

# Public Health Governance & Population Health: Evidence from the National Longitudinal Survey of Public Health Systems

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## Systems for Action

**National Coordinating Center**

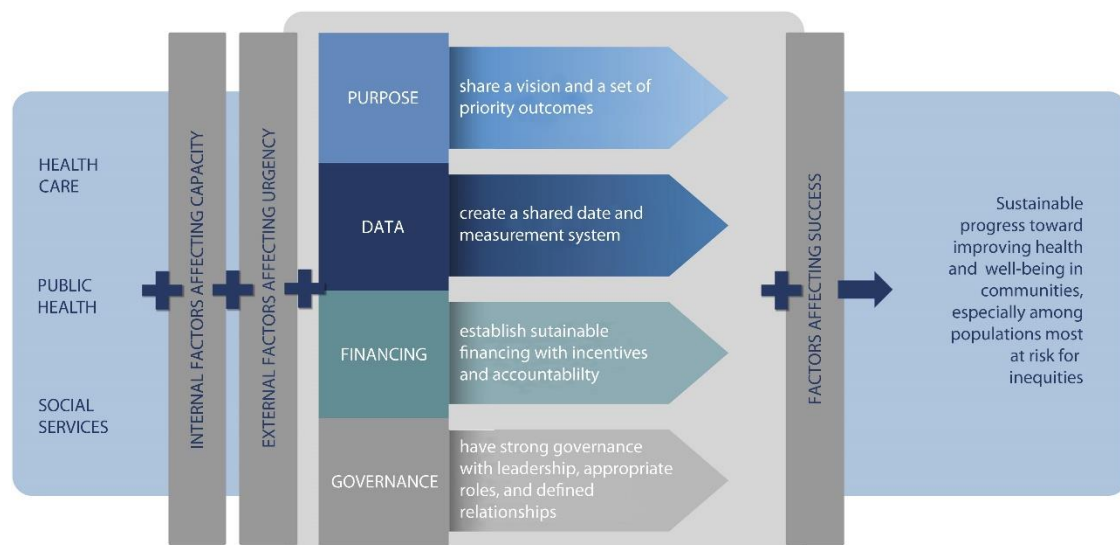
*Systems and Services Research to Build a Culture of Health*

# Why governance structures matter

- Strategic direction for the organization
- Oversight in acquiring & using resources
- Relationships with external stakeholders
- Flow of information, ideas, expertise into organization



- Independence
- Authority
- Heterogeneity in expertise



## A Theory of Change for Aligning Health Care, Public Health, and Social Services in the Time of COVID-19

Glenn M. Landers ScD, Karen J. Minyard PhD, Daniel Lanford PhD, and Hilary Heishman MPH

