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From the Selected Works of Glen Mays

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Learning from Networks: Care Transitions, Market Competition, and Community Interventions

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Available at: https://works.bepress.com/glen_mays/162/

Learning from Networks: Care Transitions, Market Competition, & Community Interventions

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Dependent data structures in US policy & delivery innovations

- Health insurance exchanges → new markets
- Managing care transitions → coordinated care
- ACOs & PCMHs → incentives for efficiency, quality
- Population health improvement → community-level collective actions

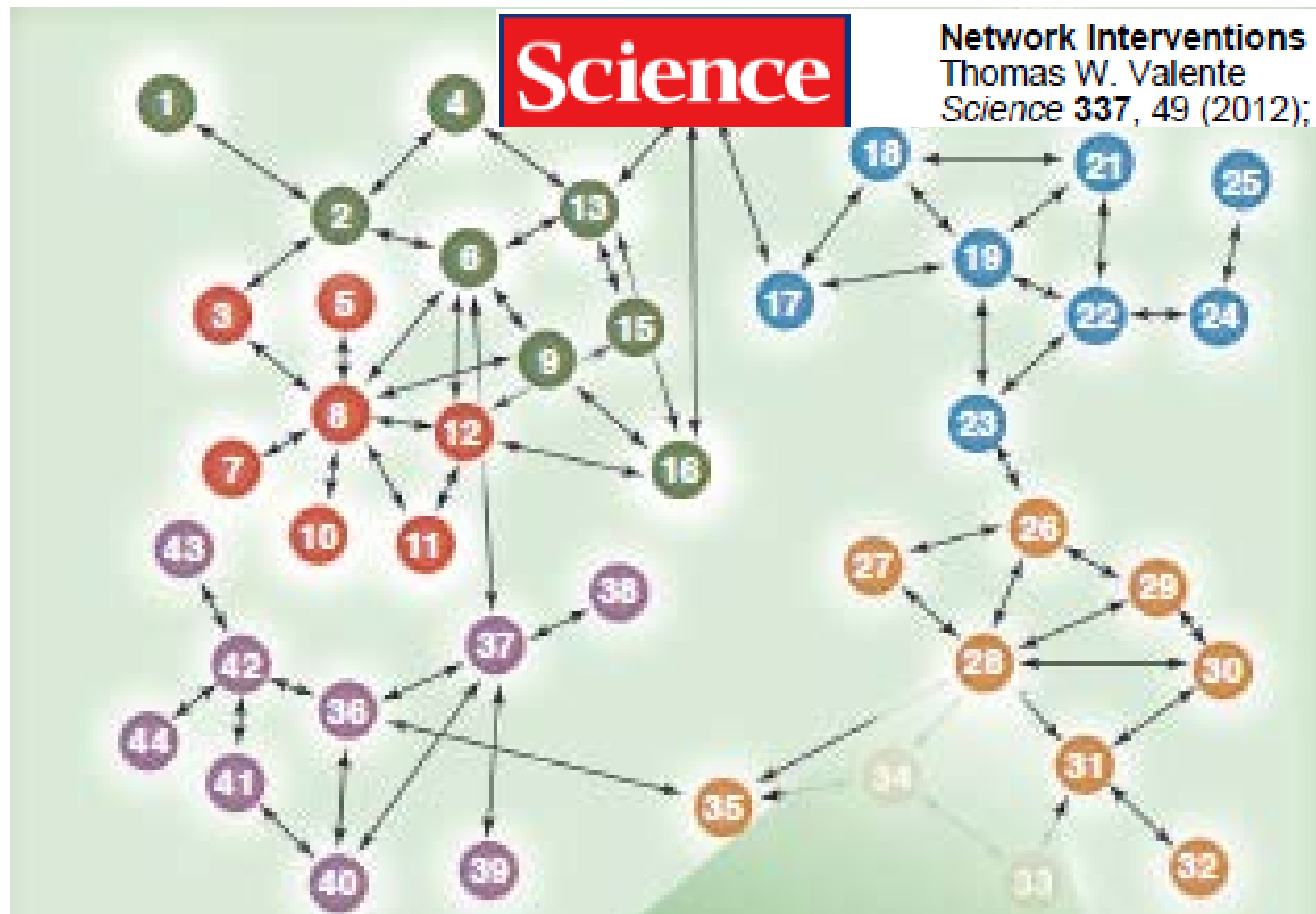
Networks and HSR



- Networks as the institutional and/or community ***context*** for policy implementation
- Networks as interventions (***mechanisms***)
- Networks as ***outcomes***

Network-based interventions

- Targeting and tailoring challenges



Dealing with complexity

- Multiple services
- Multiple providers
- Patient heterogeneity
- Heterogeneity in community/market context

