



# Evidence Based Decision Making by Local Health Departments in New York State

Dayna M. Maniccia, DrPH, MS

Collette Sosnowy, PhD, MA

Nancy Katagiri ,MPH, CPH

Christopher Maylahn, MPH

Sylvia Pirani, MPH, MS



# Background

# New York Public Health Practice-Based Research Network

- Aims to conduct research to strengthen public health practice in New York State
- Build capacity of local health departments and their workforce to provide essential public health services
- Primary interest is how LHDs plan, implement and evaluate evidence-based interventions to address community health priorities (i.e., evidence-based decision making)

# Partner Organizations

- **New York State Department of Health**
- University at Albany School of Public Health
- New York State Association of County Health Officials (NYSACHO) & Local Health Departments
- Columbia University
- New York Academy of Medicine
- NY-NJ Public Health Training Center
- Public Health Solutions



# Overview

# EBDM in LHDs in NYS

- Multi-phase project
  - ▣ Detailed literature review
  - ▣ Qualitative study\*
    - Key informants
  - ▣ Quantitative study
    - Select program areas
    - All local health departments

\* Weiss et al (2012) Evidence-based decision making in local health departments. *Frontiers in Public Health* 1(3) and Sosnowy et al (2013) Factors Affecting Evidence-Based Decision Making in Local Health Departments. *American Journal of Preventive* 45(6)

# Qualitative Study Findings

- Decision-makers described two kinds of decisions: ‘big-picture’ and ‘day to day’ decisions
- Varied levels of familiarity with EBDM
- EBDM often applied unevenly in practice
- Participants described a wide variety of approaches to decision-making

# Qualitative Study - Major themes

- Leadership - support for EBDM is essential for its uptake
- Organizational culture – perceived importance of and support for process critical
- Organizational structure – can facilitate or impede EBDM
- Workforce – workforce challenges and competencies influence EBDM



# Purpose of this study

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- Follow-up to qualitative phase
- Collect more detail about themes identified
- Assess extent of use of EBDM
- Identify barriers / facilitators to EBDM



# Study Design

# Survey Development

- Based on qualitative study results
- 64 item survey
  - ▣ decision making when faced with implementing new or changing a program
  - ▣ steps of EBDM (not step 1)
  - ▣ LHD culture
  - ▣ barriers
- Combined with other data
  - ▣ NYSDOH health indicators
  - ▣ NACCHO LHD profile data



Brownson et al. (2009) *Ann Rev Public Health* 30:175–201

# Administration

- Program areas selected with input from LHD commissioners/directors
  - Prevention of childhood lead poisoning, immunization, and physical activity and nutrition
- Survey invitation sent by NYSACHO to LHD commissioners/directors
- Option for online or paper version
- Follow-up
  - late September reminder emails from NYSACHO
  - late October phone calls from GRA
- August 23 - November 14, 2011



# Data Analysis

# Preparation

- Entered data from surveys returned by mail/fax (n=16; 23%)
- Combined survey results with DOH outcomes data and NACCHO Profile data
- Created overall EBDM score
  - ▣ sum of EBDM steps
  - ▣ greater is better
  - ▣ max possible = 120 (do all steps “very often”)

# Analyses

- Comparison between responder and non-responders (using LHD characteristics – NACCHO profile data)
- Descriptive (frequency) statistics
- Association
  - LHD characteristics and EBDM
  - EBDM and public health outcomes



