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Trends in Health Care Delivery Systems: Implications for Cancer Prevention and Control

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Trends in Health Care Delivery Systems: Implications for Cancer Prevention & Control

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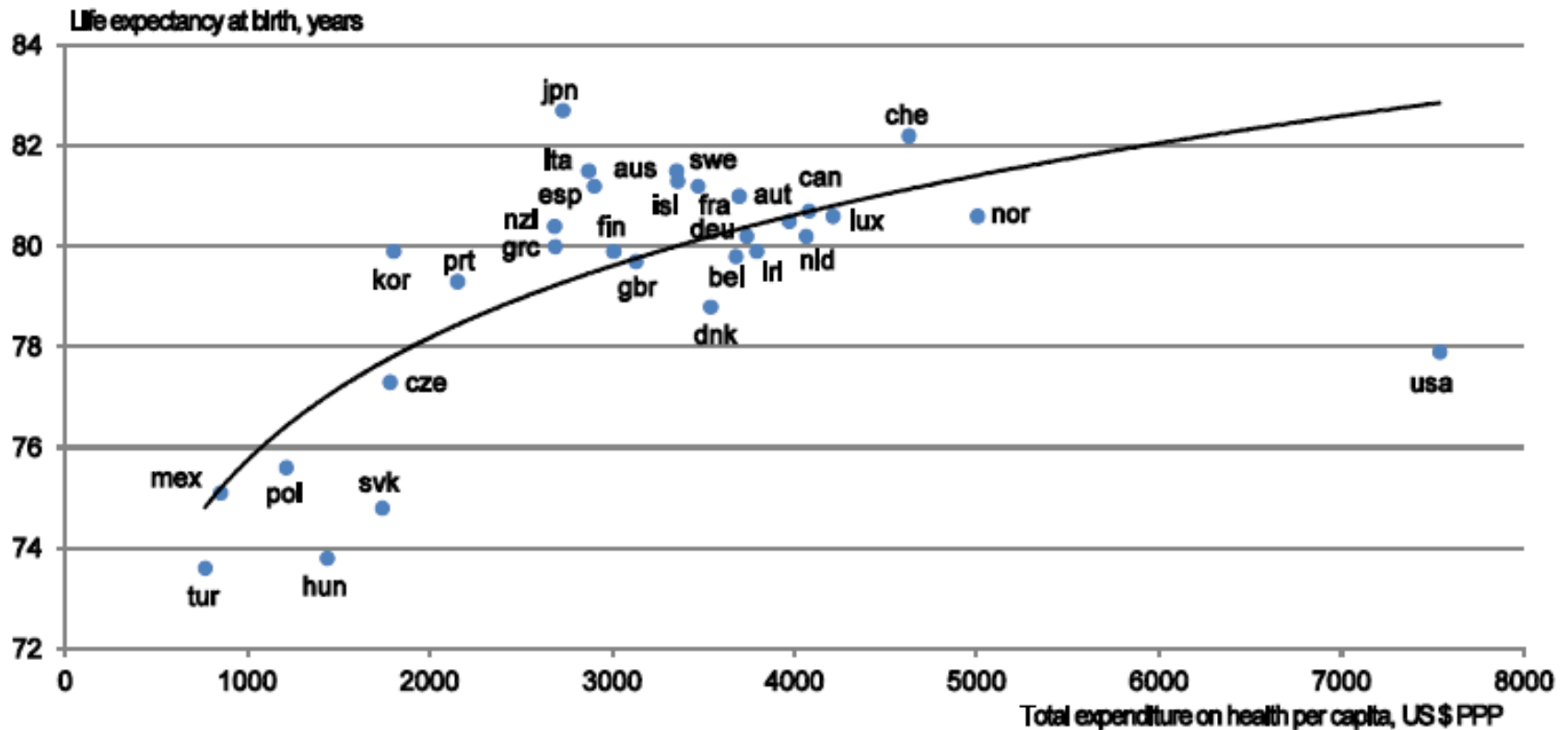


Issues for us to consider

- How are the **delivery systems** for health care and public health changing?
- What factors are driving these changes?
- What impact are these changes having on **access, quality, efficiency, & disparities**?
- How will these changes affect **cancer prevention, diagnosis, treatment and outcomes**?

Delivery system failures

Figure 1. There are large differences in life expectancy and health care spending across OECD countries 2008¹

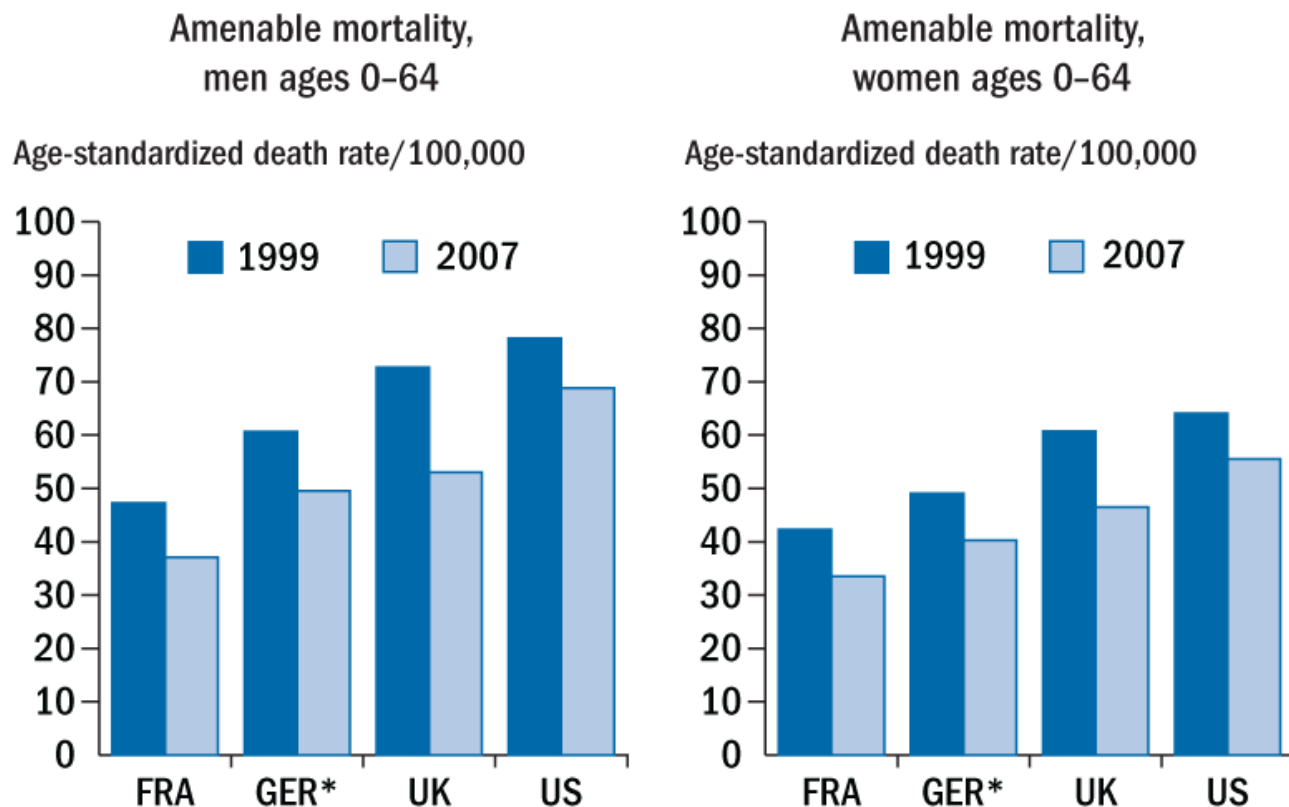


1. Or latest year available.

Source: OECD Health Data 2010.

