PHSSR Partners Virtual Meeting
July 29, 2015 2:00pm – 3:00pm ET

“Randomized Trials in PHSSR: New Opportunities and Resources”

Please Dial Conference Phone: 877-394-0659; Meeting Code: 775 483 8037#

Please mute your phone and computer speakers during the presentation to reduce feedback.

You may download today’s presentation from the ‘Files’ box in top right corner of the screen.

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

2:00p  Welcome and Introductions
Glen Mays, PhD, Director, National Coordinating Center for PHSSR

2:05p  Making Randomized Evaluations More Feasible
Mary Ann Bates, MPP, J-PAL North America, MIT mbates@mit.edu

2:20p  LHD Workers' Sense of Efficacy Toward Hurricane Sandy Recovery
Daniel Barnett, MD, MPH, Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health dbarnet4@jhu.edu

2:35p  Questions and Discussion
Invited Participants

AcademyHealth
Lisa Simpson, Danielle Robbio, Kate Papa

APHA
Susan Polan

ASTHO
Katie Sellers, Paul Jarris

Assoc. for Public Health Labs
Deborah Kim

Center for Sharing PH Services
Gianfranco Pezzino

CDC, Health Systems Work Grp., OSTL
Tim Van Wave, Adam Chen, Sergey Sotnikov

IOM – Population Health
Alina Baciu

Johns Hopkins School of Public Health
Beth Resnick

NACCHO
Carolyn Leep, LaMar Hasbrouck

Nat’l Network State & Local Surveys
A.J. Scheitler

Nat’l Library of Medicine
Lisa Lang, Lisa Sedlar

Nat’l Network Public Health Institutes
Nikki Rider, Vincent Lafronza, Jennifer McKeever

Public Health Accreditation Board
Jessica Kronstadt, Kay Bender

Public Health Foundation
Kathleen Amos, Ron Bialek

Public Health Informatics Institute
unavailable

Public Health Law Research
Heidi Grunwald, Scott Burris

RESOLVE
unavailable

Robert Wood Johnson Foundation
Carolyn Miller, Octowia Wojcik, Lori Grubstein

Trust for America’s Health
Anne DiBiasi

UCSF Center for Health & Community
Nancy Adler

National Coordinating Center for
PHSSR and Public Health PBRNs
Glen Mays, Anna Hoover, Doug Scutchfield, Ann
Kelly, Lizeth Fowler, Kara Richardson, C.B. Mamaril,
Julia Costich, Rick Ingram, Cynthia Lamberth, Robert
Shapiro
Making Randomized Evaluations More Feasible

Mary Ann Bates, MPP
Deputy Director
J-PAL North America
Abdul Latif Jameel Poverty Action Lab, MIT

mbates@mit.edu
Making Randomized Evaluations More Feasible

MARY ANN BATES
DEPUTY DIRECTOR, J-PAL NORTH AMERICA
MIT

PHSSR PARTNERS WEBINAR
JULY 29, 2015
The Oregon Health Insurance Experiment

Four Reasons Why The Oregon Medicaid Results Are Even Worse Than They Look

5 Things the Oregon Medicaid Study Tells Us About American Health Care
A landmark new study of Oregon’s Medicaid program reveals what’s wrong with American health care

Medicaid Access Increases Use of Care, Study Finds

Is health insurance an antidepressant?
New findings show that wider coverage has one clear effect on the population, and it’s not one that anyone is talking about.

Spending on Medicaid doesn’t actually help the poor

Does The Oregon Health Study Show That People Are Better Off With Only Catastrophic Coverage?

Here’s what the Oregon Medicaid study really said

Oregon’s Lesson to the Nation: Medicaid Works
J-PAL NORTH AMERICA’S APPROACH
An Introduction to J-PAL

- 600+ randomized evaluations in 64 countries
- 120+ affiliated professors
- J-PAL North America launched by Amy Finkelstein (MIT) and Lawrence Katz (Harvard)
J-PAL’s mission is to ensure that policy is driven by evidence and research is translated into action.

capacity building

evaluations

policy outreach

www.povertyactionlab.org
OPPORTUNITIES FOR RANDOMIZED EVALUATION
By construction, the treatment group and the control group will have the same characteristics, on average

- Observable: age, income, measured health, etc.
- Unobservable: motivation, social networks, unmeasured health, etc.