# Results



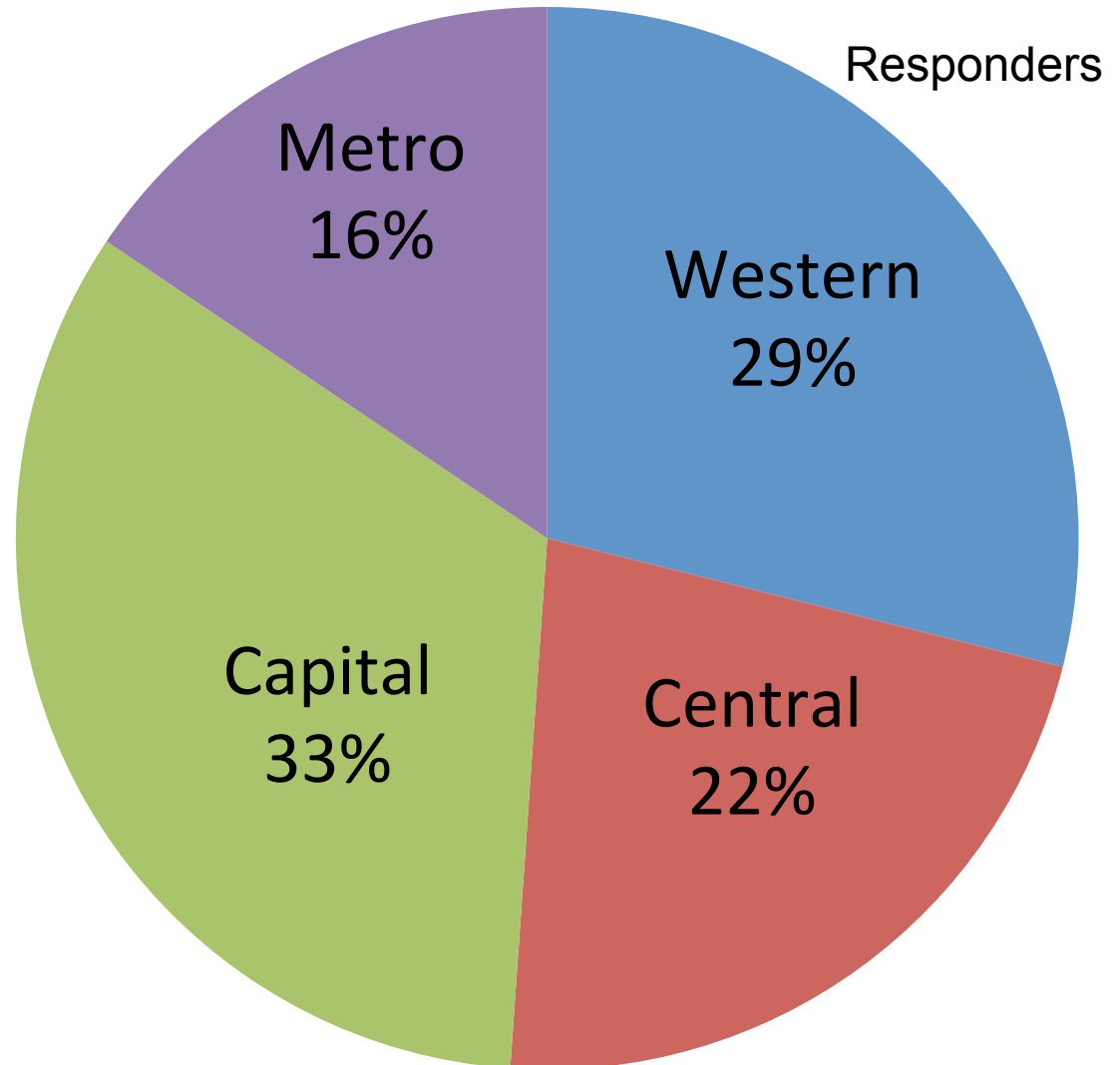
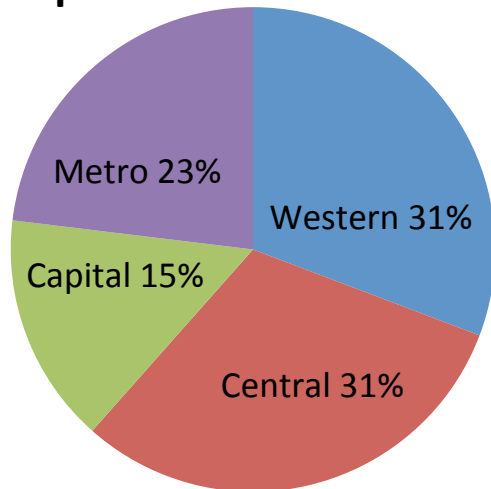
# Response Rates

- 69 surveys returned (40% response rate; 69/174 programs)
  - ▣ all program areas represented
    - childhood lead poisoning prevention: n=15 (22%)
    - immunization: n=26 (38%)
    - physical activity and nutrition: n=28 (40%)
- LHD response rate 78% (45/58 LHDs)
  - ▣ 8/45 (18%) LHDs – all programs responded
  - ▣ 11/45 (24%) LHDs – 2 programs responded
  - ▣ 26/45 (58%) LHDs – 1 program responded