Delivery system failures

U.S. Men and Women Under Age 65 Have Higher Rates of Potentially Preventable Deaths Slowest Rate of Improvement, 1999–2007



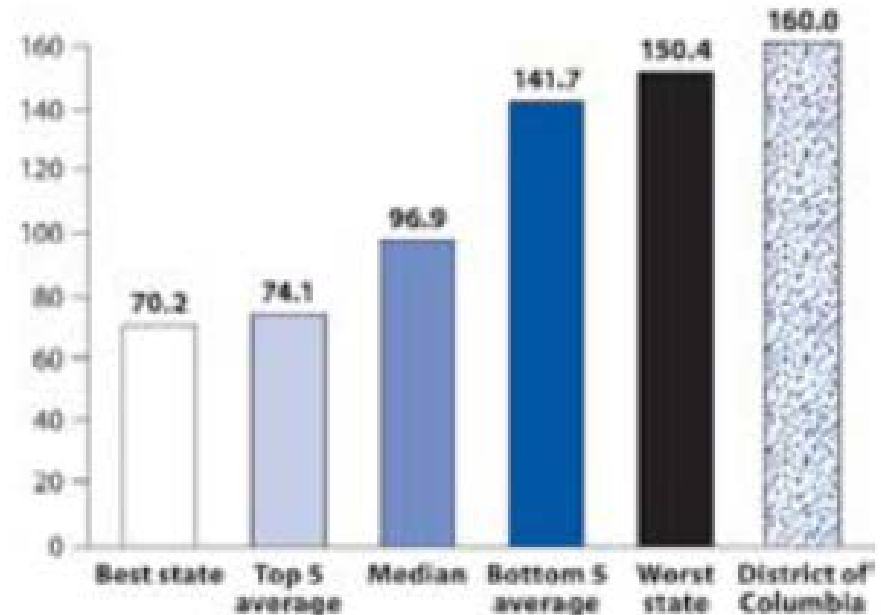
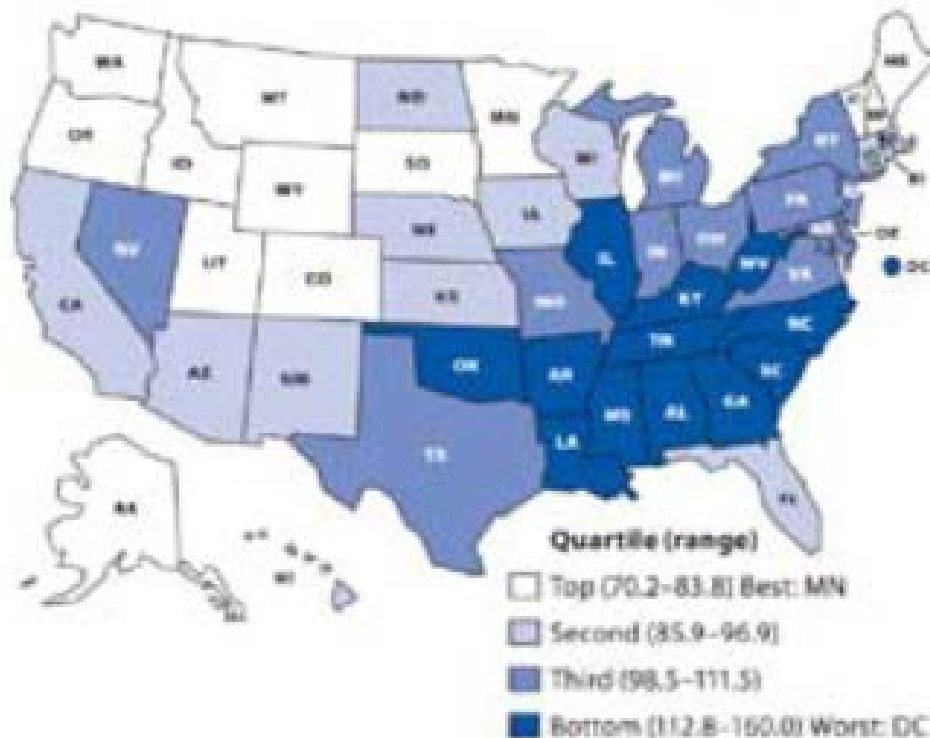
* Data for Germany are 1999 and 2006.

Source: Adapted from E. Nolte and C. M. McKee, "In Amenable Mortality—Deaths Avoidable Through Health Care—Progress in the US Lags That of Three European Countries," *Health Affairs*, published online Aug. 29, 2012.

Delivery system failures

Premature Deaths per 100,000 Residents

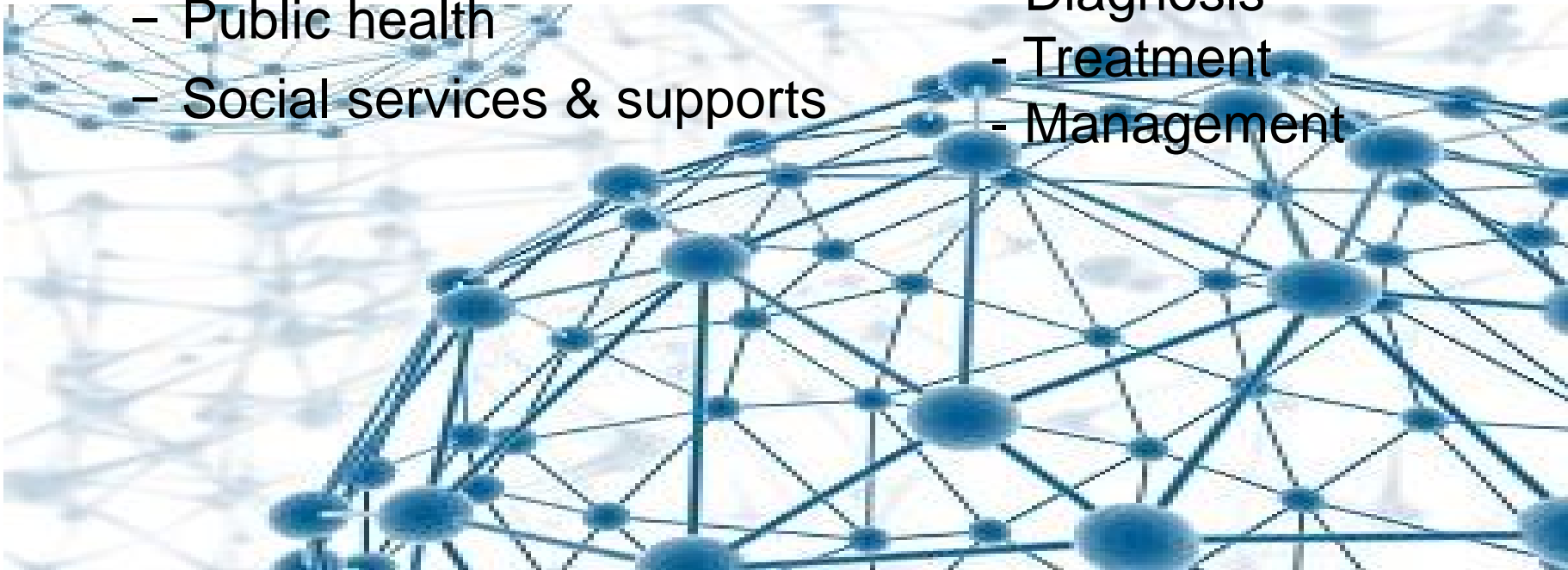
U. S. Average = 103 Deaths per 100,000



Health care delivery systems defined

The full constellation of organizations and professionals that contribute to the delivery of health services and supports for a defined population

- Medical care
- Public health
- Social services & supports
- Prevention
- Diagnosis
- Treatment
- Management



Why delivery systems often fail



- Fragmentation
- Duplication
- Variability in practice
- Limited accessibility
- Episodic and reactive care
- Insensitivity to consumer values & preferences
- Limited targeting of resources to community needs

- Fragmentation
- Variability in practice
- Resource constrained
- Limited reach
- Insufficient scale
- Limited public visibility & understanding
- Limited evidence base
- Slow to innovate & adapt

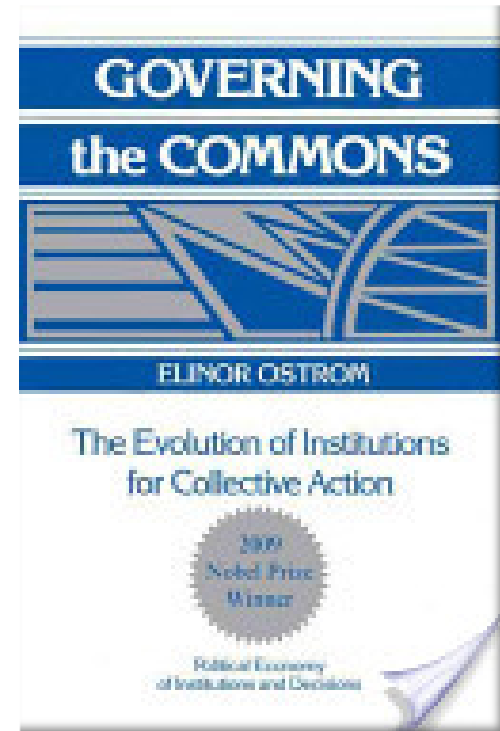


Why delivery systems should integrate medical, social and public health services?

