4-10-2013

Predictors of Evidence-Based Decision Making and Population Health Practice in LHDs

Kay Lovelace
University of North Carolina

Robert Aronson
University of North Carolina at Greensboro

Kelly Rulison
University of North Carolina at Greensboro

Gulzar H. Shah
Georgia Southern University, gshah@georgiasouthern.edu

Mark Smith
Guilford County Department of Public Health

Predictors of evidence-based decision making and population health practice in LHDs

Kay Lovelace, PhD, MPH (co-PI), Associate Professor
Robert Aronson, DrPH, MPH (co-PI), Associate Professor
Kelly Rulison, PhD, MAS (co-I), Assistant Professor
University of North Carolina at Greensboro
Gulzar Shah, PhD, MS (co-I), Associate Professor,
Georgia Southern University
Mark Smith, PhD, MS, Guilford County Dept. of Public Health

Support for this study was provided by a grant from
The Robert Wood Johnson Foundation

THE UNIVERSITY *of* NORTH CAROLINA
GREENSBORO

Disclosure

- Neither we, nor our spouses or partners have had a financial, professional or personal relationship that might potentially bias and/or impact the content of the educational activity/session.
    - Kay Lovelace, Robert Aronson, Kelly Rulison, Gulzar Shah, and Mark Smith

Determining what factors influence LHDs to meet their responsibility for improving population health

- To what extent do LHDs use a population health approach?
- To what extent do local health departments (LHDs) address community health issues using an EBPH approach?
- What factors predict using these approaches?

Today's objectives

- To identify indicators of evidence-based decision making and population health practice in the 2010 NACCHO Profile Survey

- To identify multi-level predictors of LHD use of evidence-based decision making and population health practice

- To discuss recommendations for LHD and/or state practices to enhance the use of evidence-based decision making and population health practice

Methods: Dataset

- **Harmonized PHSSR dataset** comprised of:
  - NACCHO 2010 Profile of Local Health Departments Study
  - ASTHO 2010 Profile of State Health Departments Study
  - 2010 Census data
  - Area Resource File data
  - County Health Rankings data

Methods: Sample

- All LHDs that completed both Core Module and Module 2 (n=516) of the NACCHO Profile survey
  - 83% of those LHDs to which Module 2 was administered

Methods: Procedure

- Developed initial conceptual framework and selected variables
- Sought advice from expert panel of individual researchers, representatives of key organizations (NACCHO, ASTHO, NALBOH) and of state and local public health agencies (n=14)
- Revised conceptual framework
- Revised selection of questions to represent outcome variables using available items in 2010 NACCHO Profile Survey
  - **Evidence-based Decision Making**
  - **Population health**

Analyses

- **Descriptive analysis**

- **Multi-level modeling with predictors at the state and local levels for outcome variables of:**
  - Evidence-based decision making strategies
  - Population health strategies

