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# Using State and Local Health Survey Data to Advance Practice-Based Research

Glen Mays, *bepress (DC Admins)*



Available at: [http://works.bepress.com/glen\\_mays/13/](http://works.bepress.com/glen_mays/13/)

# Using State and Local Health Survey Data to Advance PHSSR

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# Missed opportunities in public health delivery

Large segments of the populations at risk are not covered by evidence-based public health practices:

- Smoking cessation
- Aspirin use
- Influenza vaccination
- Hypertension control
- Nutrition and physical activity programming
- HIV prevention
- Family planning
- Substance abuse prevention
- Interpersonal violence prevention
- Maternal and infant home visiting for high-risk populations

# Fundamental empirical questions



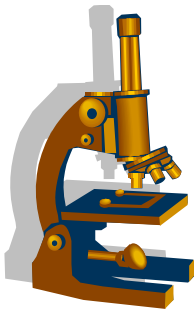
- Which programs, interventions, policies, delivery systems (***mechanisms***)....
- Work best (***outcomes***)...
- In which institutional & community settings (***contexts***)...
- And why (***causal pathways, active ingredients***)?

Pawson and Tilley 1997

# PHSSR's place in the continuum

## Intervention Research

- What works – proof of efficacy
- Controlled trials
- *Guide to Community Preventive Services*



## Services/Systems Research

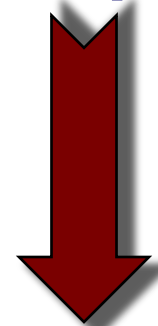
- How to organize, implement and sustain in the real-world
  - Reach
  - Quality/Effectiveness
  - Cost/Efficiency
  - Equity/Disparities
- Impact on population health
- Comparative effectiveness & efficiency



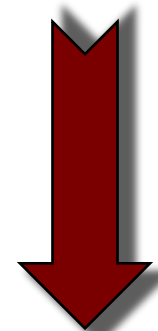
# Developmental path for PHSSR

- Measuring practice & performance
- Detecting variation in practice
- Examining determinants of variation
  - Organization
  - Financing
  - Workforce
  - Law & policy
  - Information
  - Preference
- Determining consequences of variation
  - Health outcomes
  - Economic outcomes
  - Medical care use
  - Disparities
- Testing strategies to reduce harmful, wasteful, & inequitable variation in practice and outcomes

**Descriptive**



**Inferential**

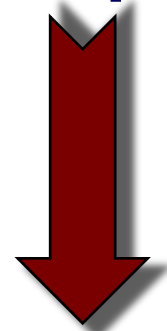


**Translational**

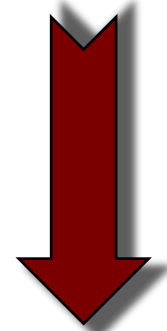
# The Need for Health Survey Data in Advancing PHSSR

- How are public health services & systems distributed in relation to population health needs?
  - Reach to populations at risk
  - Appropriateness of services
  - Responsiveness to community preferences
  - Inequities in delivery
- Do communities with more/better systems and services experience superior health?