Applying network analytic methods in HSR

- Design
- Sampling
- Measurement
- Analysis
- Translation/dissemination

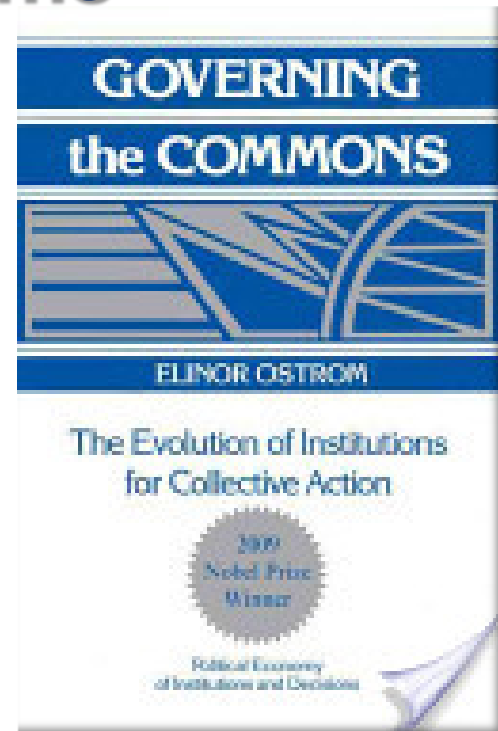
*Between network
vs.
Within-network*

Using networks for population health improvement strategies

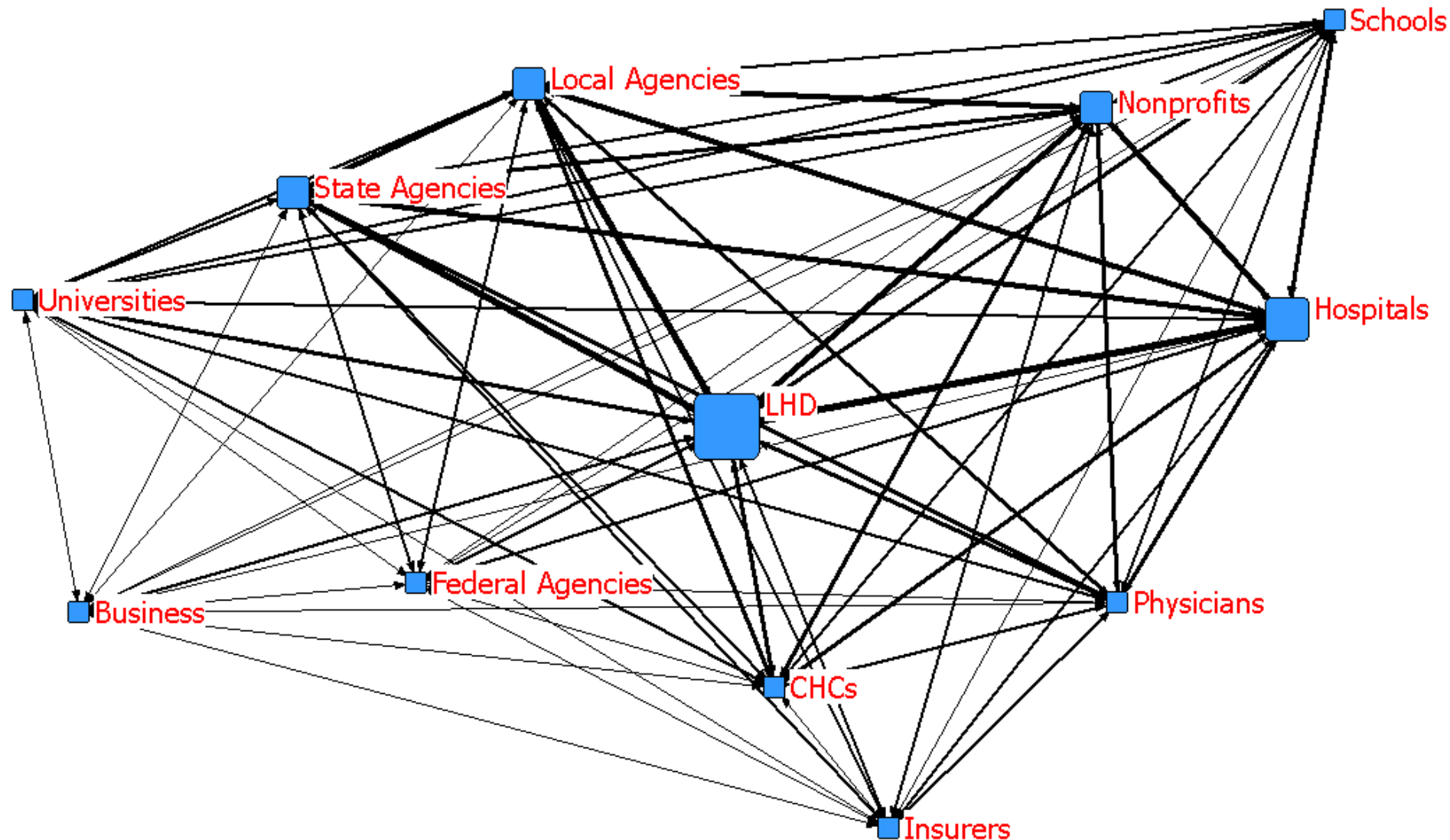
- Designed to achieve **large-scale** health improvement: neighborhood, city/county, region
- Target **fundamental** and often **multiple** determinants of health
- Mobilize the **collective actions** of multiple stakeholders in government & private sector
 - Usual and unusual suspects
 - Infrastructure requirements