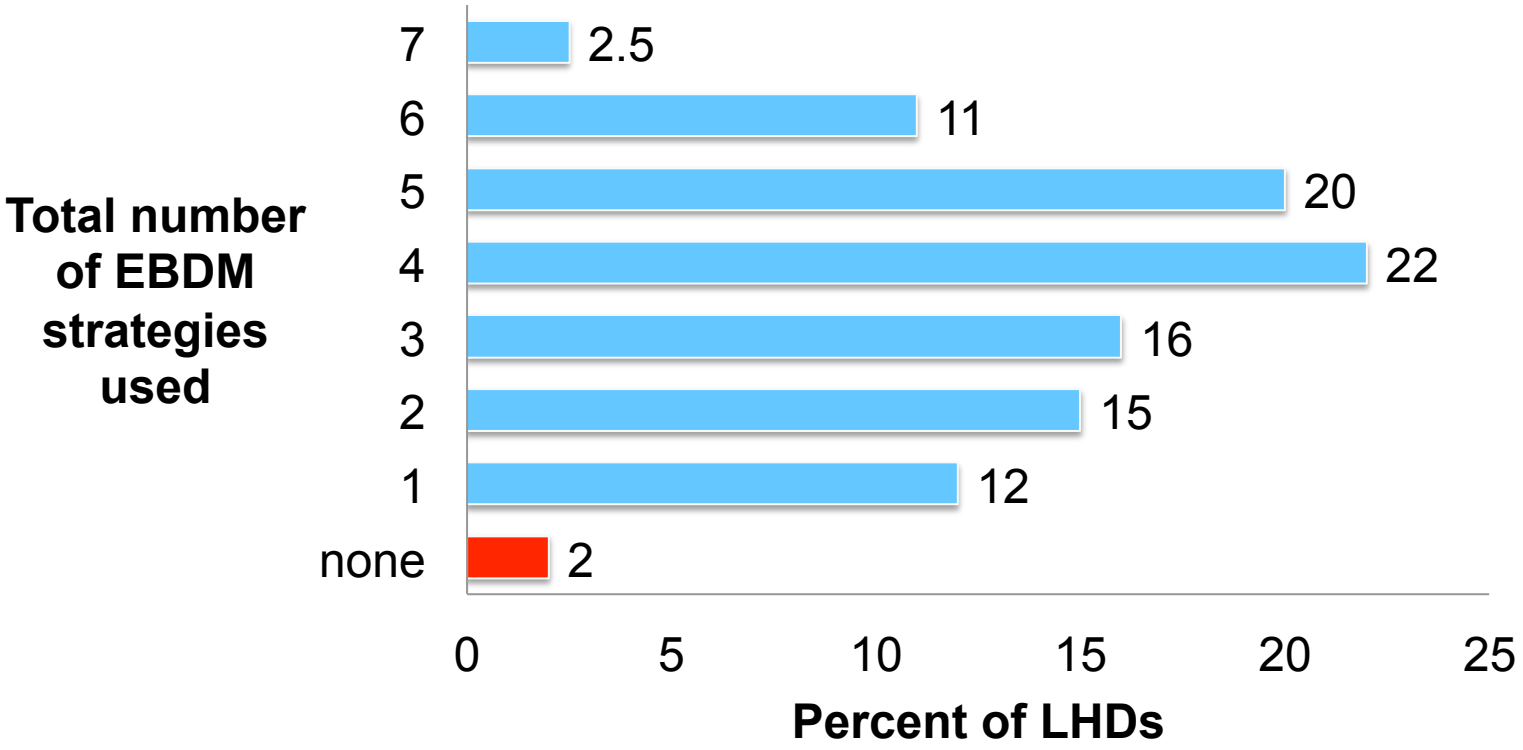
PRELIMINARY

RESULTS

Measures: Evidence-based decision making

- **Collected surveillance and epidemiological data** (7 types of surveillance – 0 - 2 points)
- **Engaged the community through the use of surveillance and community context data** (County Health Rankings – 1 point)
- **Conducted planning based on evidence and data**
  - Community Health Assessment (1 point)
  - Community Health Improvement Plan (1 point)
  - Guide to Community Preventive Services (1 point)
- **Applied research findings to practices within the LHD** (1 point)

Percent of LHDs that used multiple Evidence-based decision making strategies



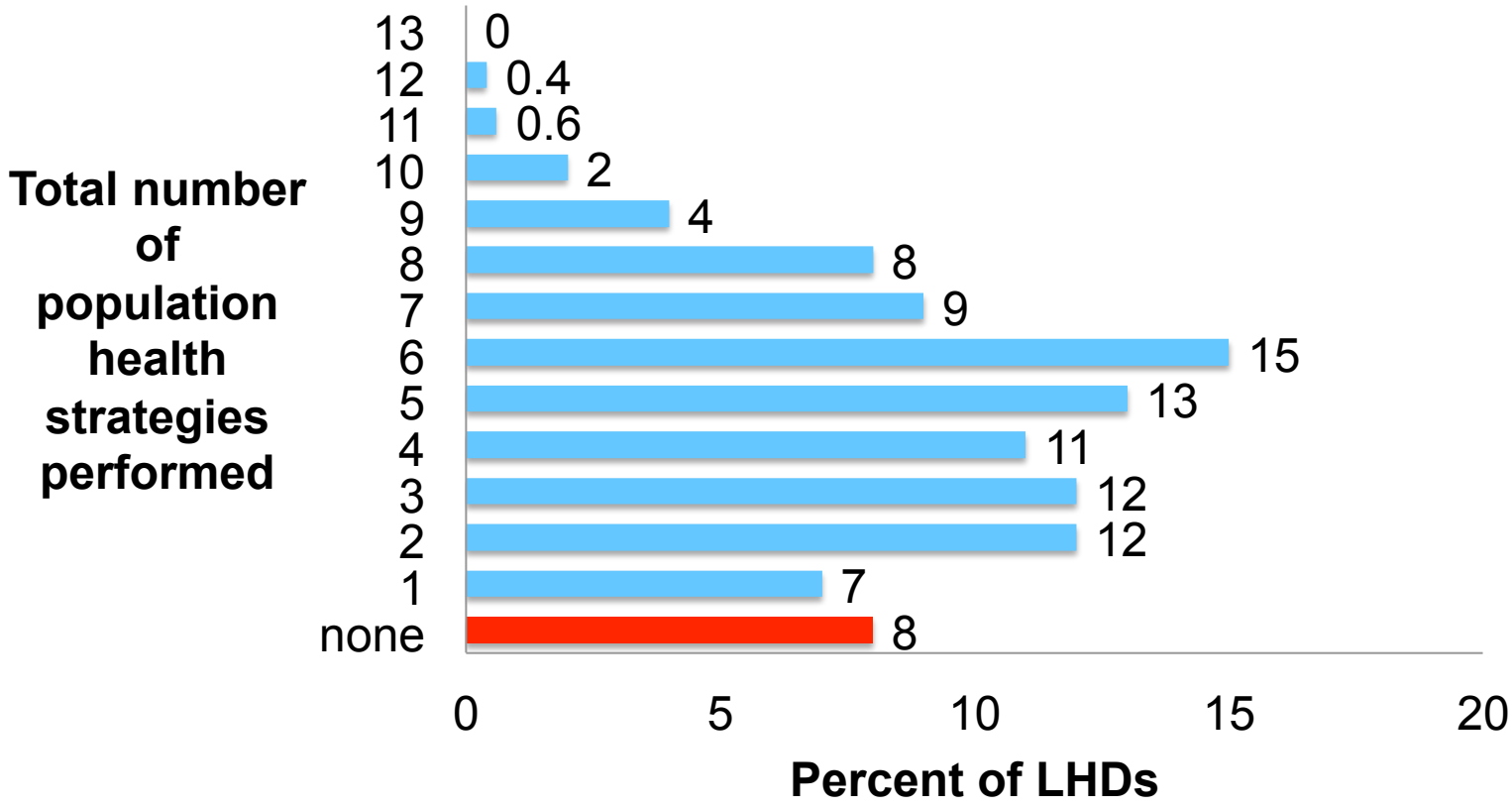
THE UNIVERSITY of NORTH CAROLINA GREENSBORO