<https://ajph.aphapublications.org/doi/10.2105/AJPH.2020.305821>

Motivation

Approach

Results

Discussion

## Questions of interest

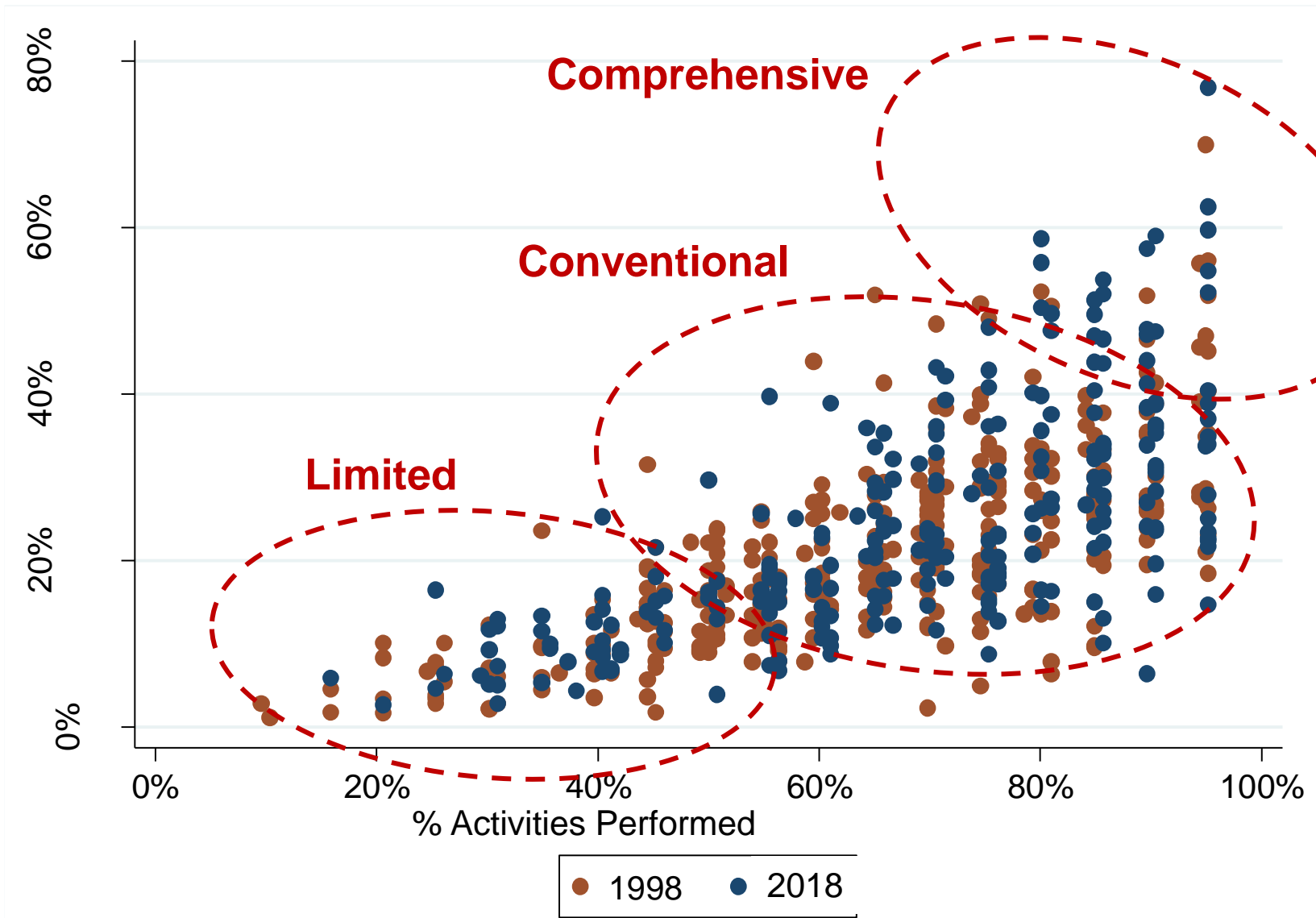
- How do governing boards influence local public health agency strategies?
  - Financial resources (expenditures)
  - Activities (national recommendations)
  - **External relationships (networks)**
- What are the long-term health & economic effects of governing board structures?

# A useful lens for studying multi-sector work

## National Longitudinal Survey of Public Health Systems

- Nationally representative cohort of ~600 U.S. communities
- Followed over time: 1998-2020
- Local public health officials report:
  - **Scope**: availability of 20 recommended population health activities
  - **Network density**: organizations contributing to each activity
  - **Network centrality**: strongest central actor
  - **Quality**: perceived effectiveness of each activity