**Descriptive**



**Inferential**



**Translational**

# Adoption of evidence-based practices

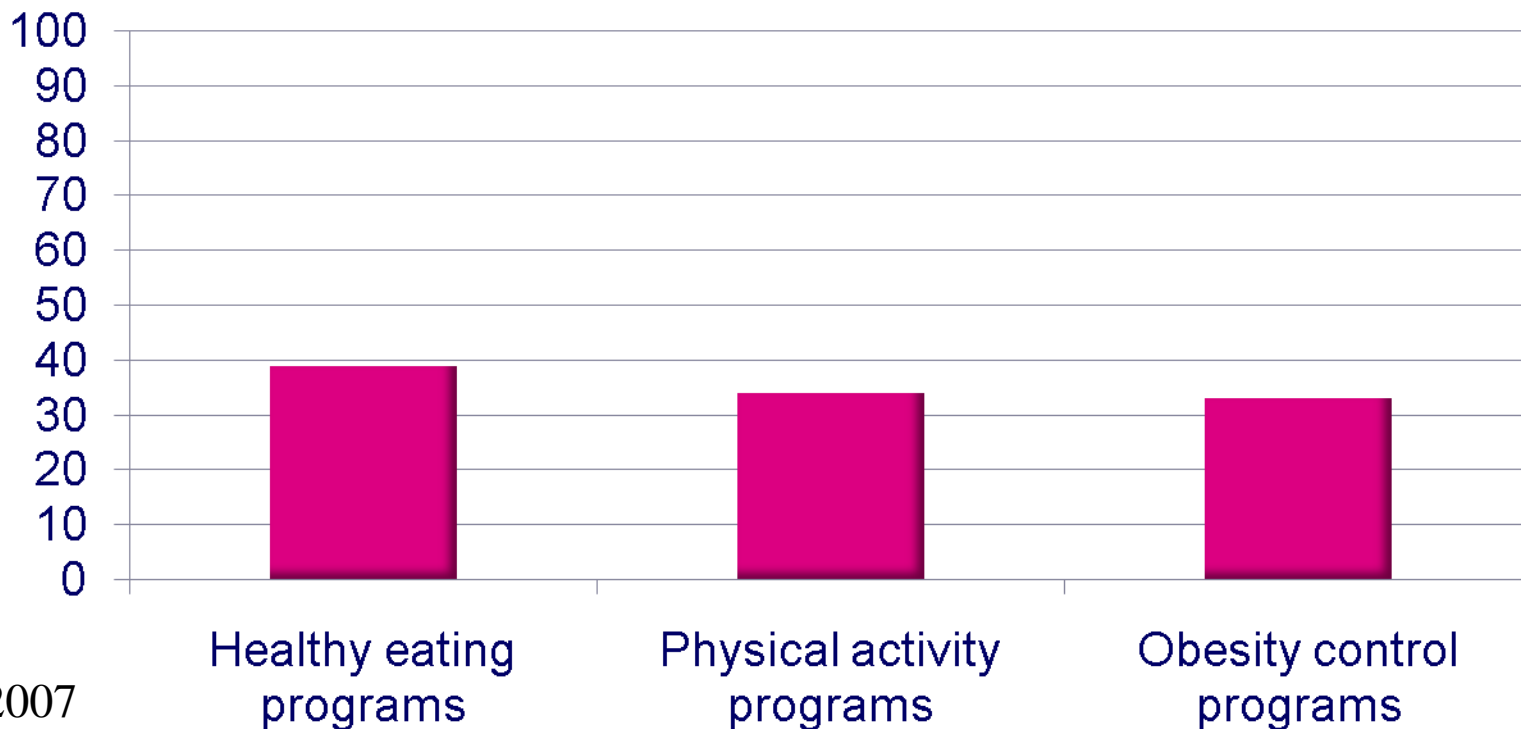


## Missed Opportunities

### Local Health