Clear attribution of subsequent differences to treatment (program)
Opportunities to Randomize

- **New program, new service, new people, or new location**
  - Researchers develop Spanish-language radio aids aimed at reducing pregnancy rates among Hispanic teens in California

- **Oversubscribed**
  - More individuals are eligible for the Camden Coalition of Health Care Providers’ care management program than the organization has the capacity to serve

- **Undersubscribed**
  - A nonprofit organization provides information and assistance to encourage seniors to enroll in the Supplemental Nutrition Assistance Program (SNAP)

- **Admissions cut-off**
  - A foundation offers college scholarships based on merit and financial need

- **Clinical equipoise**
  - A hospital wants to know whether concurrent palliative care improves quality and length of life, relative to standard medical care

PovertyActionLab.org/NorthAmerica
When NOT to Do a Randomized Evaluation

- **Too small:** Insufficient sample size to pick up a reasonable effect
- **Too early:** Program is still working out the kinks
- **Too late:** Program is already serving everyone who is eligible, and no lottery or randomization was built in
- **We know the answer already:** A positive impact has been proven, and we have the resources to serve everyone
J-PAL NORTH AMERICA’S
U.S. HEALTH CARE DELIVERY INITIATIVE
J-PAL North America’s U.S. Health Care Delivery Initiative

- Research initiative to support and encourage randomized evaluations on improving efficiency of health care delivery
- Across top journals, only **18 percent** of health care delivery studies randomized, vs. **80 percent** of medical studies (Finkelstein and Taubman, *Science* 2015)
Enhancing Feasibility and Impact

1. Take advantage of administrative data: enable high-quality, low-cost evaluations and long-term follow up

2. Measure a wide range of outcomes: healthcare costs, health, non-health impacts

3. Design evaluations to illuminate mechanisms: understand not just which interventions work, but also why and how.
Spotlight on Nurse-Family Partnership

- **Wide range of data sources**
  - Primary data: interviews, blood tests, cognitive and psychological testing
  - Administrative data: medical records, school records, records for social services programs, records from Child Protective Services

- **Very long-term follow-up of participants**
  - Significant impacts for mothers and children appeared early and continued through the latest (19-year) follow-up

- **Tested different settings and variations of the program**
  - Denver site included the same intervention delivered by paraprofessionals rather than nurses
Randomized Trial Study Example: LHD Workers' Sense of Efficacy Toward Hurricane Sandy Recovery

Daniel Barnett, MD, MPH
Associate Professor Environmental Health Sciences
Johns Hopkins Bloomberg School of Public Health
dbarnet4@jhu.edu
Randomized Trial Study Example:
LHD Workers' Sense of Efficacy Toward Hurricane Sandy Recovery

Daniel Barnett, MD, MPH
Associate Professor
Department of Environmental Health Sciences
Department of Health Policy and Management (joint)
Johns Hopkins Bloomberg School of Public Health
Disaster Life Cycle

- Prevention / Mitigation
- Preparedness
- Recovery
- Response
Informative Prior RCT Study: LHD Workers’ Response Willingness
“Willingness”

- State of being inclined or favorably predisposed in mind, individually or collectively, toward specific responses
- Numerous personal and contextual factors may contribute
- Beliefs, understandings, and role perceptions
- Scenario-specific
Recent Headlines

Delay in Dallas Ebola Cleanup as Workers Balk at Task

By KEVIN SACK and MANNY FERNANDEZ  OCT. 2, 2014

Madrid hospital staff quit over Ebola fears

Ashifa Kassam in Madrid  Friday 10 October 2014 18.13 EDT
Extended Parallel Process Model (Witte)

1\textsuperscript{st} Appraisal
- Message components
  - Threat
  - Efficacy
- Threat appraisal
  - Susceptibility
  - Severity
  - Yes
  - Message rejected