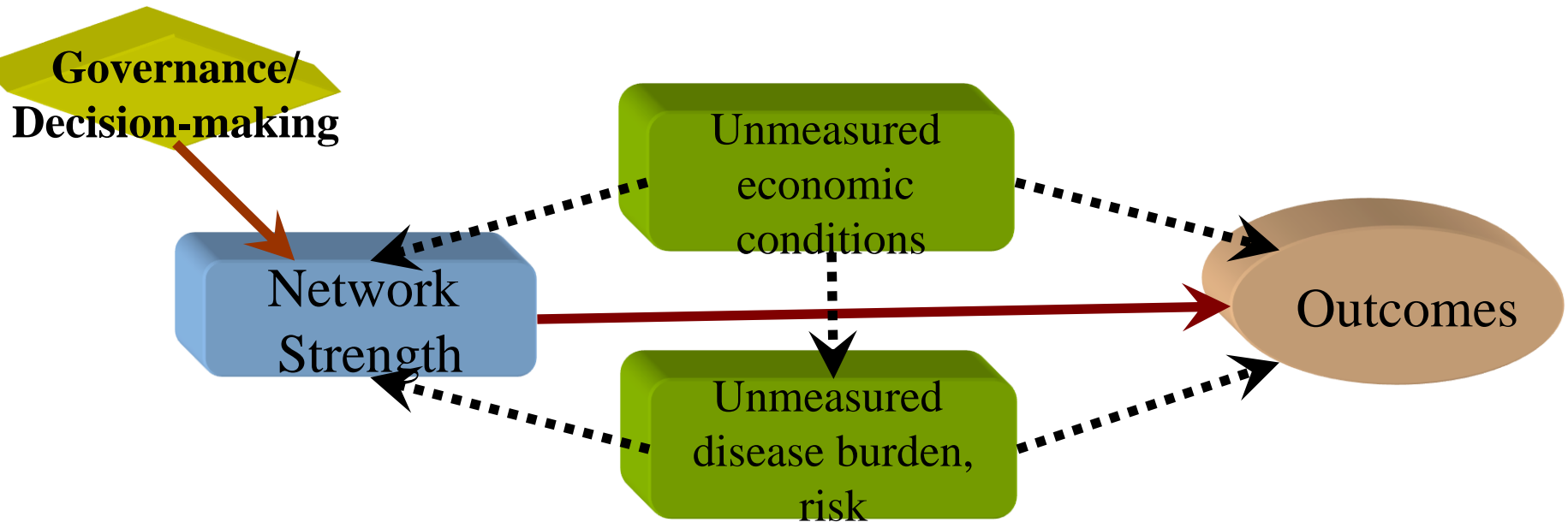
# Classifying network strength



Mays GP et al. Understanding the organization of public health delivery systems: an empirical typology. *Milbank Q.* 2010;88(1):81–111.

# Analytical approach: IV estimation

- Identify exogenous sources of variation in network strength that are unrelated to outcomes
  - Governance structures: local boards of health
  - Decision-making authority: agency, board, local, state
- Controls for unmeasured factors that jointly influence systems and outcomes



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# Predictors of Comprehensive Networks

## First Stage Logit Results

Variable	Marginal Effect	S.E.	
Population size (10,000s)	0.033	0.009	***
Poverty rate (10%)	-0.033	0.016	**
Policy-making local BOH (0,1)	0.046	0.016	***
Centralized local health agency (0,1)	-0.087	0.036	**
BOH approves health budget (0,1)	0.043	0.022	*
Local health tax/fee authority (0,1)	0.028	0.011	**

IVs

Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and year fixed effects.