Departments as Providers of Obesity Prevention Programs for Adolescents

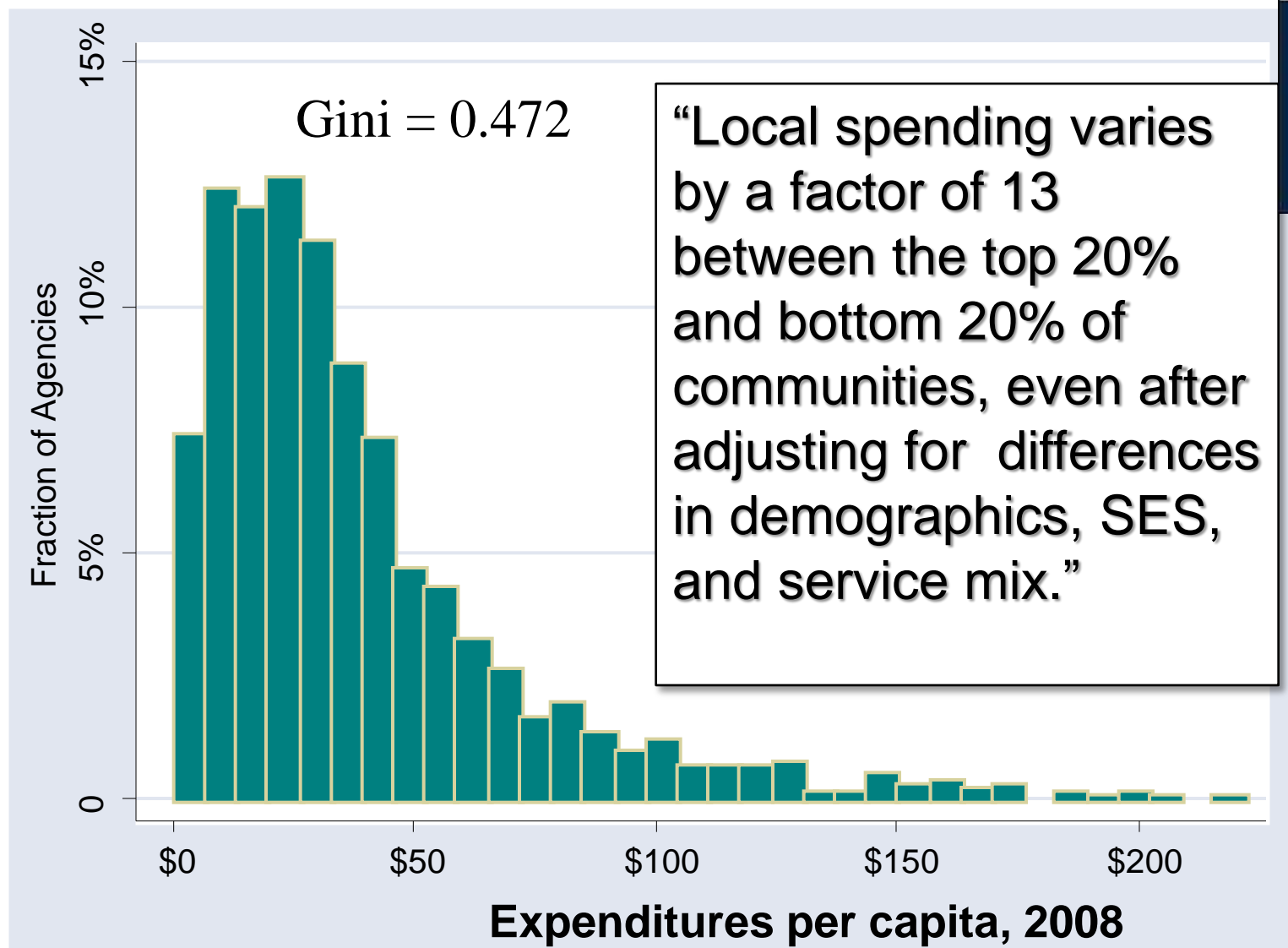
Sandy J. Slater, PhD, Lisa M. Powell, PhD, Frank J. Chaloupka, PhD