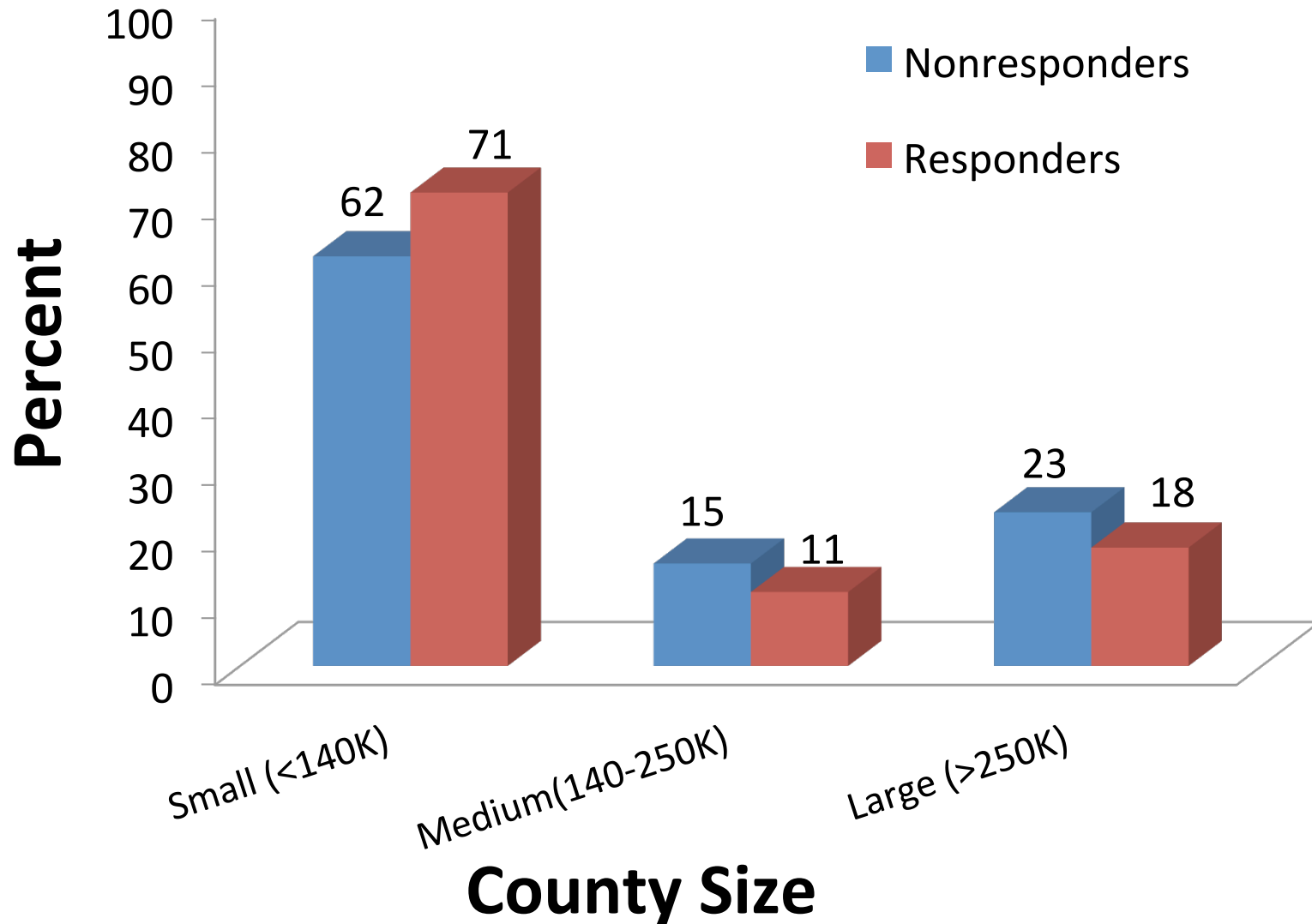
# Regional Distribution of LHDs Responding to the Survey

Greater representation  
from capital region

**Non-responders**



# LHDs by County Size



# EBDM in LHDs

- Average EBDM score 75 (95% CL: 71,80)
- EBDM differs by program area
  - ▣ Physical activity (n=28): EBDM score = 82\*
  - ▣ Lead poisoning prevention (n=15): EBDM score = 67\*
  - ▣ Immunization (n=26): EBDM score = 74
- EBDM does NOT differ by size of county or region

# Frequent EBDM Activities

- ▣ Identifying the target population for the program
- ▣ Identifying potential stakeholders who can help address the public health issue
- ▣ Setting measureable short-term program objectives
- ▣ Searching government websites for information
- ▣ Assessing the size and scope of the public health problem using readily available data
- ▣ Determining whether program elements or strategies are feasible, appropriate, and meaningful for population
- ▣ Working with community partners and stakeholders to identify possible programs or programmatic activities

# Infrequent EBDM Activities

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- Publishing in academic journals
- Working with consultants or academic researchers
- Consulting the Community Guide