Mays GP et al. *Health Affairs* 2016

Motivation

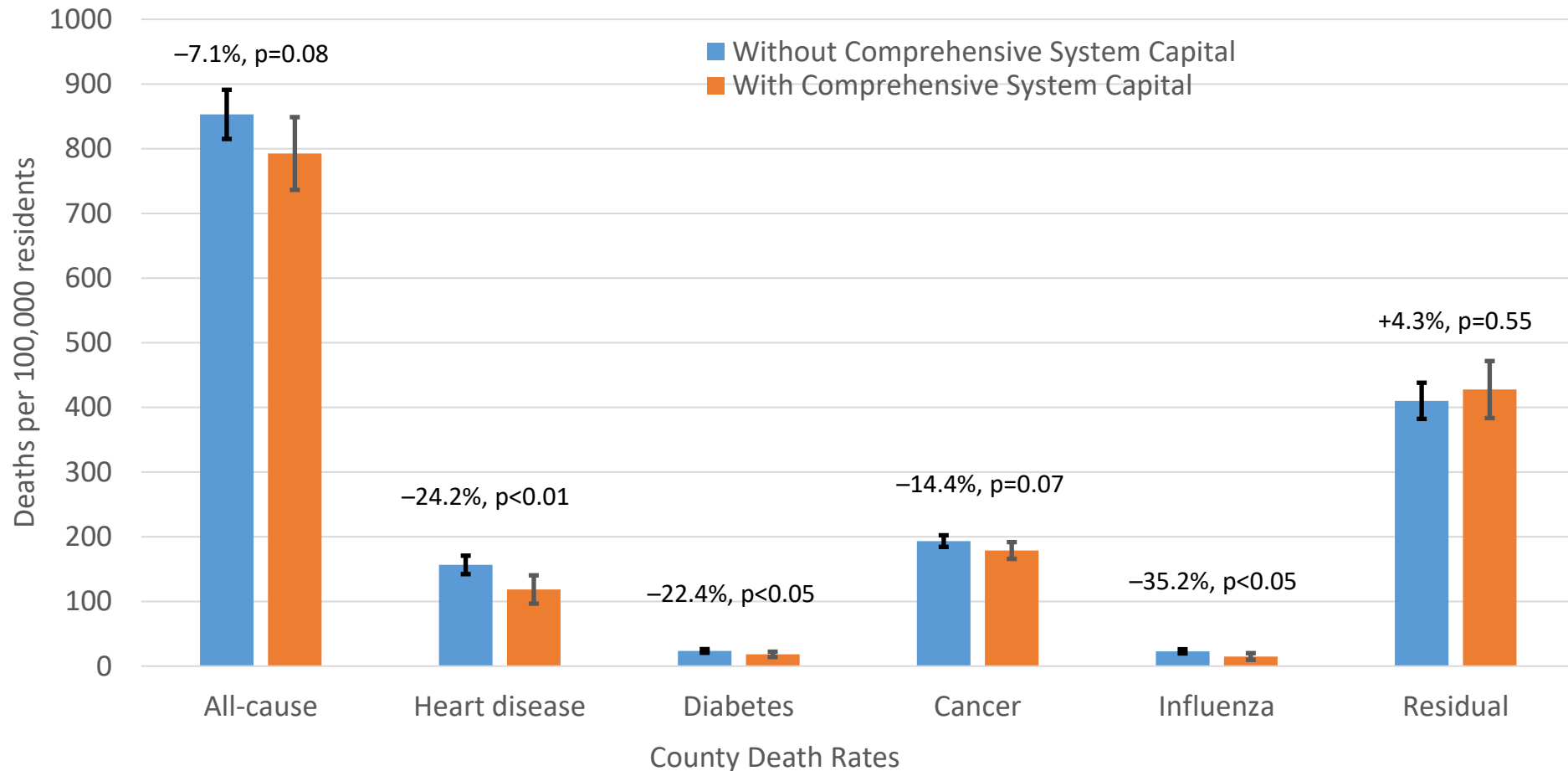
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# Health effects attributable to network structure

## Impact of Comprehensive Networks on **Mortality**, 1998-2014



Fixed-effects instrumental variables estimates controlling for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects.