2\textsuperscript{nd} Appraisal
- Efficacy appraisal
  - Self-efficacy
  - Response efficacy
  - High
  - Message accepted
  - Low
  - Fear
  - Message rejected
  - Behavior change
EPPM & JH~PHIRST

- Johns Hopkins ~ Public Health Infrastructure Response Survey Tool (JH~PHIRST)
- Adopt Witte’s Extended Parallel Processing Model (EPPM)
  - Evaluates impact of threat and efficacy on human behavior
- Online survey instrument
- All-hazards scenarios
  - Weather-related
  - Pandemic influenza
  - ‘Dirty’ bomb
  - Inhalational anthrax
JH~PHIRST Online Questions and EPPM

- Threat Appraisal
  - Susceptibility
    - “A _______ disaster is likely to occur in this region.”
  - Severity
    - “If it occurs, a _______ disaster in this region is likely to have severe public health consequences.”

- Efficacy Appraisal
  - Self-efficacy
    - “I would be able to perform my duties successfully in the event of a _______ disaster.”
  - Response efficacy
    - “If I perform my role successfully it will make a big difference in the success of a response to a _______ disaster.”
Four broad categories identified in the JH ~ PHIRST assessment tool:

- **Low Concern/Low Confidence** (low threat/low efficacy)
  - Educate about threat, build efficacy
- **Low Concern/High Confidence** (low threat/high efficacy)
  - Educate about threat, maintain efficacy
- **High Concern / Low Confidence** (high threat/low efficacy)
  - Improve skill, modify attitudes
- **High Concern / High Confidence** (high threat/high efficacy)
  - Reinforce comprehension of risk and maintain efficacy
CDC-funded RCT Research: Response Willingness

- EMS Providers
- Medical Reserve Corps Volunteers
- Hospital Workers
- Local Health Departments
Local Health Department Workers
Local Public Health Workforce: Specific Aims & RCT Methods

- Characterize scenario-based differences in emergency response willingness using EPPM, to identify common and differentiating patterns
  - Baseline JH~PHIRST administration to LHD “clusters”
  - Multiple FEMA Regions
  - Urban and Rural
- **Cluster** = group of contiguous/closely-proximate LHD jurisdictions within a single state (or two adjacent states) with like hazard vulnerabilities
- Within-cluster computerized randomization at study’s outset
  - Yielding intervention & control LHDs for each respective cluster
Specific Aims & RCT Methods (cont’d)

- Apply EPPM to inform programmatic efforts for enhancing emergency response willingness in public health system
  - Administer EPPM-centered curriculum to LHDs
  - Tailored to address baseline JH~PHIRST-identified gaps in willingness to respond
  - Train-the-trainer model
  - Training vs. Control LHDs
  - 3 re-surveys of LHDs with JH~PHIRST to measure short- (1 wk), medium- (6 mo.), and long-term (2 y) impacts of training
    - Focus groups with all re-surveys
Survey Administration

4 Rural Health Department Clusters
- Idaho
- SW Minnesota
- SE Missouri
- Lord Fairfax District, VA

4 Urban Health Department Clusters
- Florida
- Indiana (Greater Indianapolis Metro Area)
- Wisconsin (Milwaukee/Waukesha Consortium)
- Oregon (Portland metro)/Washington State
### JH~PHIRST Baseline Findings: Willingness-to-Respond (all 8 clusters)

<table>
<thead>
<tr>
<th></th>
<th>Weather-Related</th>
<th>Pandemic Influenza</th>
<th>Radiological (‘dirty’) Bomb</th>
<th>Anthrax Bioterrorism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If required</strong></td>
<td>93%</td>
<td>91%</td>
<td>74%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>If asked</strong></td>
<td>83%</td>
<td>80%</td>
<td>62%</td>
<td>69%</td>
</tr>
<tr>
<td><strong>Regardless of Severity</strong></td>
<td>77%</td>
<td>79%</td>
<td>53%</td>
<td>65%</td>
</tr>
</tbody>
</table>
How Can We Further Address Willingness Gaps?
EPPM-Centered Curricular Intervention