- Unmet social needs have large effects on medical resource use, prevention, and health outcomes
- Most physicians lack confidence in their capacity to address unmet social needs
- Linking people to needed health and social support services is a core public health function requiring public health infrastructure
 - Surveillance
 - Assessment
 - Planning
 - Health education
 - Community mobilization
 - Policy development

What makes delivery system integration so hard?

- 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



Population health and integrated delivery system 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
 - Align incentives
 - Align systems

The Affordable Care Act and Health System Reform

- Insurance coverage expansion
 - Insurance markets: pricing and underwriting
 - Individual and employer mandate
 - Subsidies and Medicaid expansion
- Health care delivery system reforms
 - Organization & delivery
 - Payment
- Population health system reforms
 - Hospital community benefit
 - Prevention & Public Health Fund
 - Wellness & prevention incentives

Kentucky's ACA status

■ 413,000 enrolled through Kynect

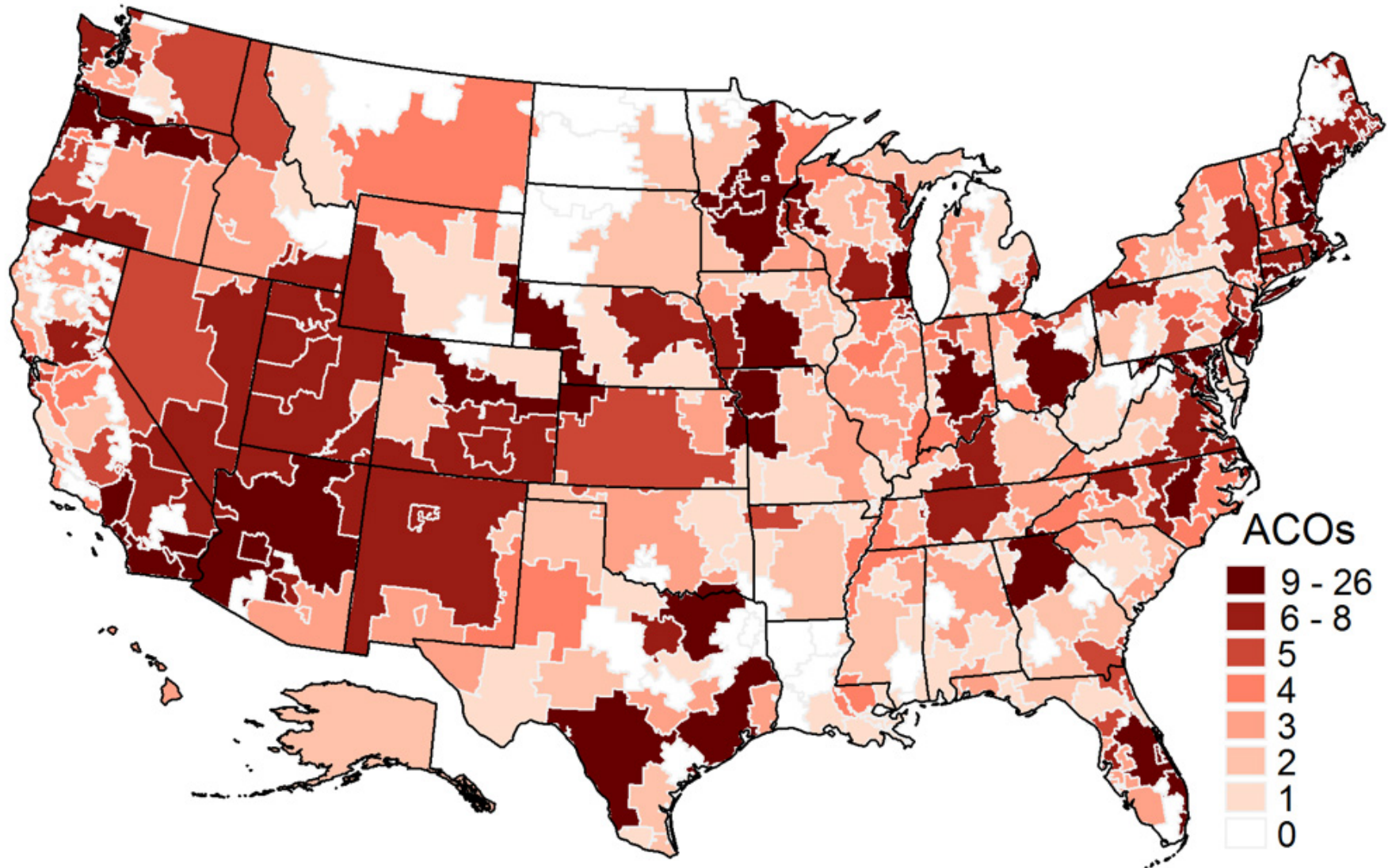
- 330,615 Medicaid
- 82,792 private insurance
- ≈75% previously uninsured
- ≈52% under age 35

Uninsured: 2013 20.4% → 2015 9.0%

■ Organization and payment demonstrations

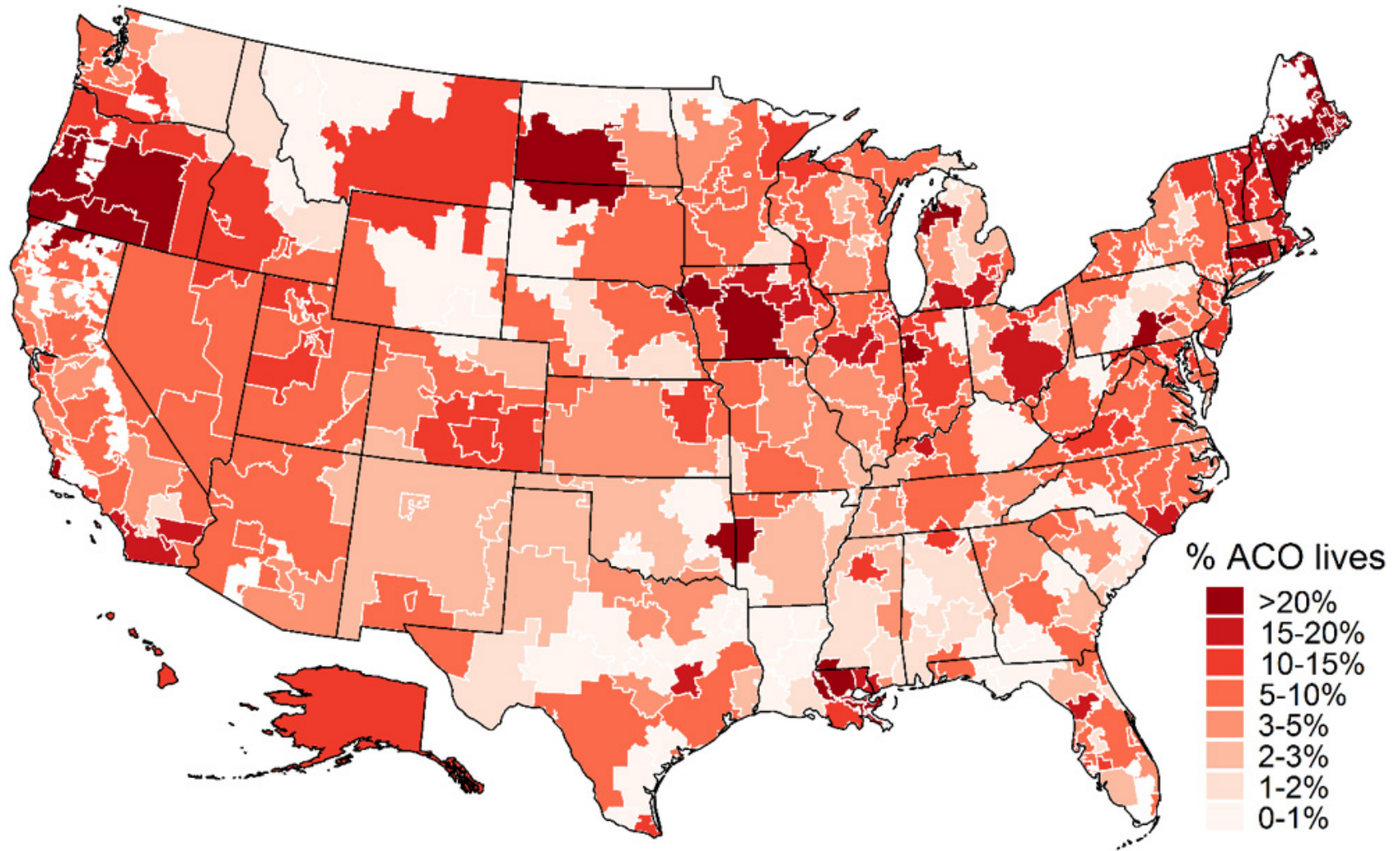
- ACOs
- Bundled payment
- Comprehensive primary care (PCMH)
- FQHC Advanced Primary Care Practice (PCMH)
- Start Strong MCH
- State Innovation Model