Using networks to overcome collective action problems

- Incentive compatibility → public goods
- Concentrated costs & diffuse benefits
- Time lags: costs vs. improvements
- Uncertainties about what works
- Asymmetry in information
- Difficulties measuring progress
- Weak and variable institutions & infrastructure
- Imbalance: resources vs. needs
- Stability & sustainability of funding



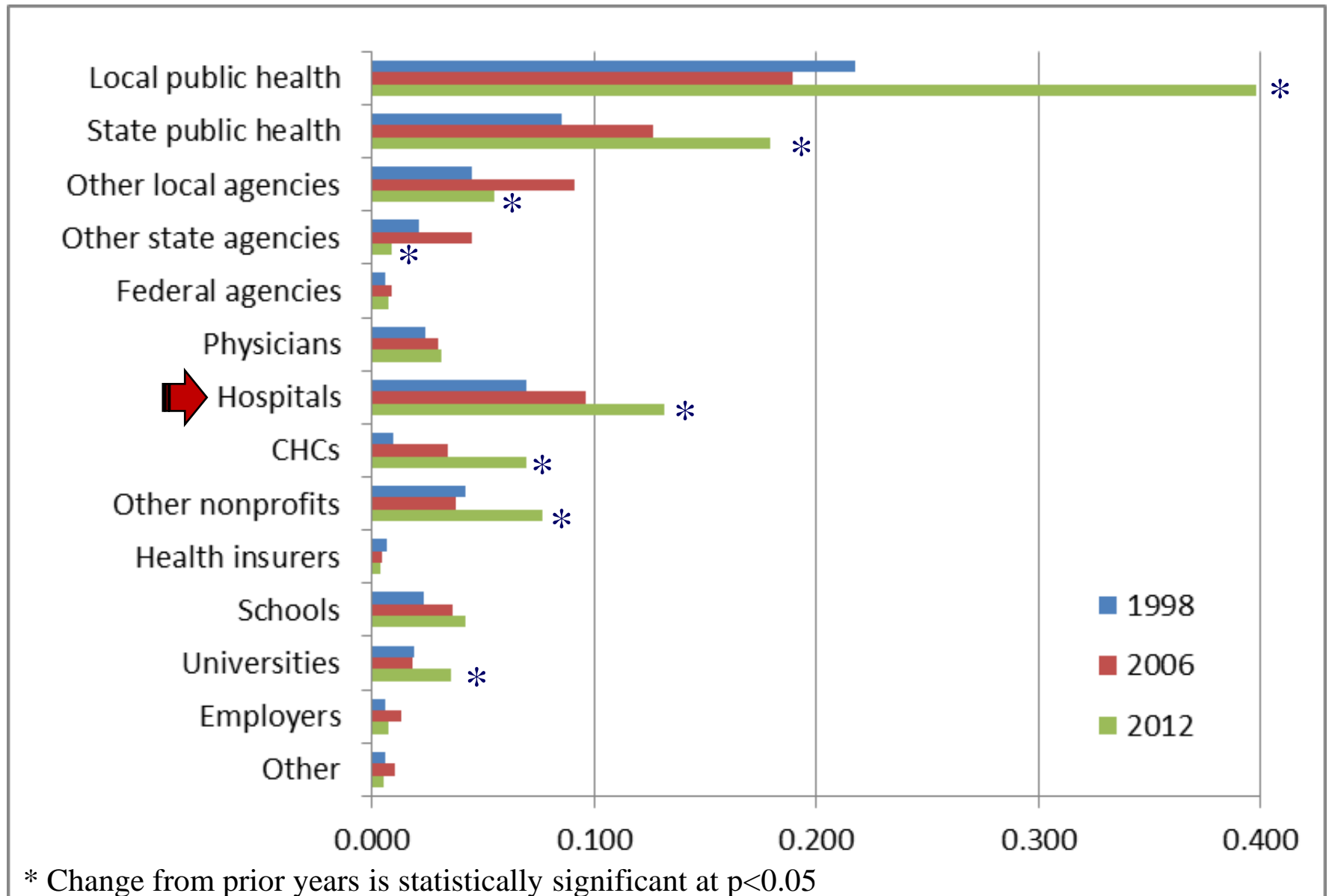
Inter-organizational relationships in public health delivery systems