Mays GP et al. *Health Affairs* 2016

Motivation

Approach

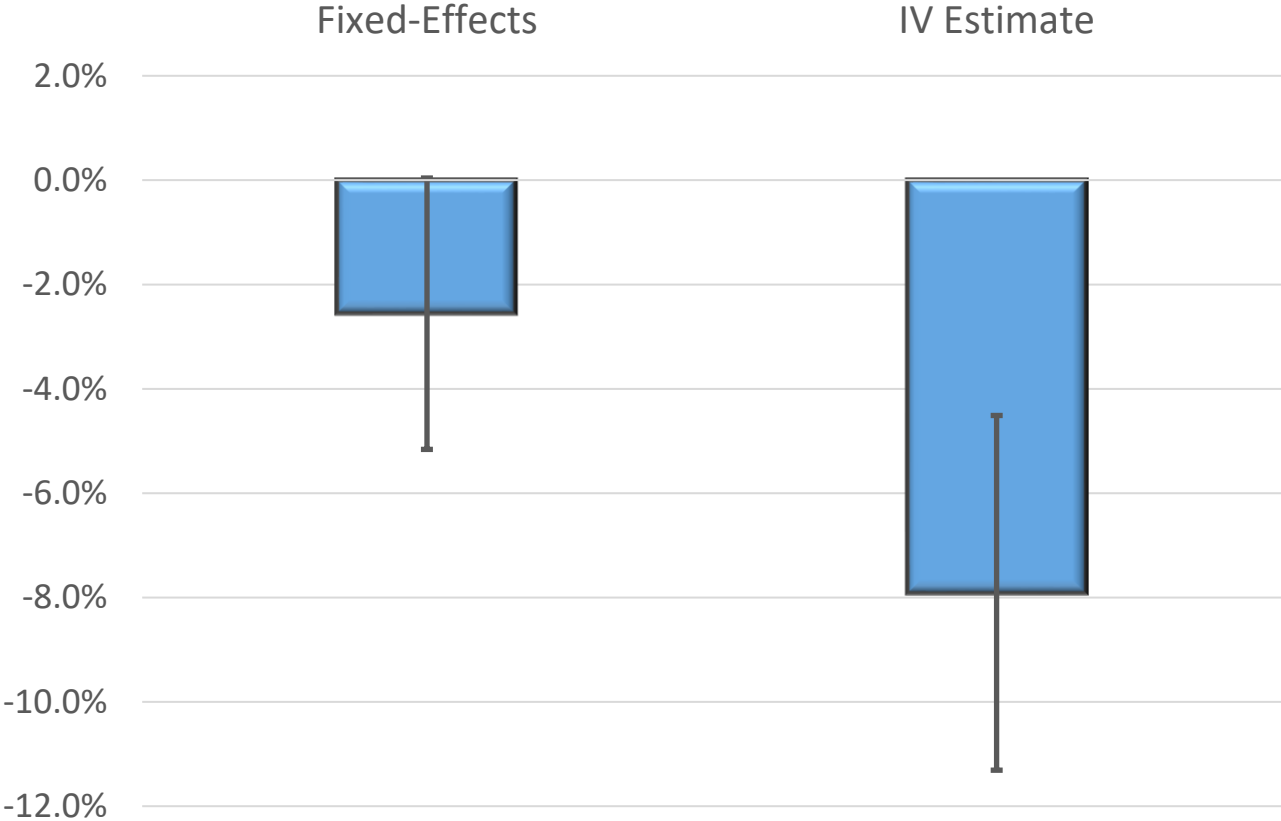
Results

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# Economic effects attributable to network structure