Prevalence of ACO's in 2015



Source: Leavitt Partners Center for Accountable Care Intelligence

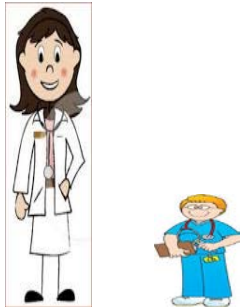
Population covered by ACOs in 2015



Source: Leavitt Partners Center for Accountable Care Intelligence

Primary Care Delivery Models

**Traditional
practice**



MD: 6.9; NP+PA: 2.6

**Patient-Centered
Medical Home**



MD: 6.1; NP+PA: 3.7

**Nurse-Managed
Health Center**



MD: 0.8; NP: 10.4

Staffing per 10,000 patients

Prevalence: 84%

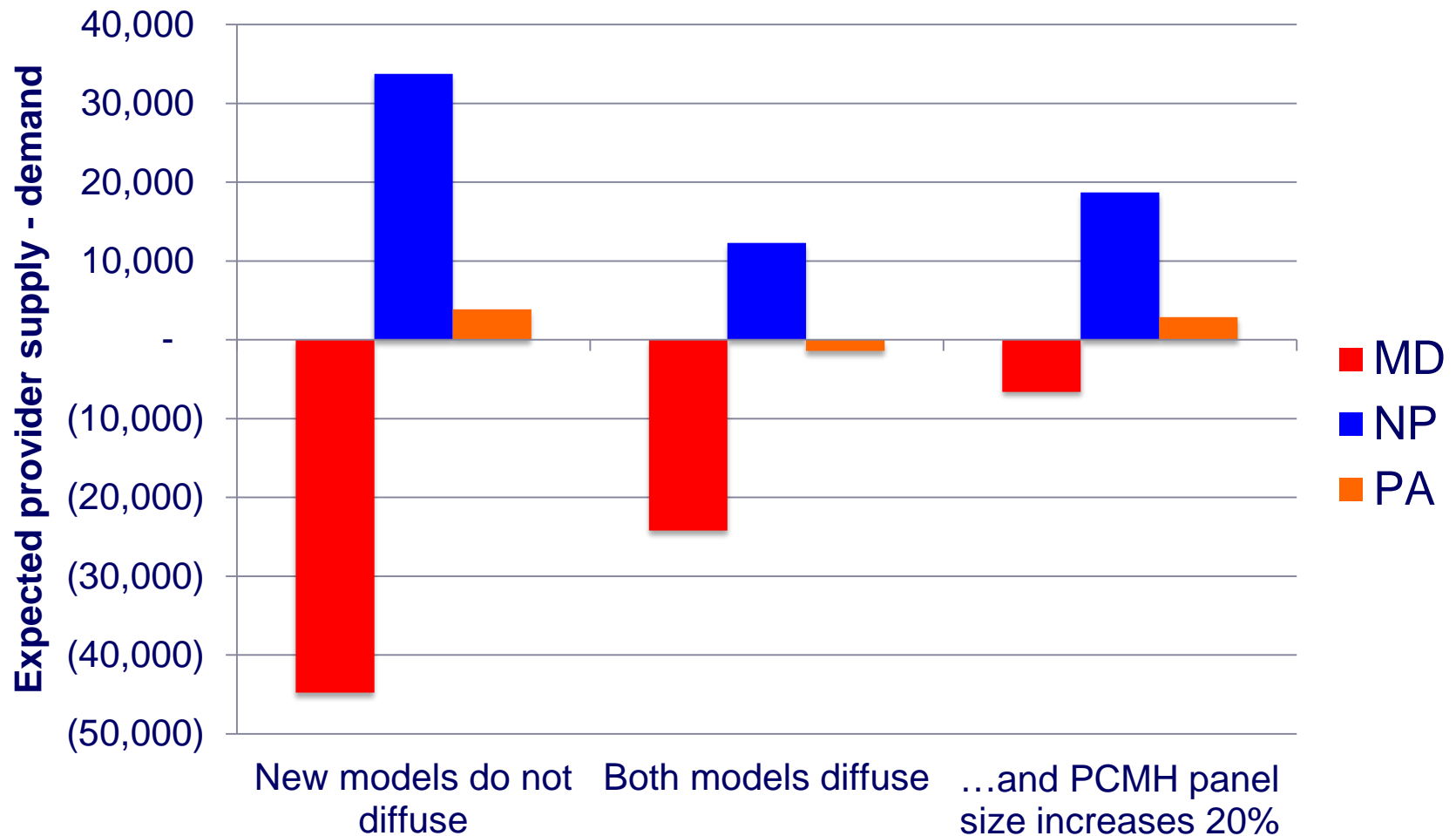
15%

0.5%

Projections of PCMH and NMHC growth to 2025

PCMH to 45%

NMHC to 5%

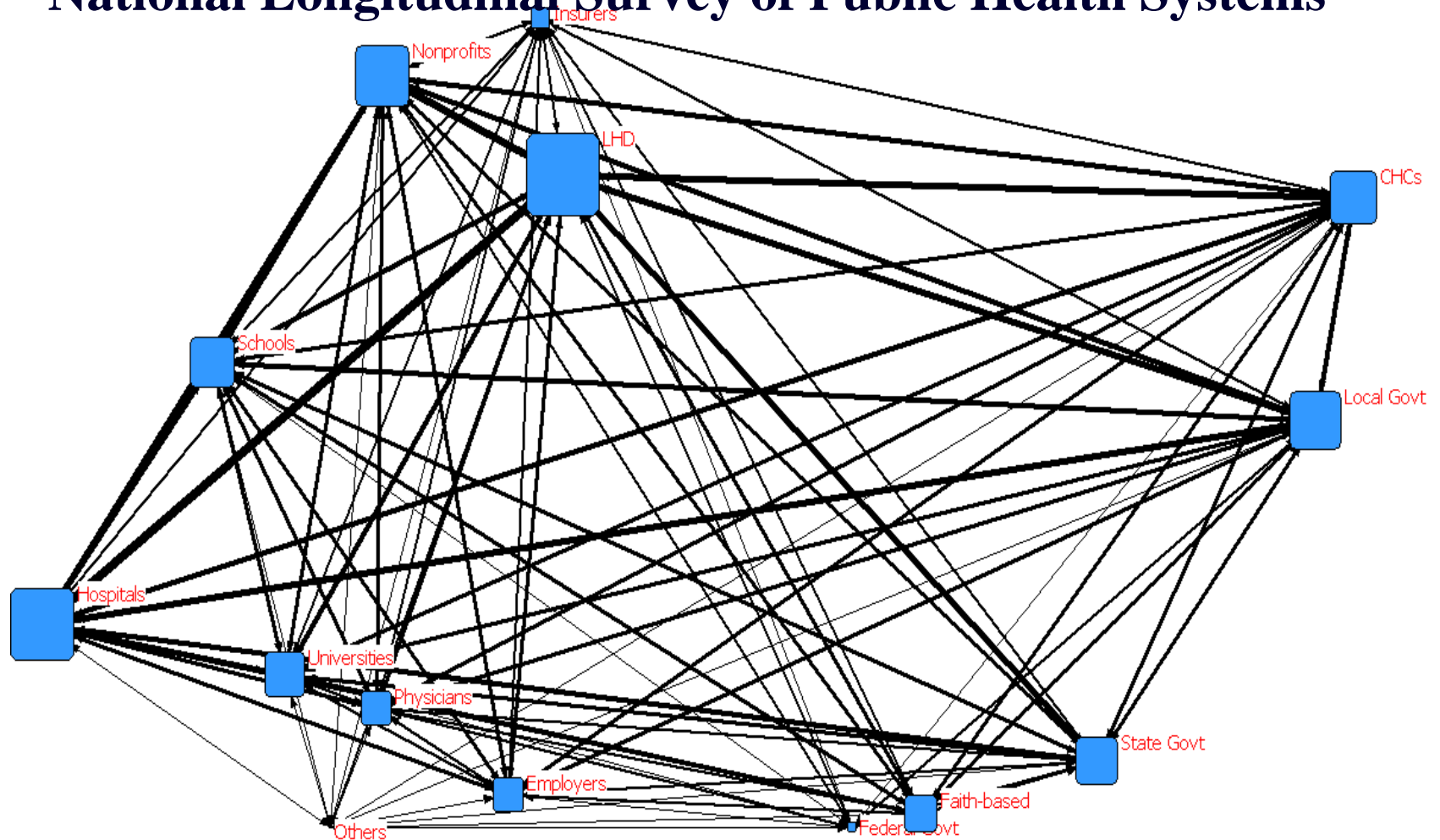


What about public health and prevention delivery systems?