National Longitudinal Survey of Public Health Systems, 2012

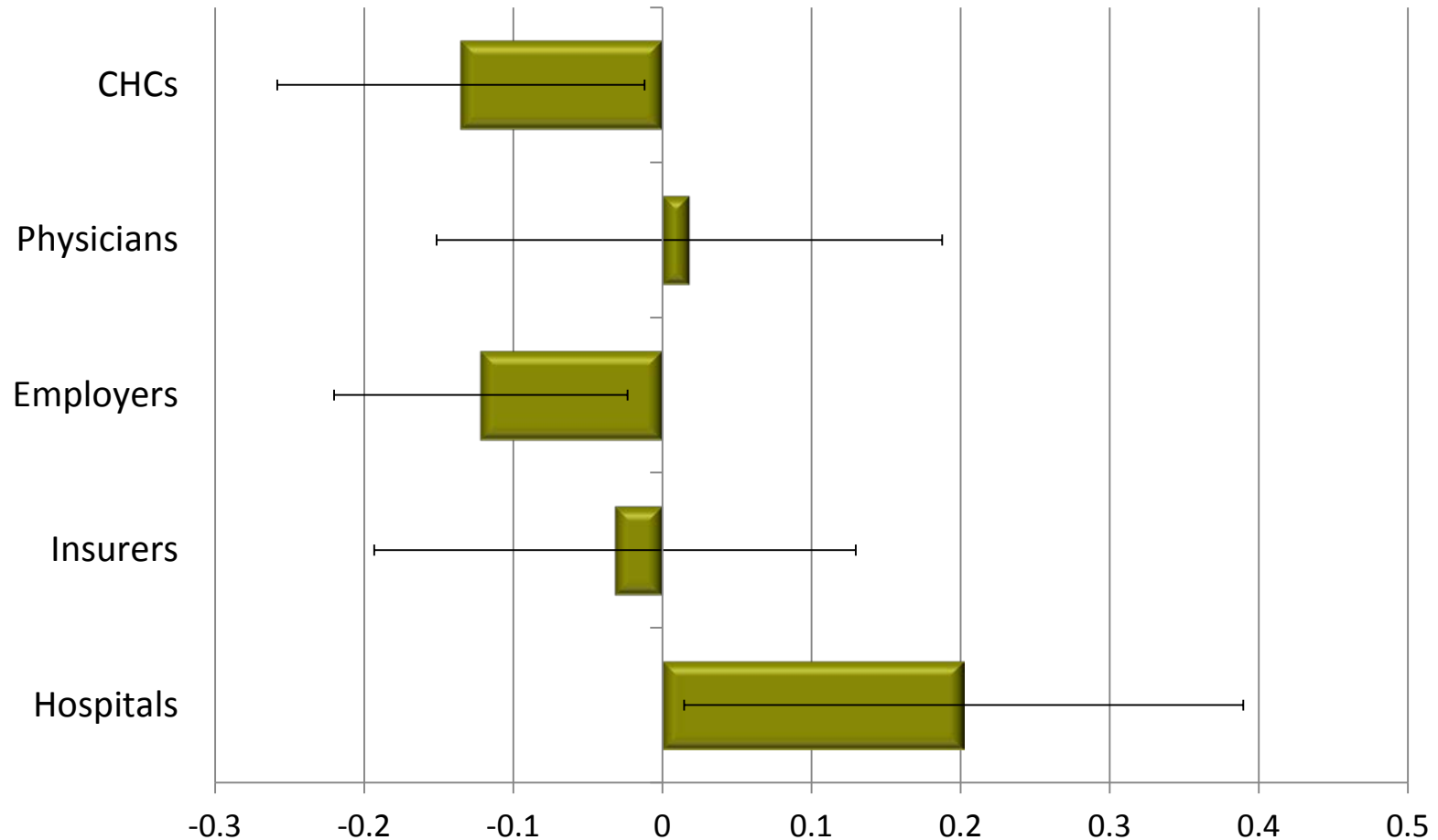
Bridging capital in public health delivery systems

Trends in betweenness centrality



Do other organizations complement or substitute for local public health agency effort?