#### Percent of local health departments offering evidence-based obesity programs





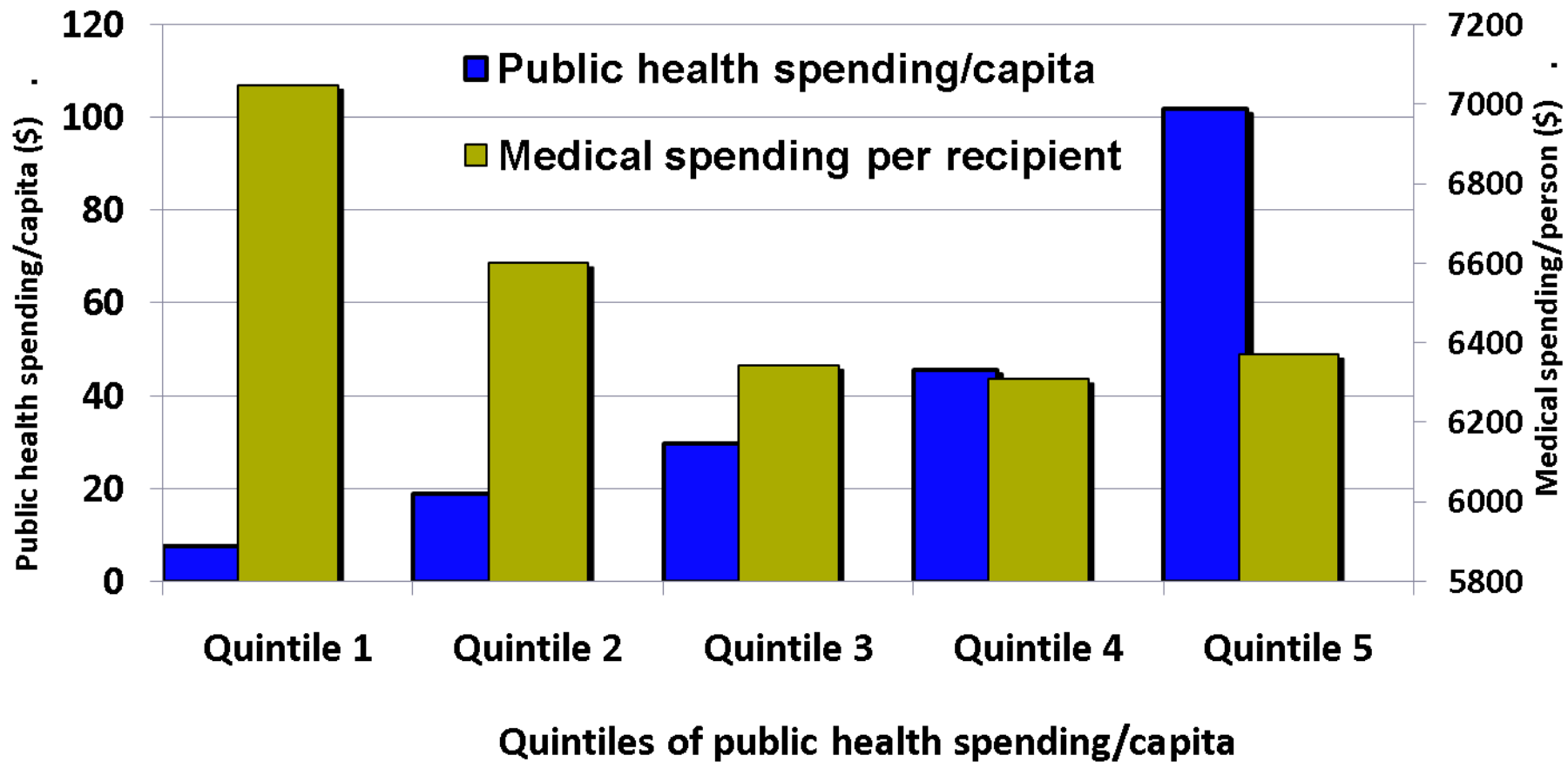
# Variation in Local Public Health Spending



