: ID Positive Deviants
2) Qualitative: 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 & 8 others)] uniquely detailed and matched annual MCH-related county-level expenditure data
Multiple Regression: Contextual Factors & Modifiable Activities

- **Types of factors:**
  - \((Z) = \) Variables over which LHDs have no control, (population size, geography, budgets)
  - \((X) = \) Variables over which LHD leaders and boards have some internal control \((X)\) (assuring service through alternative providers in the community, having a clinician as an LHDs “top executive,” types of services the LHD provides)
  - \((Y) = \) MCH health outcomes (county-level rates of teen births, late or no prenatal care, infant mortality, 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 $Y = a + b^1(Z) + b^2(X) + e$ 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

Results

• 50 positive deviant LHDs across 3 states:

  - 10 (29%) in Washington
  - 24 (36%) in Florida
  - 16 (33%) in New York

• 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

<table>
<thead>
<tr>
<th>State</th>
<th>LHDs</th>
<th>PDs (%)</th>
<th>Total Maternal Child Health Expenditures*</th>
<th>WIC Expenditures</th>
<th>Family Planning Expenditures</th>
<th>Maternal, Infant, Child and Adolescent Health Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>non-PDs</strong></td>
<td><strong>PDs</strong></td>
<td><strong>non-PDs</strong></td>
<td><strong>PDs</strong></td>
</tr>
<tr>
<td>FL</td>
<td>Rural</td>
<td>18 (27%)</td>
<td>7 (29%)</td>
<td>$ 5.78-35.67 (19.68)</td>
<td>$ 7.64-33.26 (22.71)</td>
<td>$ 0-21.20 (1.91)</td>
</tr>
<tr>
<td></td>
<td>Micro</td>
<td>10 (15%)</td>
<td>2 (8%)</td>
<td>$ 8.56-46.36 (20.80)</td>
<td>$ 28.05-36.26 (32.98)</td>
<td>$ 0.02-11.45 (4.80)</td>
</tr>
<tr>
<td></td>
<td>Metro</td>
<td>39 (58%)</td>
<td>15 (63%)</td>
<td>$ 7.26-27.69 (15.49)</td>
<td>$ 7.49-56.38 (16.93)</td>
<td>$ 0-11.89 (5.40)</td>
</tr>
<tr>
<td>NY</td>
<td>Rural</td>
<td>9 (19%)</td>
<td>4 (25%)</td>
<td>$ 0.25-14.06 (5.77)</td>
<td>$ 1.18-16.61 (7.94)</td>
<td>$ 0-8.70 (1.76)</td>
</tr>
<tr>
<td></td>
<td>Micro</td>
<td>13 (27%)</td>
<td>5 (31%)</td>
<td>$ 0.30-12.90 (2.56)</td>
<td>$ 1.38-20.55 (9.92)</td>
<td>$ 0.01-8.05 (1.40)</td>
</tr>
<tr>
<td></td>
<td>Metro</td>
<td>26 (54%)</td>
<td>7 (44%)</td>
<td>$ 0.02-13.70 (4.81)</td>
<td>$ 1.07-20.39 (7.50)</td>
<td>$ 0-7.77 (2.28)</td>
</tr>
<tr>
<td>WA</td>
<td>Rural</td>
<td>11 (31%)</td>
<td>3 (30%)</td>
<td>$ 3.44-32.20 (15.16)</td>
<td>$ 17.17-25.95 (21.22)</td>
<td>$ 0-8.68 (3.96)</td>
</tr>
<tr>
<td></td>
<td>Micro</td>
<td>11 (31%)</td>
<td>3 (30%)</td>
<td>$ 1.21-9.40 (5.77)</td>
<td>$ 2.36-6.21 (4.48)</td>
<td>$ 0-5.33 (2.90)</td>
</tr>
<tr>
<td></td>
<td>Metro</td>
<td>13 (37%)</td>
<td>4 (40%)</td>
<td>$ 0.82-27.52 (9.30)</td>
<td>$ 0.73-11.71 (7.32)</td>
<td>$ 0-4.71 (1.78)</td>
</tr>
<tr>
<td>Combined</td>
<td>Rural</td>
<td>38 (25%)</td>
<td>14 (28%)</td>
<td>$ 0.25-35.67 (15.44)</td>
<td>$ 1.18-33.21 (17.68)</td>
<td>$ 0-21.20 (2.56)</td>
</tr>
<tr>
<td></td>
<td>Micro</td>
<td>34 (23%)</td>
<td>10 (20%)</td>
<td>$ 0.30-46.36 (9.72)</td>
<td>$ 1.38-35.26 (10.05)</td>
<td>$ 0-11.45 (3.00)</td>
</tr>
<tr>
<td></td>
<td>Metro</td>
<td>78 (52%)</td>
<td>26 (52%)</td>
<td>$ 0.17-27.69 (10.50)</td>
<td>$ 0.73-56.37 (13.00)</td>
<td>$ 0-11.87 (3.64)</td>
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</tbody>
</table>
Interviews