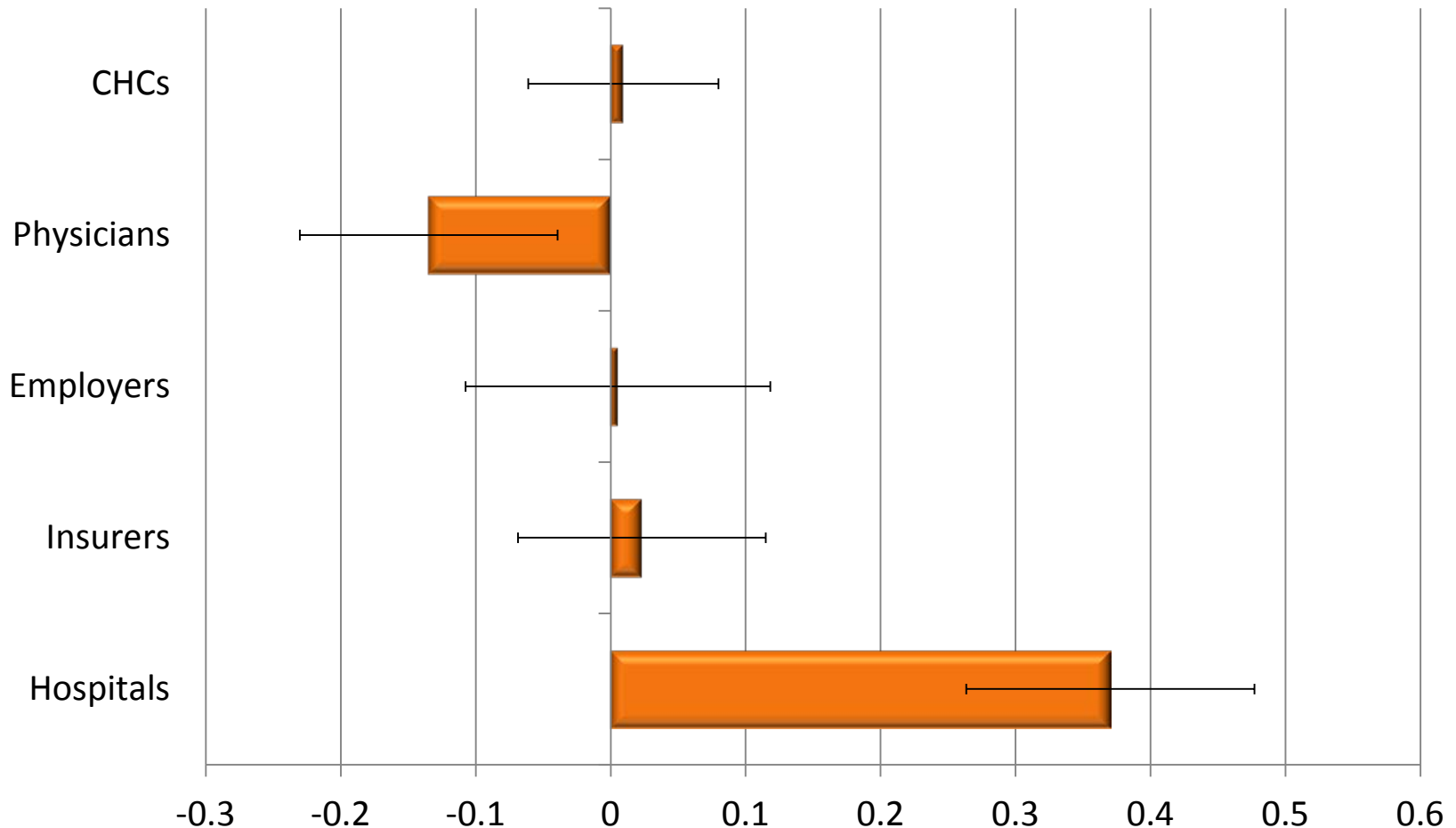
Results from Multivariate GLLAMM Models



Note: GLLAMM estimates, holding all other variables constant in the model