- **Public Health Infrastructure Training (PHIT)**
  - Designed to address the attitudinal and behavioral gaps in willingness-to-respond
  - **Objective:** Extend levels of threat awareness, self- and response-efficacy
  - **Goal:** Increased system capacity with higher numbers of workers who are willing to respond to all hazards
  - **Train-the-trainer format**
  - Seven hours of content delivered over a 6-month period
  - Combines a variety of learning modalities in three phases of training
    - Face-to-face lecture and discussion; online learning; independent activities; case scenarios; tabletop exercises; role-playing; knowledge assessments; peer critiques
PHIT Curriculum: TOC

• Phase 1: **Facilitator-Led Discussion** (2 hours)
  - Part 1: Overview of Scenarios and Public Health’s Role
  - Part 2: Emergency Scenario Contingency Planning

• Phase 2: **Independent Learning Activities** (3 hours)

• Phase 3: **Group Experiential Learning** (2 hours)
  - Part 1: Tabletop Exercise
  - Part 2: Role-Playing Exercise
  - Part 3: Debriefing

While the content and phases are mostly fixed, local contextual examples are encouraged & formats for training delivery are flexible and scalable to meet the unique needs of health departments.
Pre- vs. Post-Intervention Data
## JH~PHIRST Baseline Comparisons to Resurvey: WTR (Severity)

### Willingness-to-Respond: Regardless of Severity
Baseline – Resurvey 1 – Resurvey 2

<table>
<thead>
<tr>
<th></th>
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<th>Anthrax Bioterrorism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONTROL</strong></td>
<td>82% ↓ 78% ↓ 75%</td>
<td>85% ↓ 84% ↓ 78%</td>
<td>60% ↓ 58% ↓ 55%</td>
<td>78% ↓ 67% ↓ 66%</td>
</tr>
<tr>
<td><strong>INTERVENTION</strong></td>
<td>79% ↑ 80% ↓ 79%</td>
<td>83% ↑ 85% ↓ 82%</td>
<td>57% ↑ 73% ↓ 71%</td>
<td>69% ↑ 77% ↓ 73%</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Weather-Related</td>
<td>Pandemic Influenza</td>
<td>Radiological (‘dirty’) Bomb</td>
<td>Anthrax Bioterrorism</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td><strong>CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84% ↓ 80% ↑81%</td>
<td>87% ↓ 85% ↓82%</td>
<td>50% ↓ 52% →52%</td>
<td>71% ↓ 68% ↓66%</td>
<td></td>
</tr>
<tr>
<td><strong>INTERVENTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83% ↑ 87% →87%</td>
<td>85% ↑ 90% ↓87%</td>
<td>50% ↑ 79% ↓75%</td>
<td>66% ↑ 80% ↓79%</td>
<td></td>
</tr>
</tbody>
</table>
## JH~PHIRST Baseline Comparisons to Resurvey Findings: Efficacy

### Response-Efficacy Baseline – Resurvey 1 – Resurvey 2

<table>
<thead>
<tr>
<th>Response-Efficacy</th>
<th>Weather-Related</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CONTROL</td>
<td>85% ↓ 76% ↓ 74%</td>
<td>84% ↑ 86% ↓ 77%</td>
<td>69% ↓ 63% → 63%</td>
<td>78% ↓ 71% ↓ 68%</td>
</tr>
<tr>
<td>INTERVENTION</td>
<td>83% ↑ 86% ↓ 83%</td>
<td>85% ↑ 87% ↓ 85%</td>
<td>70% ↑ 82% ↓ 78%</td>
<td>76% ↑ 82% ↓ 79%</td>
</tr>
</tbody>
</table>
Current: Examining & Enhancing Public Health Workers’ Sense of Efficacy Toward Hurricane Sandy Recovery
Background

Extended Parallel Process Model (EPPM)