- Which organizations contribute to the implementation of public health activities in local communities?
- How do these contributions change over time?
Recession, recovery, ACA implementation?
- How do patterns of interaction in public health production influence quantity, quality, cost & population health?

Mapping U.S. public health delivery systems

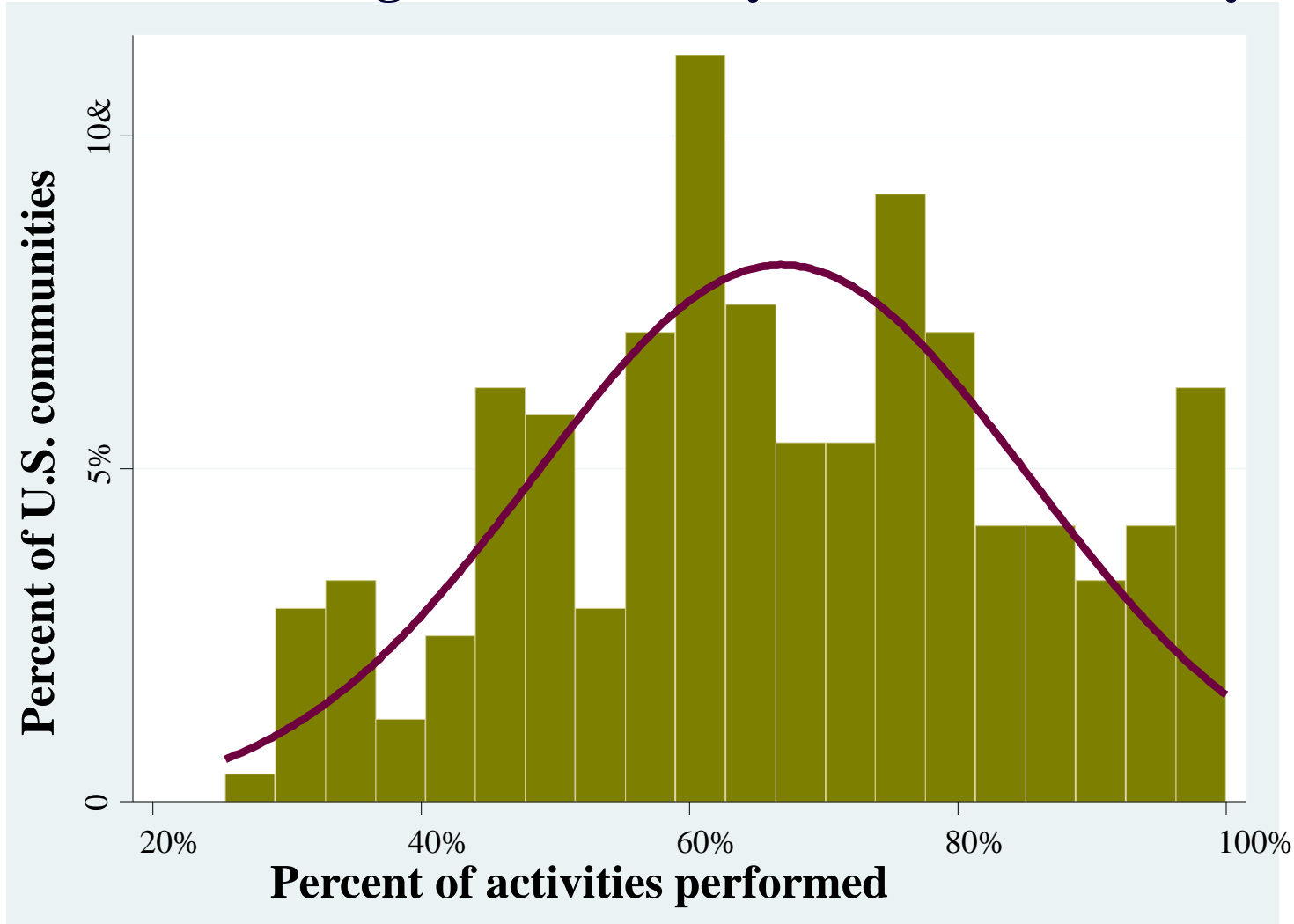
National Longitudinal Survey of Public Health Systems



Node size = centrality of organization in network
Line size = % activities jointly contributed (tie strength)

Understanding variation in delivery system performance

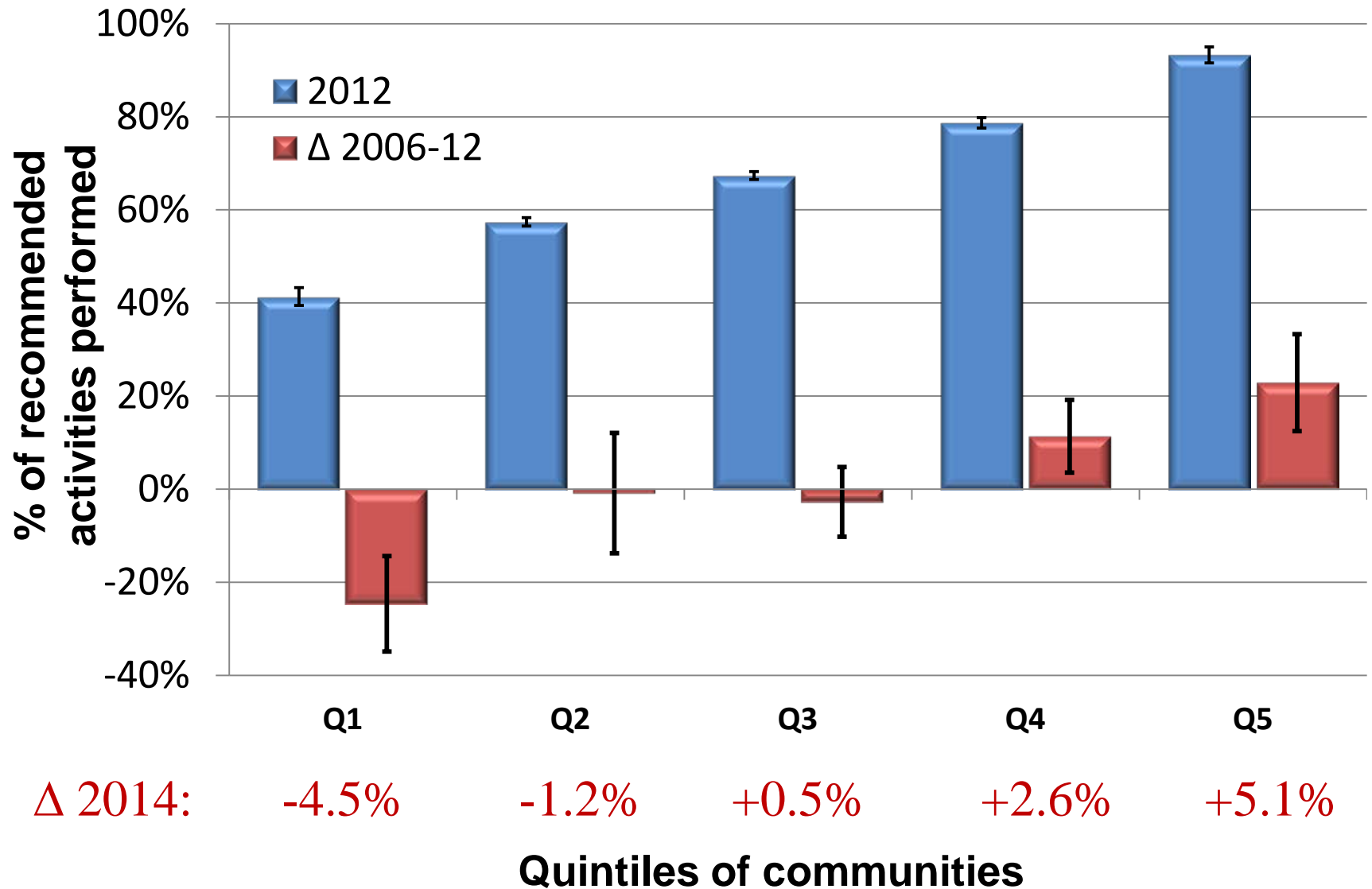
National Longitudinal Survey of Public Health Systems