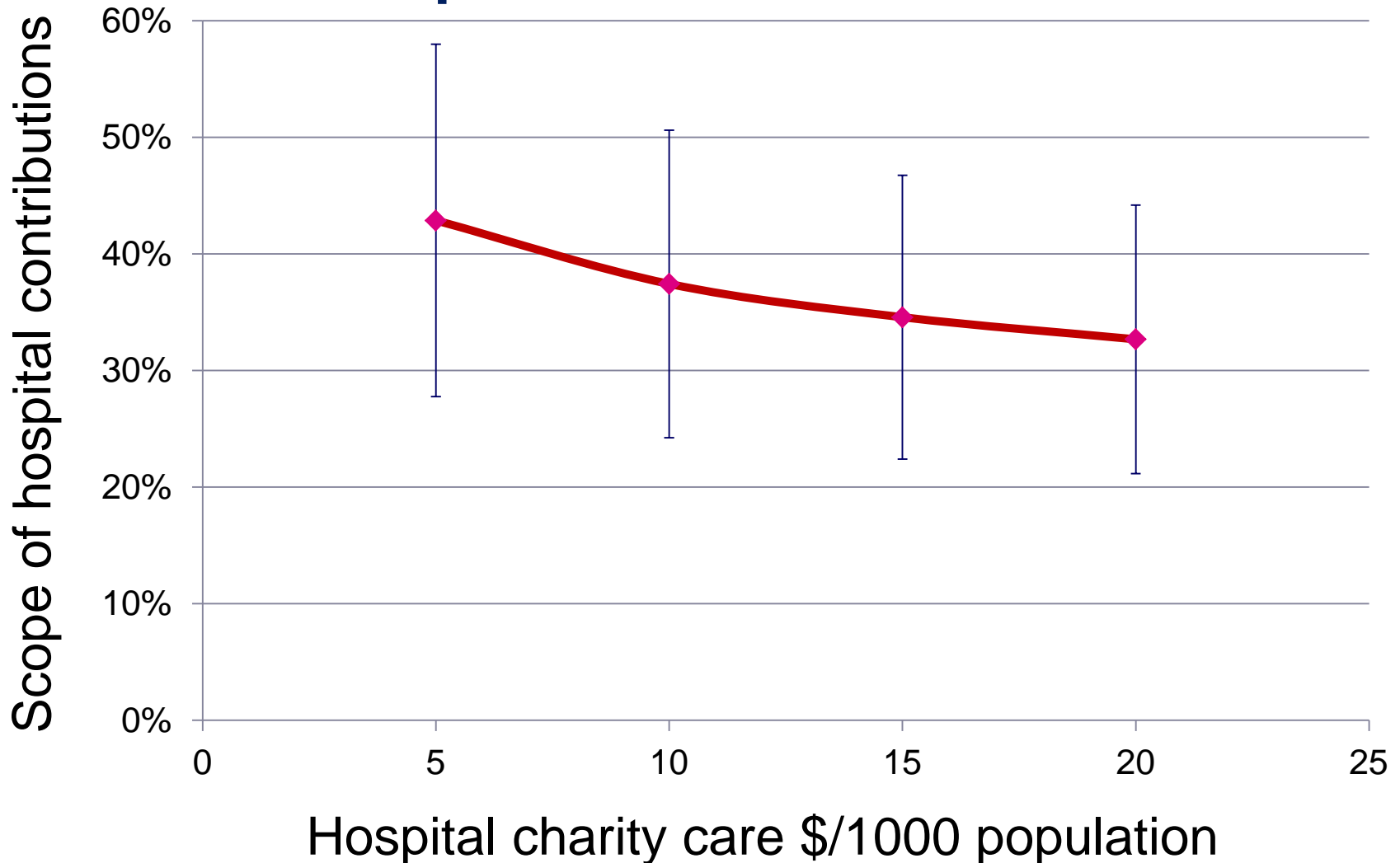
How do other organizations affect the total supply of public health activities?