Message components
- Threat
- Efficacy

1st Appraisal
- Threat appraisal
  - Susceptibility
  - Severity

2nd Appraisal
- Efficacy appraisal
  - Self-efficacy
  - Response efficacy

Yes

Message rejected

High

Message accepted

Behavior change

No

Fear

Message rejected

Communities
Healthcare delivery systems
Homeland Security and public health
LPHA Workforce
Academia
Employees and business
The media

Governmental public health infrastructure includes
Methods

Ten Stage Methodology Mapped to Specific Aims

Stage 1: LPHA Recruitment
Stage 2: Conduct Baseline Focus Groups
Stage 3: Develop & Pilot Test Needs Assessment Survey
Stage 4: Administer Needs Assessment Survey
Stage 5: Analyze Needs Assessment Survey
Stage 6: Develop Curricular Intervention
Stage 7: Administer Curricular Intervention
Stage 8: Administer Post-Intervention Needs Assessment Survey
Stage 9: Analyze Change in Needs Assessment Survey Responses
Stage 10: Conduct Post-Intervention Focus Groups
Baseline Results (Qualitative)

Barriers

Perceptions of *inadequate*:
- Training
- Safety
- Family preparedness
- Policies and planning
- Efficacy

LHD worker performance of recovery activities

Perceptions of *sufficient*:
- Training
- Safety
- Family preparedness
- Policies and planning
- Efficacy

Facilitators
Baseline Results (Quantitative) — Demographics [JH-DRIST]

Professional Class:
- Public health (PH) official
- Clinical staff
- PH communicable disease staff
- Environmental health staff
- Public information staff
- Other PH staff
- Tech/support staff

Percent of 669 respondents

Gender:
- Female
- Male

Time Working at LHD:
- Less than 1 year
- 1-5 years
- 6-10 years
- More than 10 years
- Employed after Sandy

Percent of 669 respondents
Baseline Results (Quantitative)—Findings [JH-DRIST]

Before Sandy—Disaster Recovery (DR) / Preparation
- Knew DR duties
- Disaster prep exercises
- DR role training

Percent of 549 respondents hired before Sandy

Future Disasters—Confidence in Receiving
- Liability protection
- Compensation for extra hours
- Psychological support
- Safe worksite
- Sufficient training
- Praise for performance
- Personal support

Percent of all respondents

Future Participation in Disaster Recovery
- Future self-efficacy
- Future response efficacy
- Future willingness to participate (WTP)

Percent of all respondents
Lessons learned

• Train-the-trainer approach
• Group interaction and discussion
• Flexibility in scheduling
• Sessions short in duration
• Use of a local trainer
• Access to materials online
• Use of adult learning strategies
• How can we raise LPHA workers’ confidence in their ability to perform role-specific duties in all-hazards disaster recovery-phase efforts?
• How can we assure LPHA workers that their performance makes a big difference in LPHA recovery efforts?
• How can we raise threat perception of LPHA workers in the recovery phase?
Curriculum Structure: PH STriDR

- Train-the-trainer approach
- Four 90-minute face-to-face learning sessions
- Separate trainer and learner websites to access slides, handouts, trainer guide, and additional resources

While the content and phases are mostly fixed, local contextual examples are encouraged & formats for training delivery are flexible and scalable to meet the unique needs of health departments
Overview of Sessions

- **Session 1** - Introduce long term-recovery, LPHA role, and likely local hazards
- **Session 2** - Identify worker roles and responsibilities in LPHA recovery
- **Session 3** - Identify potential issues in personal/family and workplace recovery, as well as resources and actions to prepare for them
- **Session 4** - Develop a vision of LPHA disaster recovery efforts
Current & Next Steps

• Gauging post-curricular impacts on efficacy and related perceptions among local public health workers’ toward disaster recovery
  • Quantitative analysis of post-curricular synced survey re-administration of intervention- and control-arm LHDs to gauge curricular impact
  • Qualitative analysis of post-curricular focus groups among intervention-arm LHDs
Acknowledgments
2:35p  Questions and Discussion

2:55p
Closing Remarks, Updates and Announcements

3:00p  Adjourn
Thank you for your participation!!

For more information contact:

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