Measures: Population health strategies

- **Performed population-based primary prevention activities** (8 points - nutrition, tobacco, physical activity, chronic disease prevention, injury, substance abuse, violence, unintended pregnancy)

- **Adopted local public health ordinances or regulations during the last 2 years** (5 points)
  - Tobacco prevention and control
  - Nutrition or physical activity
  - Indoor air quality
  - Land use planning
  - Emergency preparedness or response

Percent of LHDs that used multiple population health strategies



THE UNIVERSITY of NORTH CAROLINA GREENSBORO

Does context matter?

	Evidence-based decision making	Population health strategies
Jurisdiction size	Yes ↑	Yes ↑
Percent in poverty	No relationship	Yes ↑
Percent < 18 years	No relationship	No relationship
Percent non-white	No relationship	Yes ↓
Percent with college education	**Yes ↑**	**Yes ↑**

Do state strategies matter?

	Evidence-based decision making	Population health strategies
State population	No relationship	No relationship
Expenditures per 1000	No relationship	No relationship
FTEs per 1000	No relationship	No relationship
FTEs in Epid, Bios, HEED and Nutr per 1000	No relationship	No relationship
Technical Assistance to local level	No relationship	No relationship
Top executive degree, MD or PH	No relationship	No relationship
Governor appoints or removes SHO	No relationship	No relationship
Partnerships	No relationship	No relationship

Does local control make a difference?

	Evidence-based decision making	Population health strategies
Presence of board of health	**No relationship**	**No relationship**
Board of health can hire/fire director	**No relationship**	**No relationship**
Policy-making board of health	**Yes ↑**	**Yes ↑**
State controlled LHD (compared to local)	**Yes ↓**	**Yes ↑**
Shared state-local LHD (compared to local)	No relationship	No relationship
Percent revenues local	No relationship	No relationship

Do resources matter?

	Evidence-based decision making	Population health strategies
Expenditures/1000, middle 1/3 LHDs	**Yes ↑**	**Yes ↑**
Expenditures/1000, top 1/3 LHDs	**Yes ↑**	**Yes ↑**
LHD employees per 1,000 population	Yes ↑	No relationship
Budget decrease (not including 1 time H1N1)	**Yes ↑**	**Yes ↑**
Percent employees laid off or lost via attrition	No relationship	Yes ↓

Does a prepared workforce matter?

	Evidence-based decision making	Population health strategies
Top executive tenure	No relationship	Yes ↑
Top executive, public health degree	**Yes ↑**	**Yes ↓**
Top executive, medical degree	**Yes ↓**	No relationship
Top executive, nursing degree	No relationship	No relationship
Departmental expertise, Epidemiologist	**Yes ↑**	**Yes ↑**
Departmental expertise, Health educator	**No relationship**	**Yes ↑**
Departmental expertise, Emergency preparedness coordinator	**Yes ↑**	**Yes ↑**
Training, attended HIA training	**Yes ↑**	**Yes ↑**

THE UNIVERSITY of NORTH CAROLINA GREENSBORO

Preliminary recommendations for Policymakers

- Resources (PH expenditures)
- Local governance for EBDM – but state governance connected to population health
- Importance of a policy making local BOH
- Prepared workforce
  - Top executive with PH degree
  - FT top executive
  - Epidemiologist
  - Health Educator
  - Designated Emergency Preparedness coordinator
  - Training (HIA)

Preliminary recommendations for PHSS research

- Investigate number of predictors with associations in opposite directions for EBPm and Population Health
- Important to look more carefully at the impact of state strategies (counter-intuitive that state factors are not showing a difference)
- Important to have conversations between researchers and national policy organizations regarding what new information might be needed in surveys

Limitations

- Cross-sectional data
- Self-report, not independently verified
- Survey questions do not directly map the constructs we are examining
- Not able to discern if population health strategies are evidence-based or how pervasive evidence-based decision making is
- How respondents interpret questions may vary (e.g. population health) – Need improved data definitions
- Count variables as proxies for EBDM and population health

Thank you!

- Co-authors
- Robert Wood Johnson Foundation
- Expert Advisory Panel Members
- National Network of Public Health Institutes
- National Coordinating Center for PHSSR
- National Association of County and City Health Officials
- Association of State and Territorial Health Officials