Results from Multivariate GLLAMM Models



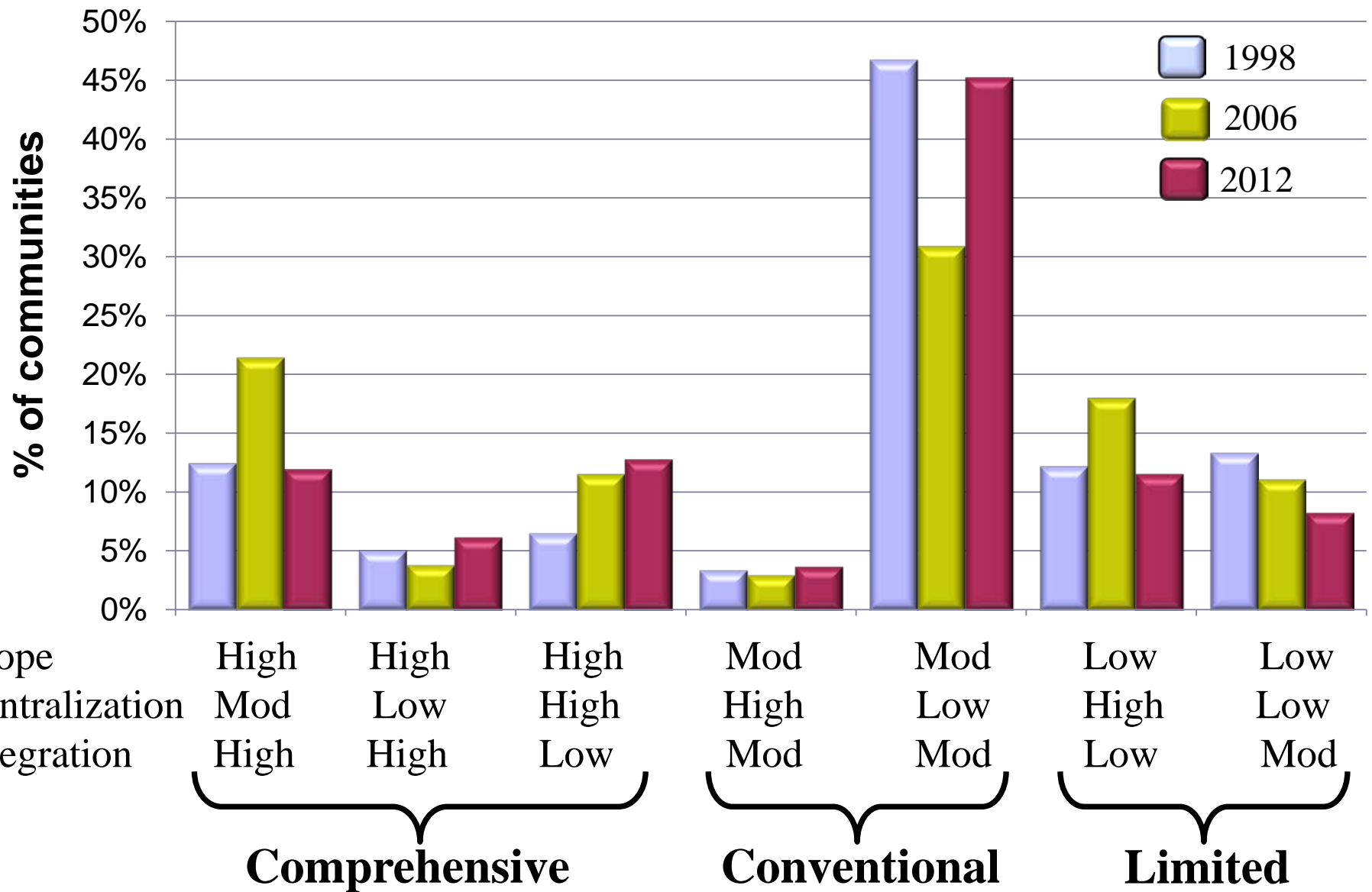
Note: GLLAMM estimates, holding all other variables constant in the model