# LHD Culture

	Agree (% total)	Disagree (% total)
<b>Work with CBO because we value their contributions</b>	<b>97</b>	<b>3</b>
Work with CBOs only because it is required.	0	100
<b>Use of interventions or programs that have been found to be effective in other settings encouraged</b>	<b>93</b>	<b>7</b>
Decisions made collaboratively	88	12
Employees encouraged to share ideas.	99	1
Use evidence-based interventions only because required	12	88
Evaluate programs only because required	13	87
Evidence from studies in other communities can be useful in guiding the programs / activities we implement.	91	9
Easier to design own programs or activities than try to modify existing interventions.	16	84
Existing interventions won't work for us.	1	98

# LHD Culture and EBDM

	Average EBDM score	
	Agree	Disagree
Work with CBO because we value their contributions (97% agree)	76	50
Use of interventions or programs that have been found to be effective in other settings encouraged (93% agree)	77	58



# Barriers / Facilitators

	Agree (% of total)	Disagree (% of total)
Easy to determine appropriate evaluation methods	31	69
<b>Know where to look for data and research about an issue</b>	<b>81</b>	<b>19</b>
Someone to help me find, interpret, and use research evidence	48	52
Able to use data to support decisions	78	22
<b>Know how to find and summarize information for use in program planning and implementation</b>	<b>72</b>	<b>28</b>
<b>Know how to identify best evaluation methods</b>	<b>53</b>	<b>47</b>
Know how to adapt a program for use in my community	77	23
Too busy to search for data to support programmatic decisions	22	78
Too busy to find and summarize information for use in program planning and implementation	18	82
<b>Too busy to identify what evaluation methods are best to use</b>	<b>16</b>	<b>84</b>
Too busy to adapt a program for use in my community	4	96
More cost effective to develop a new program than adapt existing	1	99
Not enough evidence for some of the health issues on which I work	26	74
Not enough evidence that fits my community / populations	26	75
No access to resources (e.g., Community Guide, academic journals)	13	87

# Barriers / Facilitators and EBDM

	Average EBDM score	
	Agree	Disagree
Know where to look for data and research about an issue (81% agree)	78	65
Know how to find and summarize information for use in program planning and implementation (72% agree)	80	65
Know how to identify best evaluation methods (53% agree)	80	70
Too busy to identify what evaluation methods are best to use (16% agree)	65	78

# Public Health Outcomes and EBDM

- Bivariate association between EBDM and several public health outcomes
  - ▣ Program area: childhood lead poisoning prevention
    - correlation between EBDM scores and number of children who are anemic per children tested ( $r = 0.54$ ,  $p=0.04$ )
    - correlation between EBDM scores and incidence of elevated blood lead levels ( $r = 0.53$ ,  $p=0.04$ )
  - ▣ Program area: immunization
    - correlation between EBDM scores and % children (<9 months) tested for lead ( $r = 0.48$ ,  $p=0.02$ )
    - correlation between EBDM scores and % children (9-18 months) tested for lead ( $r = 0.51$ ,  $p= 0.009$ )



# Conclusions

# Summary of Findings

- Respondents state wide but sample includes greater representation from the Capital region and small LHDs
- EBDM is occurring
  - all programs conducting some of the steps at least some of the time
  - no programs conducting all of the steps all of the time
- Use of EBDM does not differ by region, county size, number of staff, or presence/absence of a board of health
- Differences in EBDM by program area exist

# Challenges

- Difficult to tell if culture – at least as assessed by the questions asked – is related to EBDM because of lack of variability in answers
- Differences by program area may be function of information available
- Results could be due to desirability bias
- May have missed barrier/facilitators
- Asked program directors, ideally would like to ask all staff

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# Authors' affiliation

## Dayna M. Maniccia, DrPH, MS

Assistant Professor, Director Health Services Administration Graduate Program, and Coordinator Undergraduate Public Health, The Sage Colleges School of Management, 518-292-1801 or [manicd@sage.edu](mailto:manicd@sage.edu)

## Collette Sosnowy, PhD, MA

Visiting Faculty, Psychology, Sarah Lawrence College

## Nancy Katagiri, MPH, CPH

Project Coordinator , New York State Department of Health Bureau of Community Chronic Disease Prevention, [njb05@health.state.ny.us](mailto:njb05@health.state.ny.us)

## Christopher M. Maylahn, MPH

Program Research Specialist, Office of Public Health Practice, New York State Department of Health, [cmm05@health.state.ny.us](mailto:cmm05@health.state.ny.us)

## Sylvia Pirani, MS, MPH

Director, Office of Public Health Practice, New York State Department of Health, [sjp03@health.state.ny.us](mailto:sjp03@health.state.ny.us)