## Impact of Comprehensive Networks on **Medical Spending** (Medicare) 1998-2014

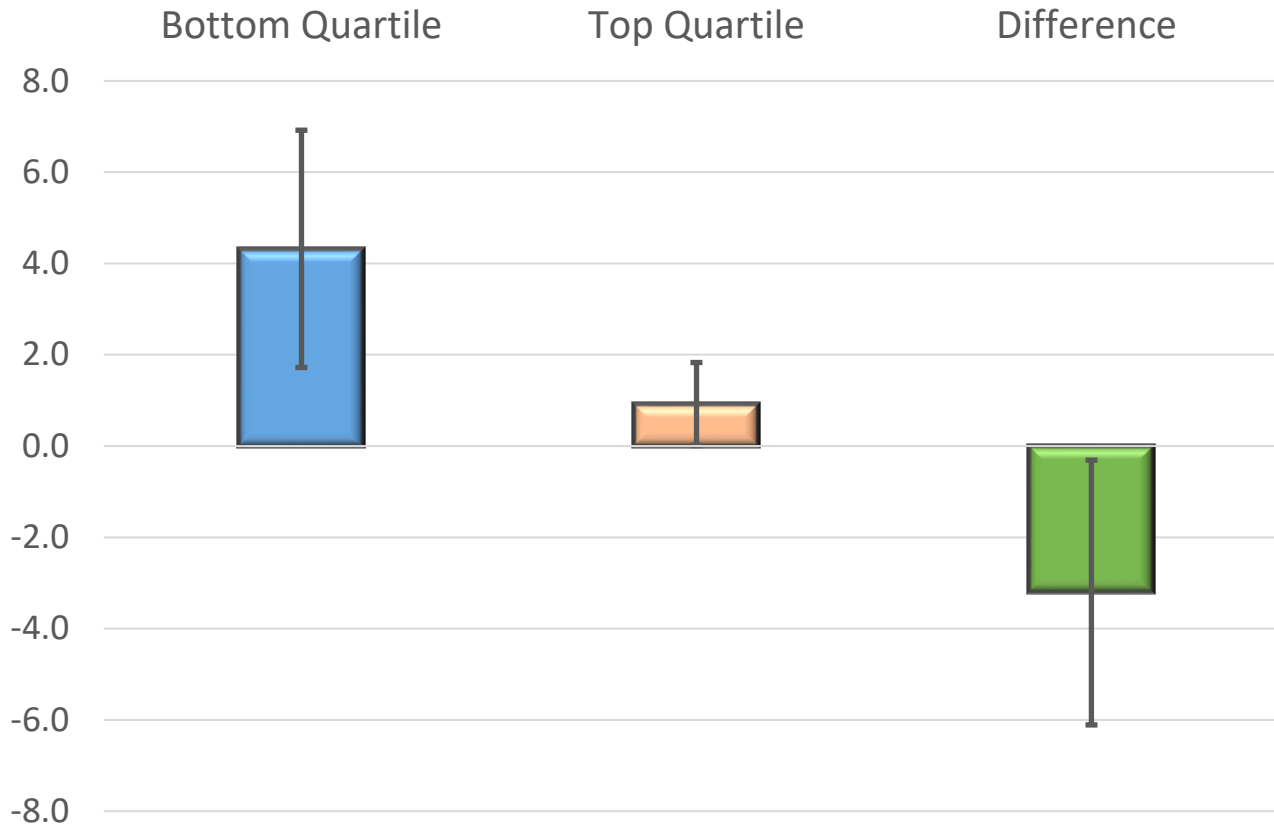


Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. Vertical lines are 95% confidence intervals

Mays GP et al. *Health Services Research* 2018

# Equity effects attributable to network structure

## Impact of Comprehensive Networks on **Life Expectancy by Income** (Chetty), 2001-2014



Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. Vertical lines are 95% confidence intervals

Mays GP et al. *forthcoming*

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# Decomposing the effects of independent governing boards

Estimates from Decomposition Models, 10 Year Horizon

<u>Outcome</u>	<u>Total Network Effect</u>	<u>Board Effect</u>
Preventable mortality	-0.071	-0.034**
Life expectancy disparity	-3.014	-1.229**
Medical spending	-0.079	-0.032**

Decomposition models also controlling for racial composition, educational attainment, age composition, and state and year fixed effects.

\*\*\*p<0.001 \*\*p<0.05

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# Conclusions and implications

- Large health & economic benefits accrue over time to communities with strong multi-sector networks
- Independent & empowered governing boards facilitate the development of strong networks
- Strong governance accounts for 34-48% of the effects attributable to strong networks

# Implications for policy, practice & research

- State pre-emption laws
- Governance structures in rural communities
- Non-governmental governance structures

# Questions?

## Systems for Action

**National Coordinating Center**

*Systems and Services Research to Build a Culture of Health*

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