Estimated crowd-out in hospital contributions to public health activities



Note: GLLAMM estimates, holding all other variables constant in the model

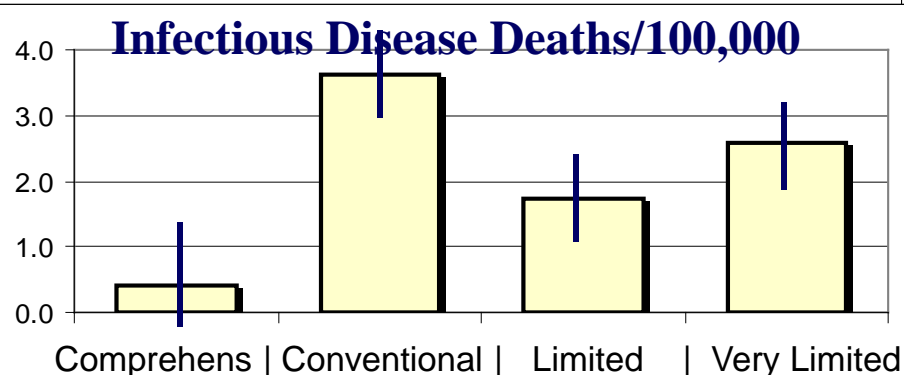
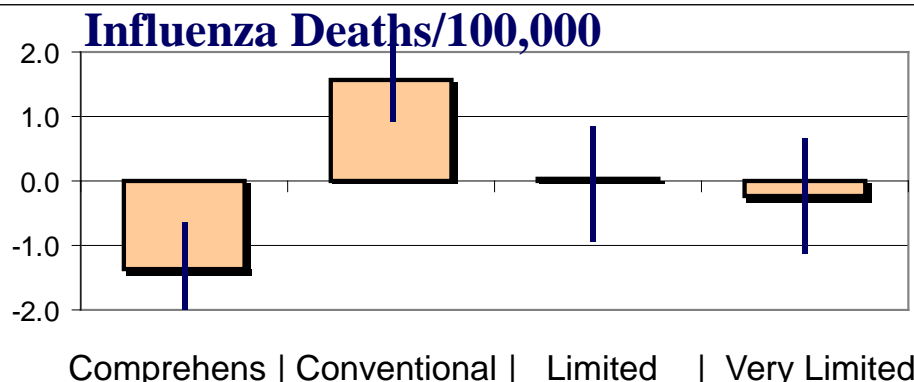
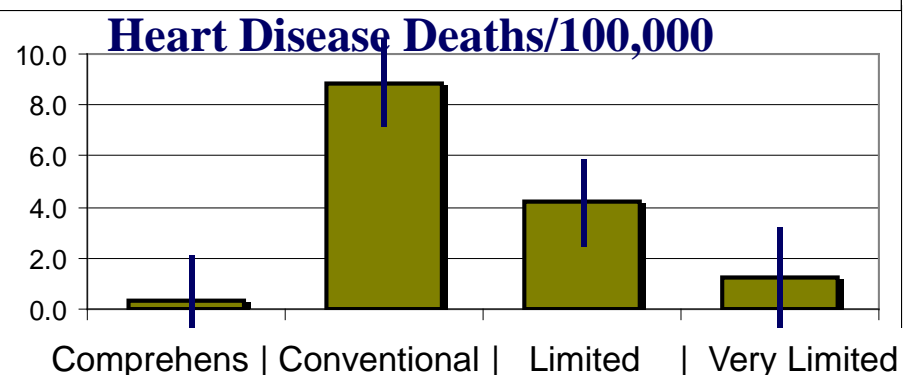
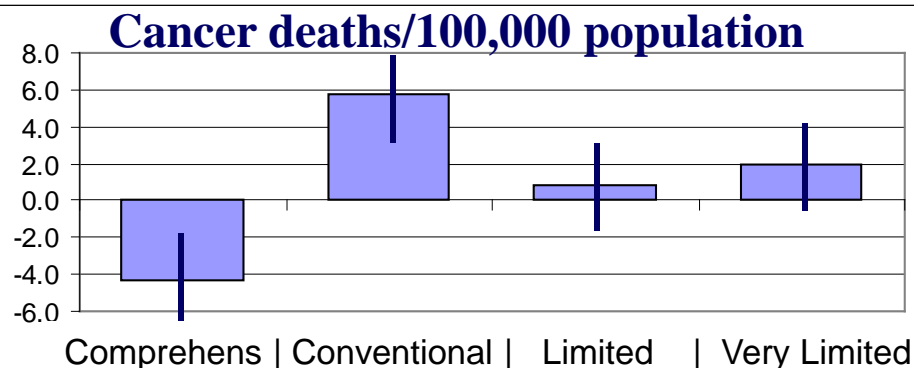
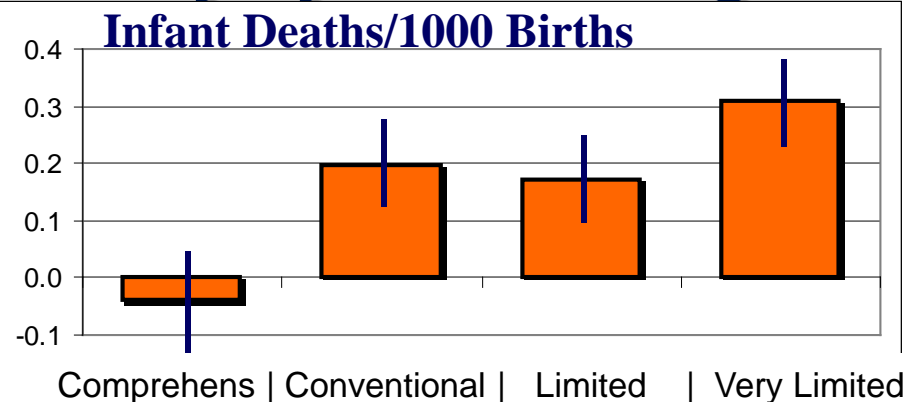
A typology of public health delivery systems



Source: Mays et al. 2010; 2012

Population health and delivery system change

Percent Changes in Preventable Mortality Rates Attributable to Delivery System Type



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

Networks and Research Translation

Local Health Departments Engaged in Research Implementation & Translation Activities During Past 12 months

<u>Activity</u>	PBRN Agencies		National Sample		
	<u>Percent/Mean</u>		<u>Percent/Mean</u>		
Identifying research topics	94.1%		27.5%		***
Planning/designing studies	81.6%		15.8%		***
Recruitment, data collection & analysis	79.6%		50.3%		**
Disseminating study results	84.5%		36.6%		**
Applying findings in own organization	87.4%		32.1%		**
Helping others apply findings	76.5%		18.0%		***
Research implementation composite	84.04	(27.38)	30.20	(31.38)	**
N	209		505		

Mays et al. American Journal of Preventive Medicine 2013.

For more information



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