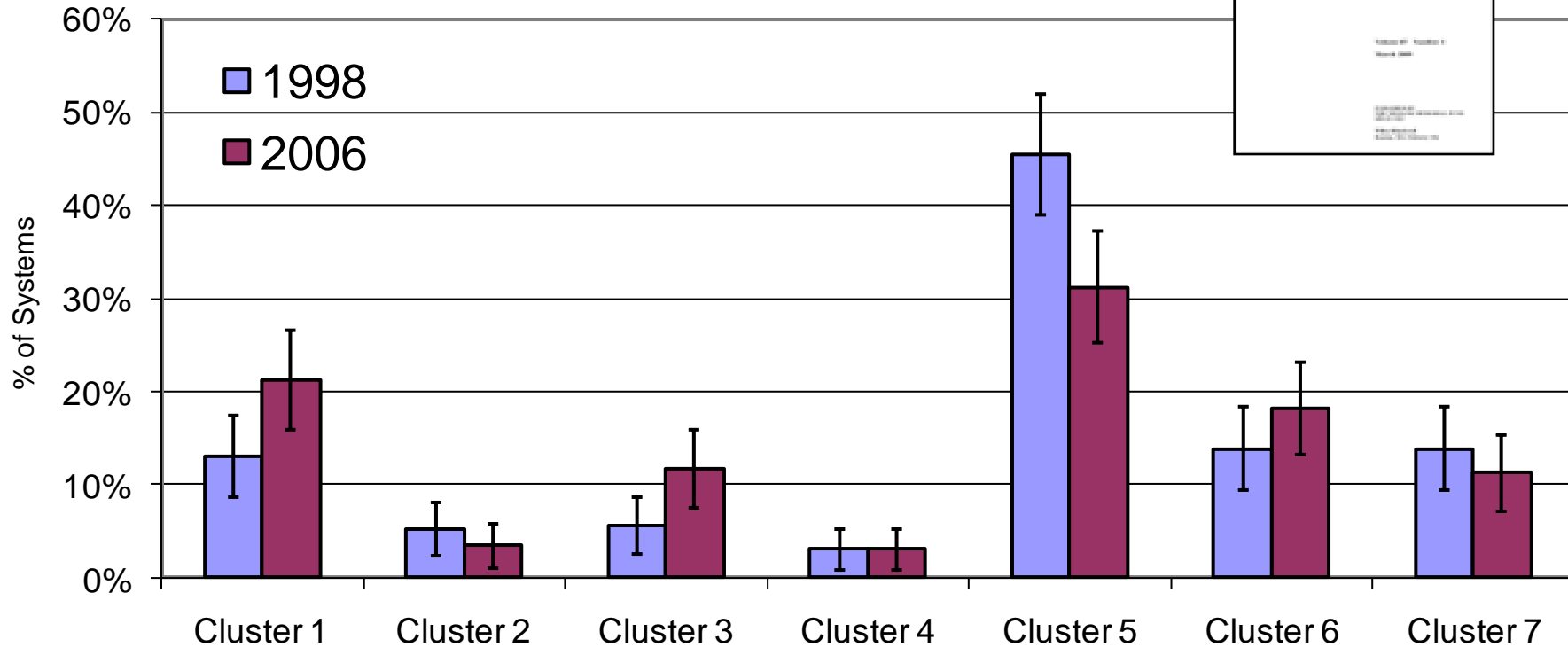
HSR

State	Year	Spending (\$)	Population	SES	Service Mix
CA	2008	12.5	37.7	0.5	0.5
TX	2008	11.5	28.7	0.4	0.4
NY	2008	11.5	20.5	0.4	0.4
FL	2008	8.5	19.3	0.3	0.3
IL	2008	7.5	12.8	0.3	0.3
PA	2008	4.5	12.1	0.3	0.3
OH	2008	4.0	11.7	0.3	0.3
GA	2008	3.0	9.8	0.2	0.2
NC	2008	2.5	9.5	0.2	0.2
VA	2008	2.0	7.8	0.2	0.2
WV	2008	1.5	6.3	0.1	0.1
MT	2008	1.0	0.9	0.1	0.1
ND	2008	0.5	0.7	0.1	0.1
SD	2008	0.5	0.8	0.1	0.1
NE	2008	0.5	0.7	0.1	0.1
KS	2008	0.5	0.6	0.1	0.1
OK	2008	0.5	0.6	0.1	0.1
MO	2008	0.5	0.6	0.1	0.1
IA	2008	0.5	0.6	0.1	0.1
WI	2008	0.5	0.6	0.1	0.1
MI	2008	0.5	0.6	0.1	0.1
IN	2008	0.5	0.6	0.1	0.1
OH	2008	0.5	0.6	0.1	0.1
PA	2008	0.5	0.6	0.1	0.1
NY	2008	0.5	0.6	0.1	0.1
CT	2008	0.5	0.6	0.1	0.1
RI	2008	0.5	0.1	0.1	0.1
MA	2008	0.5	0.1	0.1	0.1
NH	2008	0.5	0.1	0.1	0.1
VT	2008	0.5	0.1	0.1	0.1
ME	2008	0.5	0.1	0.1	0.1
NJ	2008	0.5	0.1	0.1	0.1
DE	2008	0.5	0.1	0.1	0.1
MD	2008	0.5	0.1	0.1	0.1
DC	2008	0.5	0.1	0.1	0.1