National Longitudinal Survey of Public Health Systems, 2014

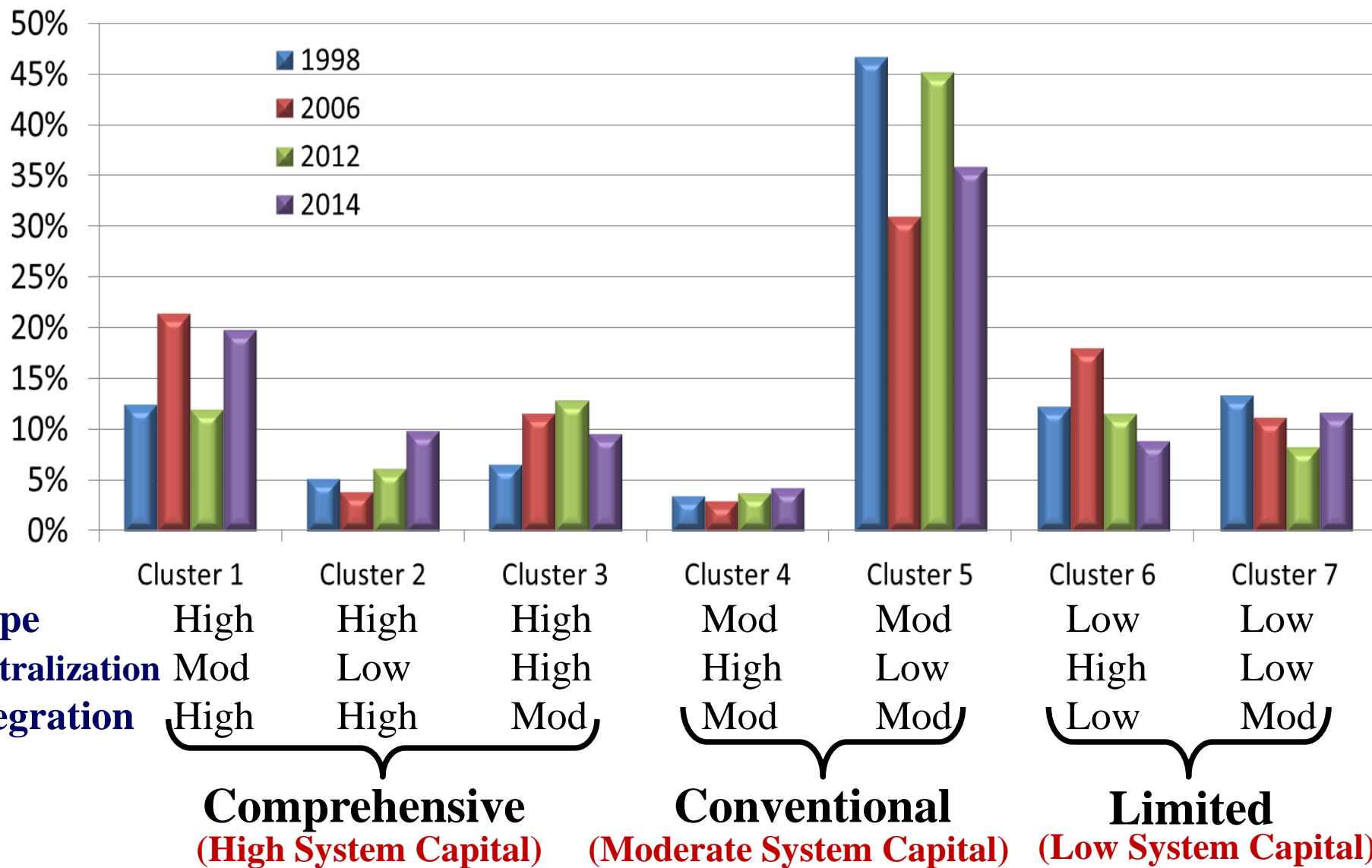
Variation and Change in Delivery

Delivery of recommended public health activities, 2006-12



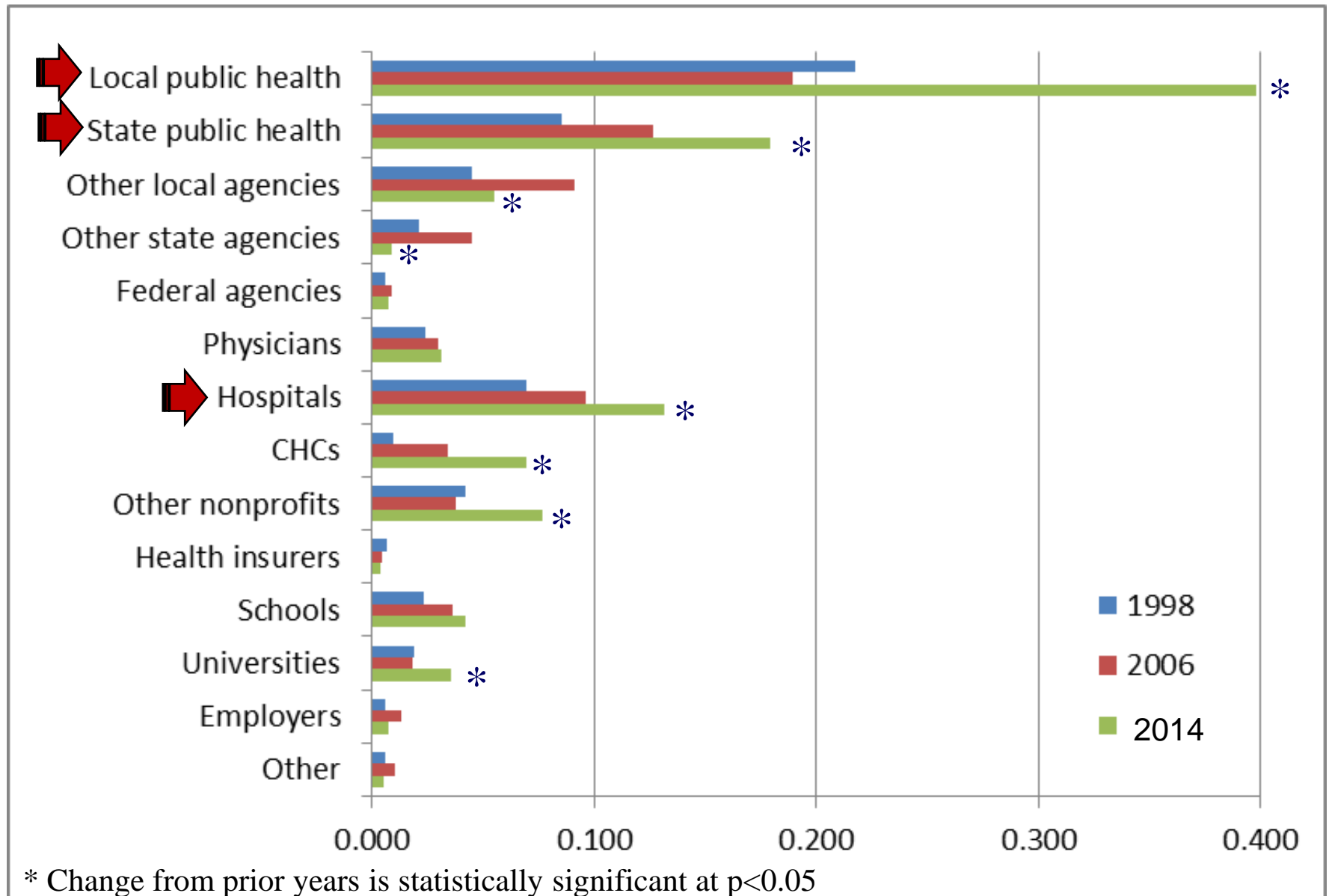
Classifying delivery system configurations in public health

