

## Investigating the Effects of Partnerships on Local Health Departments Preparedness

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*The findings and conclusions in this presentation are those of the speaker and do not necessarily represent the views of the Centers for Disease Control and Prevention.*

### Background

- The recent report from Institute of Medicine (IOM), “The Future of the Public’s Health in the 21st Century,” promotes partnerships as an important way to improve public health preparedness through better coordination of preparedness activities and information sharing.
- However, the evidence of the positive effects of partnerships on preparedness is scarce.

### Serving CDC & External Partners

#### Division – wide goals:

- Establish, maintain and strengthen partnerships that advance CDCs health protection goals
- Provide agency-wide assistance and leadership for partnerships
- Advance the state of knowledge of partnerships

### CDC Health Protection Goals

- **People Prepared for Emerging Health Threats** - People in all communities will be protected from infectious, occupational, environmental, and terrorist threats.
- **Healthy People in a Healthy World**- People around the world will live safer, healthier and longer lives through health promotion, health protection, and health diplomacy.



### **Benefits to Local Health Departments to Engage Partners**

Examples of Benefits of partnerships:

- Reduce transaction costs
- Eliminate redundancies
- Gain resources and clientele (referrals)
- Reduce uncertainty through information exchange

### **Potential Costs to Local Health Departments When Working with Partners**

Examples of Costs of partnerships :

- Start-up costs
- Costs of maintaining relationship
- Loss of operating and decision autonomy
- Time to develop and maintain ties

### **RESEARCH OBJECTIVES**

- The purpose of this study was to provide quantitative evaluation of the effects of partnerships on the preparedness of local health departments (LHDs).

### **POPULATION STUDIED**

- Information on LHD characteristics, partnerships, and types emergency preparedness activities was obtained from the 2005 NACCHO survey of 440 LHD.

## **POPULATION STUDIED**

- The outcomes are dichotomous variables indicating if LHD was engaged in implementation of the following 5 emergency preparedness activities during 2004:
  - 1) develop or update a written emergency plan,
  - 2) review relevant legal authorities
  - 3) participate in drills or exercises,
  - 4) assess emergency preparedness competencies of staff,
  - 5) provide emergency preparedness training to staff.

## **STUDY DESIGN**

- Uncovering effects of these partnerships on preparedness pose some methodological difficulties.
- The gold standard of study design for quantification of the effects of interventions is randomized control trial (RCT).
- RCT may not be feasible in the case of partnerships because partnering is a matter of choice, and, thus, random assignment of LHD into partner and non-partner groups may not be possible.

## **STUDY DESIGN Cont....**

- Partnership effects estimated without accounting for non-random selection will be biased.
- We use a propensity-scores-matching methodology for quasi-experimental assignment of LHDs into comparable pairs of cases and controls.
- The Pscore routine in STATA9 is used to estimate a Probit model of partners' choice as a function of observable characteristics (number of customers in jurisdiction, value and structure of LHD expenditures, value of support from CDC and HRSA, number of LHD employees, the level of urbanization of the jurisdiction).

## **STUDY DESIGN- CONTINUED**

- Predicted probabilities of having a partner were used to match LHDs with and without particular partner by nearest-neighbor-matching method.
- The effects of LHD partnerships were estimated by calculating the difference in outcome variables for each pair.

**PRINCIPAL FINDINGS:  
EMERGENCY PLANS**

LHDs were more likely to develop or update a written emergency plan if they partnered with emergency responders (30% point difference,  $t=3.30$ ), community organizations (20%,  $t=2.68$ ), doctors (15%,  $t=2.98$ ), businesses (14%,  $t=2.97$ ) and schools (16%,  $t=1.79$ ).

**PRINCIPAL FINDINGS:  
REVIEW LEGAL  
AUTHORITIES**

Partnerships with businesses seemed to induce LHDs to review legal authorities (20% point difference,  $t=2.70$ ).

**PRINCIPAL FINDINGS:  
PARTICIPATION IN  
DRILLS**

- LHD participation in drills was more likely if they partnered with emergency responders (25% point difference,  $t=2.60$ ), community organizations (19%,  $t=2.51$ ), or physicians (9%,  $t=1.84$ ).

**PRINCIPAL FINDINGS:  
EMERGENCY  
COMPETENCIES**

- LHDs more frequently assessed emergency competencies of staff if they partner with hospitals (31% difference,  $t=2.97$ ), emergency responders (30%,  $t=2.61$ ), physicians (23%,  $t=3.21$ ), or businesses (15,  $t=2.11$ ).

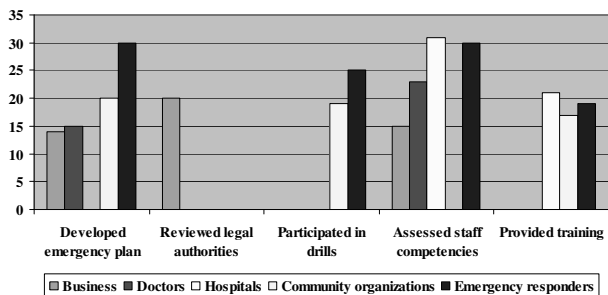
### PRINCIPAL FINDINGS: EMERGENCY TRAINING

- LHDs tended to provide more training if they partnered with hospitals (21%,  $t=2.27$ ), emergency responders (19%,  $t=2.01$ ), or community organizations (17%,  $t=1.95$ ).

### PRINCIPAL FINDINGS: OTHER PARTNERSHIPS

No statistically significant effects of partnerships with community health centers, insurers, economic development agencies, faith based organizations and universities on LHD preparedness activities were observed.

Effects of partnerships on emergency activities  
(Percentage difference)



### CONCLUSIONS AND IMPLICATIONS FOR POLICY, DELIVERY AND PRACTICE

- This study suggests that LHD partnerships with emergency responders, doctors, community organizations, hospitals and businesses may have beneficial effects on preparedness activities.
- While promoting LHD partnerships may have positive effects on preparedness - some partnerships may improve preparedness more than others.

**Questions? Comments?**

**We value your input!**

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