# Examining value: prospects for medical care cost savings

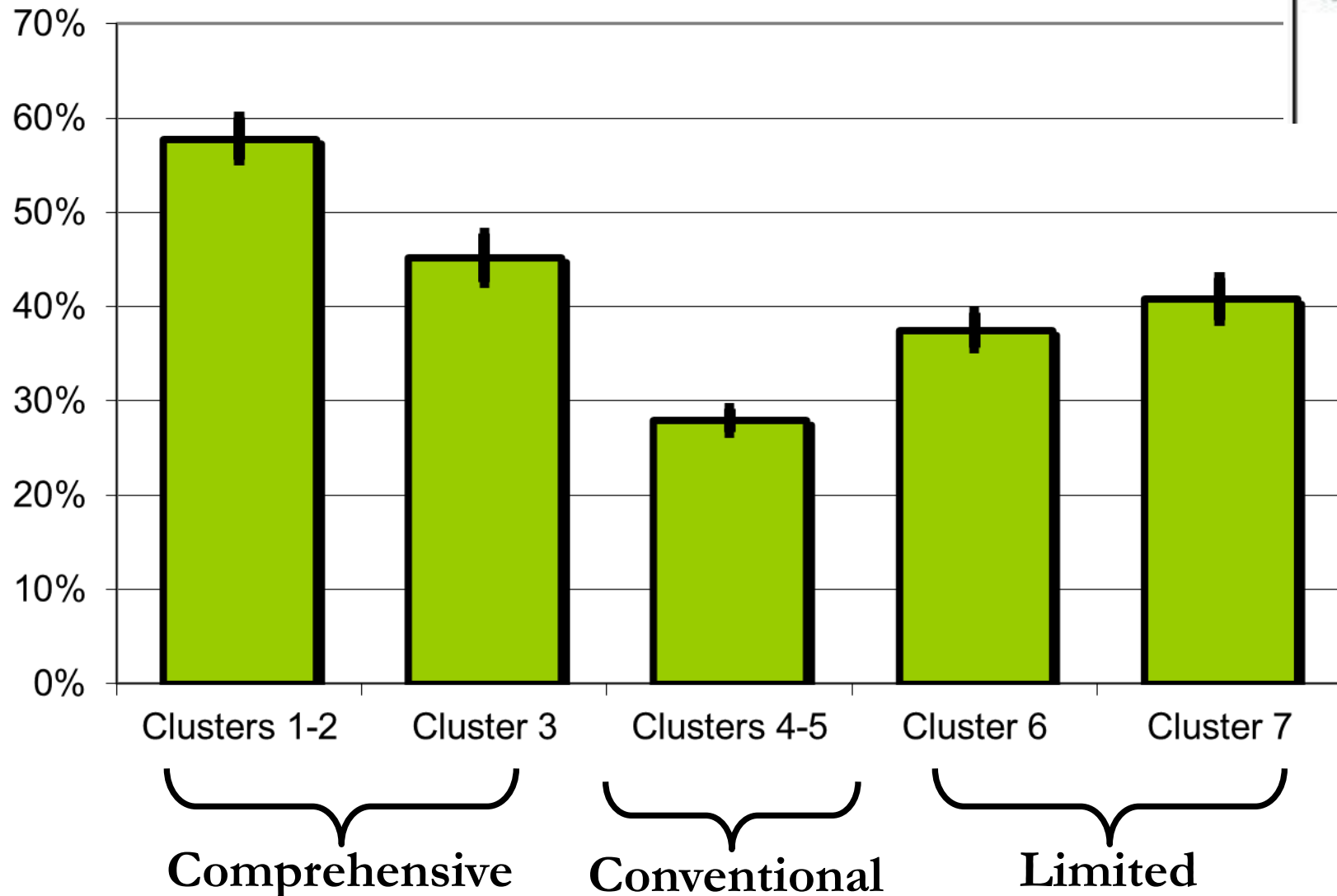


# Variation in System Composition & Structure



Differentiation	High	High	High	Mod	Mod	Low	Low
Integration	High	High	Low	Mod	Mod	Low	Mod
Centrality	Mod	Low	High	High	Low	High	Low
	Comprehensive			Conventional		Limited	