Typology of U.S. Public Health Delivery Systems, 1998-2014



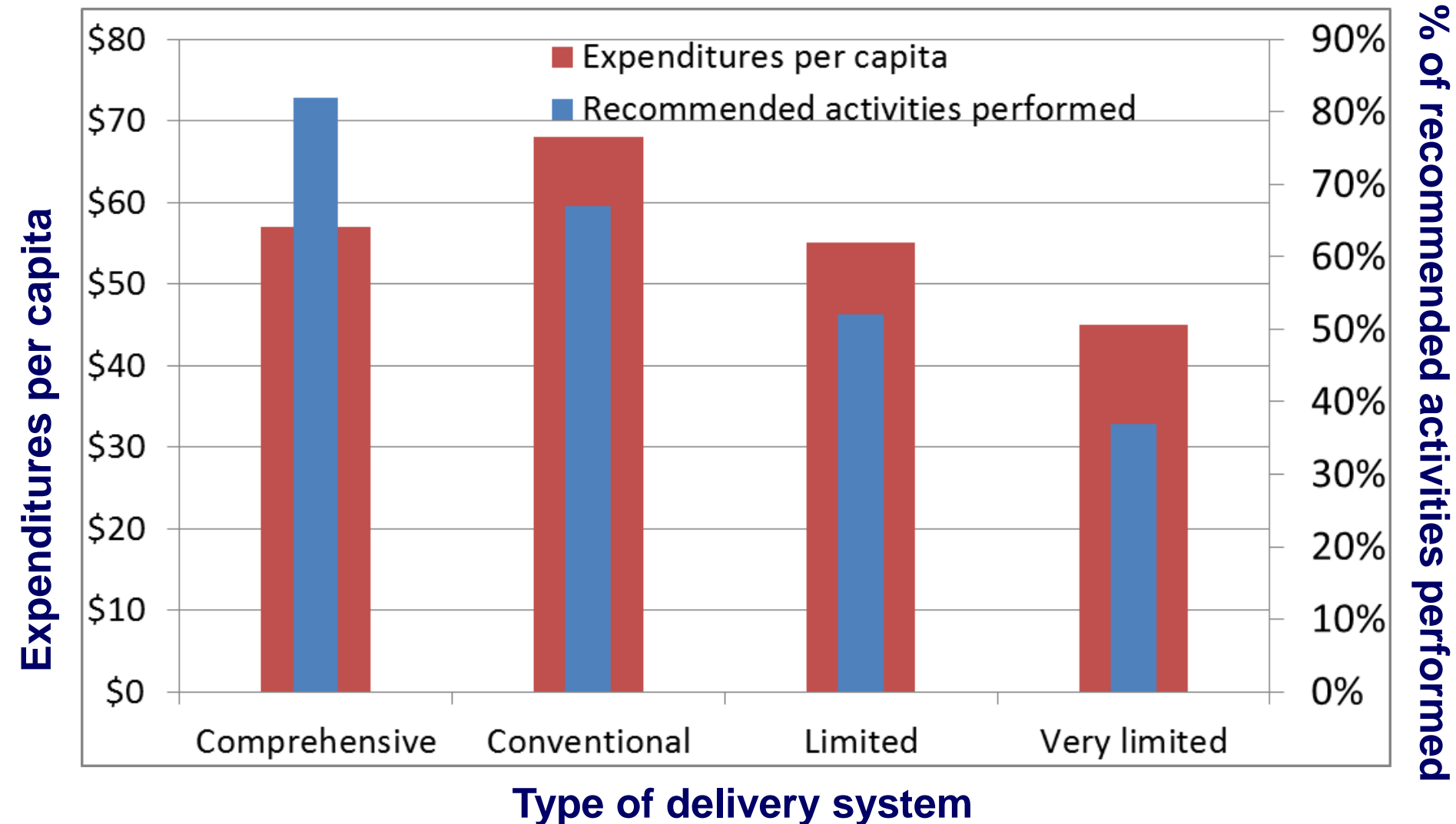
Bridging capital in public health delivery systems

Trends in betweenness centrality



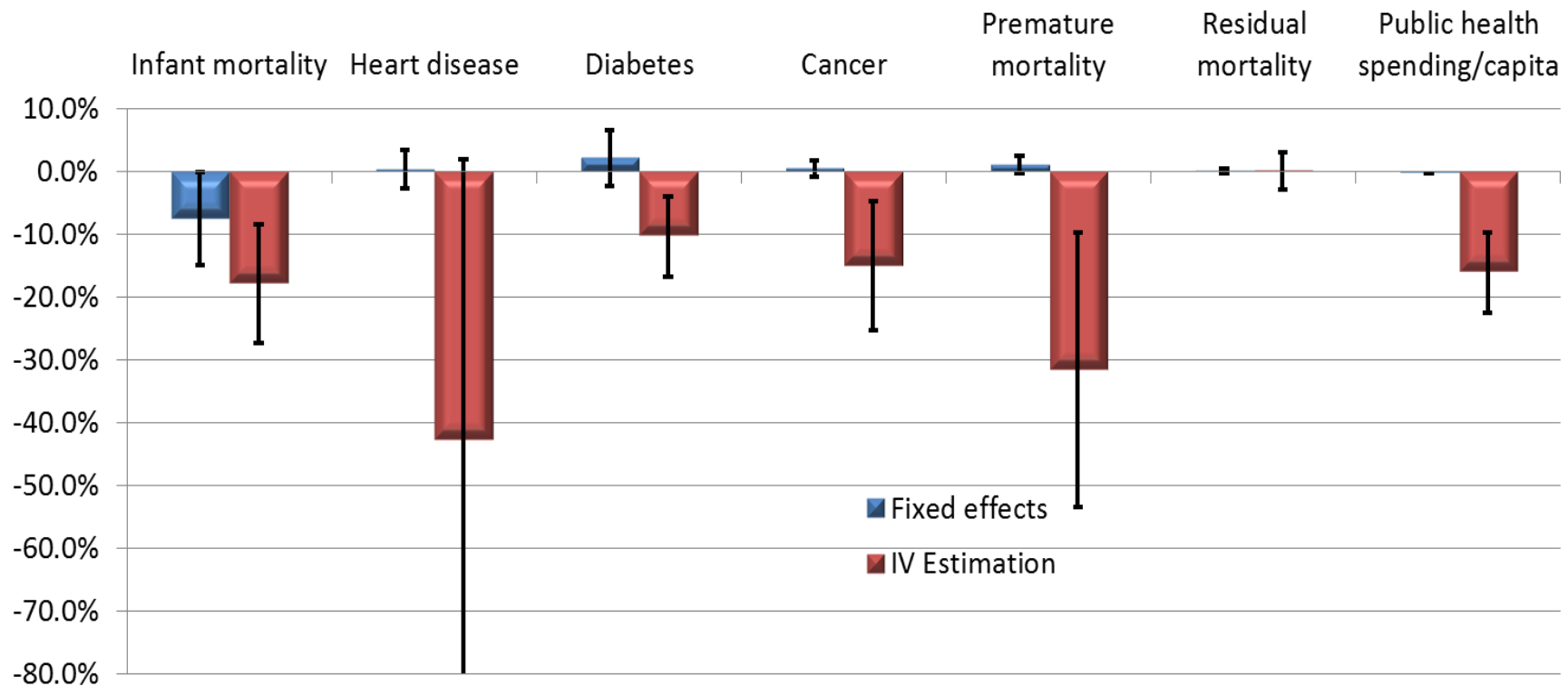
Estimating value: Comprehensive delivery system partnerships do more with less