24 PDs identified; 18 interviewed (75% response rate)

10 PDs identified; 7 interviewed (70% response rate)

16 PDs identified; 14 interviewed (88% response rate)
# Characteristics of LHD Jurisdictions

<table>
<thead>
<tr>
<th>Community Type</th>
<th># Identified</th>
<th># Interviewed</th>
<th>% Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>14</td>
<td>10</td>
<td>71%</td>
</tr>
<tr>
<td>Micropolitan</td>
<td>10</td>
<td>9</td>
<td>90%</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>26</td>
<td>20</td>
<td>77%</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>39</td>
<td>78%</td>
</tr>
</tbody>
</table>
“One of our other goals is to stay operating. We work with partners to maximize resources.”

“Community partnerships only become more important when our direct resources are limited...We want to and are working with partners to use resources we have in a coordinated way to implement models that are collaborative in nature.”

“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.”
Results: Clearly Defined Goals

“The opportunities in a local health department for data driven decision making are the exception rather than rule. There’s been an upsurge of interest in assessment and it’s getting more notice.”

“We look at the data. Track the data. When we see a problem in the data, we go for it.”
“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.”
Implications for Policy and Practice

• Establishing Partnerships
  – Technical expertise
  – Data analysis
  – Referral and administrative services

• Data-driven Activities
  – Invest in robust data systems
  – Community priorities
  – Population-based services
Translation and Dissemination

- 3 infographics
- 3 manuscripts (2 under review)
- 1 research brief

Lessons Learned from Exceptional Florida Local Health Departments in Maternal and Child Health

Local health departments (LHDs) are under increasing pressure to improve performance with limited resources. While research has found that financial resources may be associated with better health outcomes, there are some LHDs that maintain exceptional performance, even with limited budgets.

**METHODS**

Using data from the Public Health Activities and Services Tracking (PHAST) database as a resource for identifying Positive Deviant LHDs in MCH outcomes in terms of 6 areas:

- Teen Births
- Late or No Prenatal Care
- Infant Mortality
- Percent of Low Birth Weight Babies

Primary data were collected through hour-long phone interviews with staff in 18 out of 24 (75%) Florida LHDs:

- 12 Metro (67%)
- 1 Micro (5%)
- 5 Rural (28%)

**FINDINGS**

Themes
Positive Deviant LHDs focus on assuring their communities have access to needed services, even when that means changing their roles and responsibilities.

Importance of Community Partnerships:
- Community-Based Organizations
- Schools
- Internal

Importance of Clearly Defined Goals:
- Coordination and Administration
- Population Based
- Data-Driven

**IMPLICATIONS**

LHDs can establish and maintain strong partnerships by providing:

- Technical Expertise
- Data Analysis
- Referral and Administrative Services for Community Agencies

Many LHDs have shifted their focus to data-driven public health activities and population-based services to cast the widest net with limited resources. Other LHDs can use many of the practices described here to improve their practice and health outcomes.

**METHODS**

Using data from the Public Health Activities and Services Tracking (PHAST) database as a resource for identifying Positive Deviant LHDs in MCH outcomes in terms of 6 areas:

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- 1 Micro (5%)
- 5 Rural (28%)
Next steps

• Validate positive deviance method
• Apply PD to other areas of inquiry
• Learn from PD LHDs in other areas
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 and Discussion
Thank you for participating in today’s seminar

For more information about the webinars, contact:
Ann Kelly, Project Manager  Ann.Kelly@uky.edu
111 Washington Avenue #201, Lexington, KY 40536
859.218.2317
www.systemsforaction.org