# Comparing practice effectiveness across PH system types

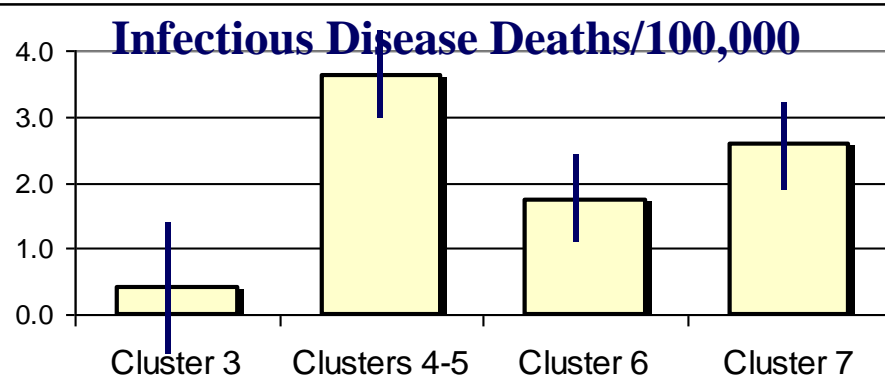
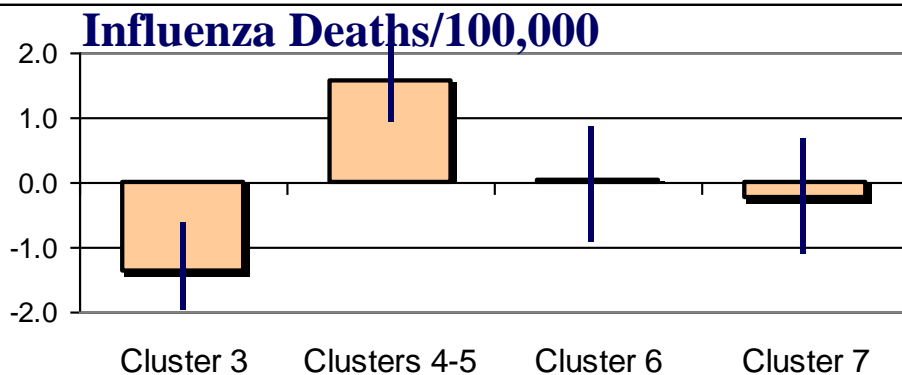
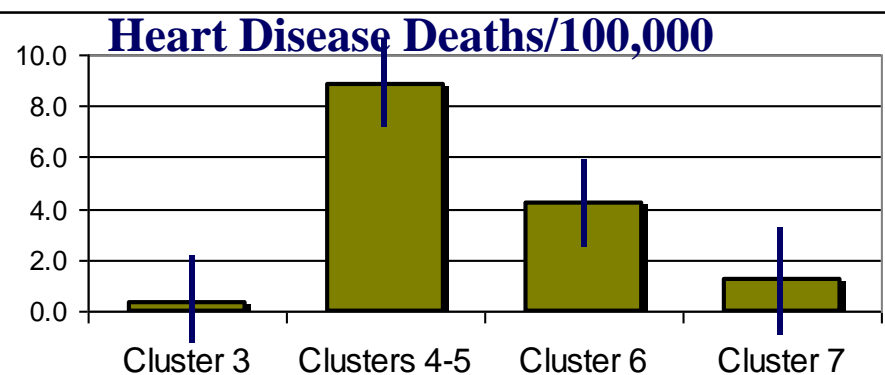
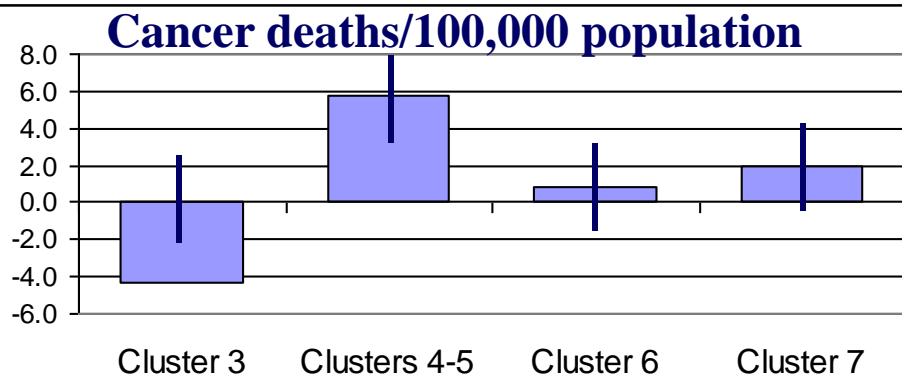
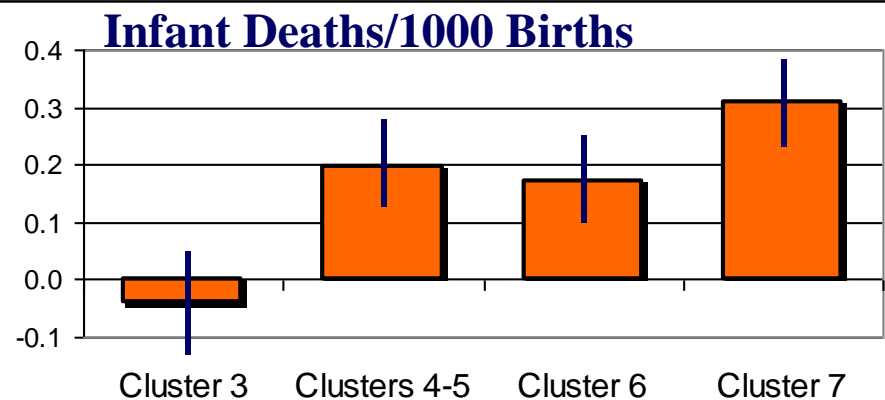


Regression-adjusted means control for population size, density, age composition, poverty status, racial composition, and physician supply

Mays et al. Milbank Quarterly 2010.

# Public Health System Change and Population Health

## Difference-in-Differences Estimates (Reference: Clusters 1-2)



Fixed-effects models control for population size, density, age composition, poverty status, racial composition, and physician supply

# Conclusions: moving the field forward

Local and state health survey data can get us inside the “black box” of public health agencies and systems



# Dealing with complex systems