National Longitudinal Survey of Public Health Systems, 2014



Estimating health & economic impact of public health delivery systems

Effects of Comprehensive System Capital on Mortality and Spending: 1998-2014



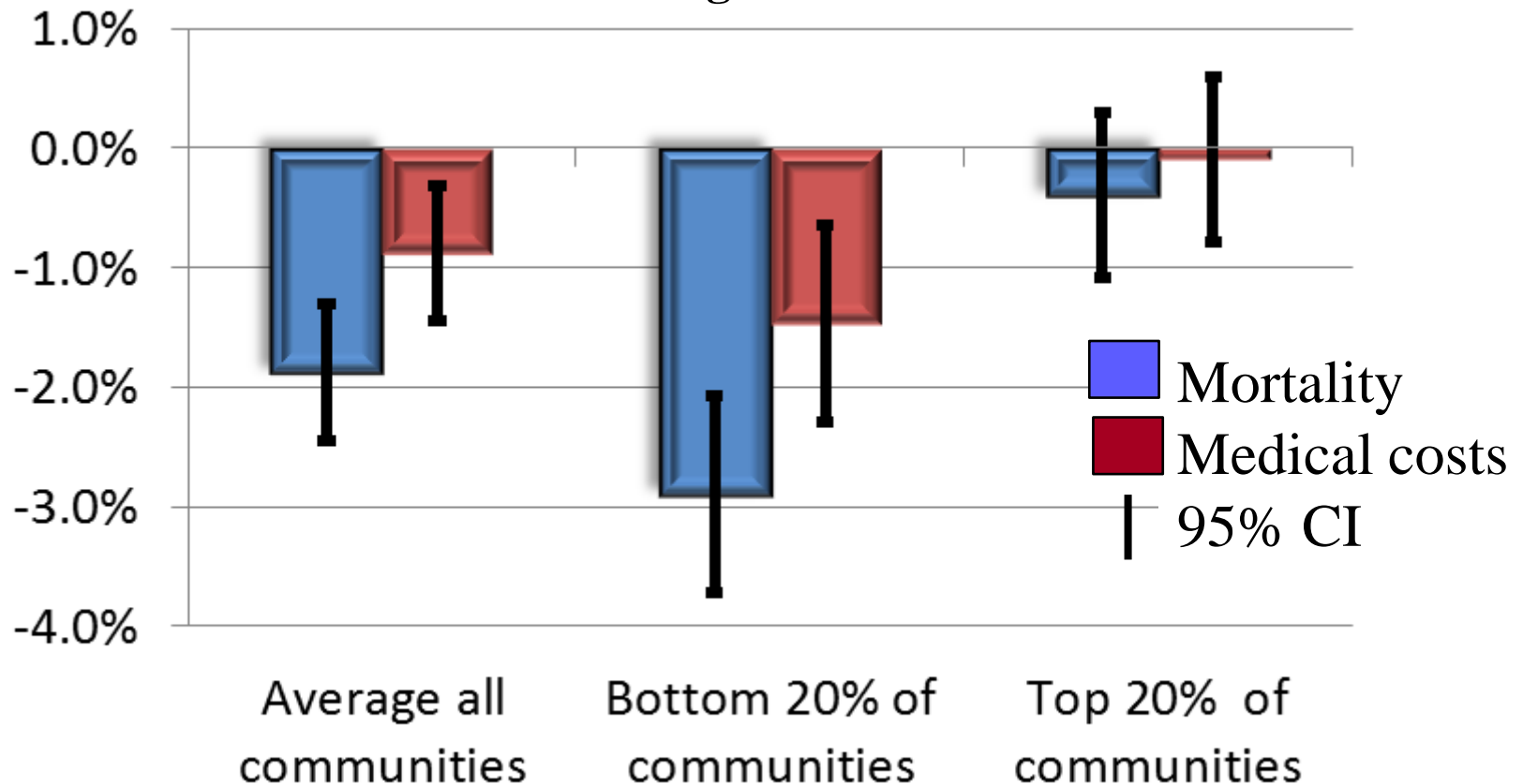
Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects.

N=779 community-years **p<0.05 *p<0.10

Mays et al. forthcoming 2015

The case for equity: larger gains in low-resource communities

Effects of Public Health System Capital in Low-Income vs. High-Income Communities



Log IV regression estimates controlling for community-level and state-level characteristics

Innovations in system alignment

Hennepin Health ACO

- Partnership of county health department, community hospital, and FQHC
- Accepts full risk payment for all medical care, public health, and social service needs for Medicaid enrollees
- Fully integrated electronic health information exchange
- Heavy investment in care coordinators and community health workers
- Savings from avoided medical care reinvested in public health initiatives
 - Nutrition/food environment
 - Physical activity



Innovations in system alignment

Massachusetts Prevention & Wellness Trust Fund

- \$60 million invested from nonprofit insurers and hospital systems
- Funds community coalitions of health systems, municipalities, businesses and schools
- Invests in community-wide, evidence-based prevention strategies with a focus on reducing health disparities
- Savings from avoided medical care are expected to be reinvested in the Trust Fund activities



Innovations in alignment

Arkansas Community Connector Program

- Use community health workers & public health infrastructure to identify people with unmet social support needs
- Connect people to home and community-based services & supports
- Link to hospitals and nursing homes for transition planning
- Use Medicaid and SIM financing, savings reinvestment
- ROI \$2.92



Source: Felix, Mays et al. *Health Affairs* 2011

www.visionproject.org

Implications for Cancer Registries

- Large gaps in cancer prevention, screening, and treatment persist
- Delivery system change: organizations are renegotiating roles and responsibilities in cancer care delivery
- Improvements in delivery system coordination and integration are imperative
- Cancer registries can provide the information to monitor progress and mobilize alignment

How Can Evidence & Applied Research Help?

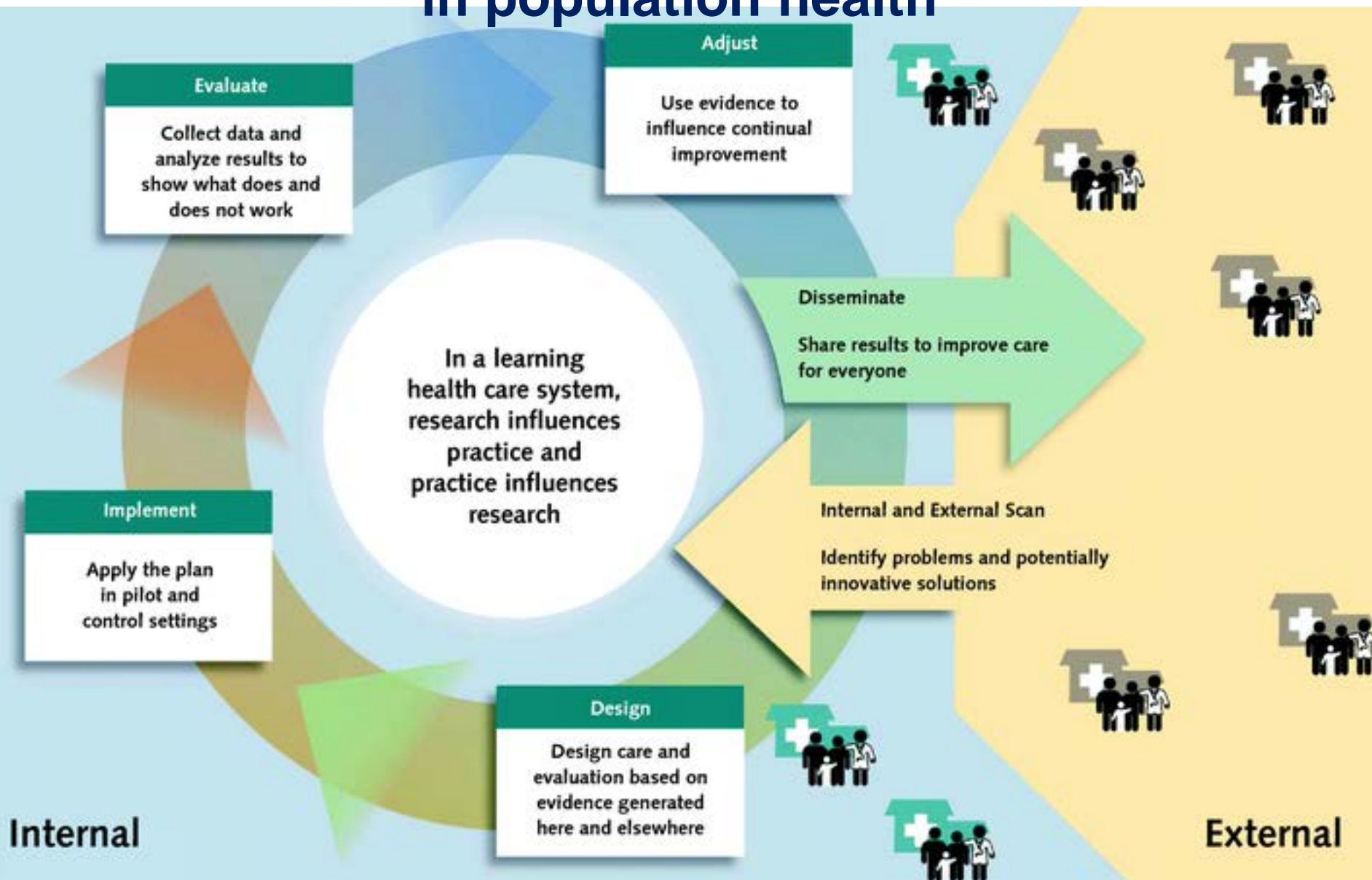
- Identify common interests, incentives & problems
- Mitigate gaps in information and evidence
- Use theory, evidence & experience to design strategies with high probability of success
- Measure progress & provide feedback
 - Fail fast
 - Continuously improve
- Evaluate health & economic impact

Finding the system connections



- Act on aligned incentives
- Exploit the disruptive policy environment
- Innovate, prototype, study – then scale
- Pay careful attention to shared governance, decision-making, and financing structures
- Demonstrate value and accountability to the public

Toward a “rapid-learning system” in population health



For More Information



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