6-26-2016

Integrating Delivery and Financing Systems Across Sectors to Build a Culture of Health

Glen P. Mays
University of Kentucky, glen.mays@cuanschutz.edu

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Follow this and additional works at: https://uknowledge.uky.edu/hsm_present

Part of the Health and Medical Administration Commons

Repository Citation
https://uknowledge.uky.edu/hsm_present/136

This Presentation is brought to you for free and open access by the Health Management and Policy at UKnowledge. It has been accepted for inclusion in Health Management and Policy Presentations by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.
Integrating Delivery and Financing Systems Across Sectors to Build a Culture of Health

Glen Mays, PhD, MPH
University of Kentucky

glen.mays@uky.edu
systemsforaction.org

AcademyHealth Annual Research Meeting • Boston, MA • 26 June 2015
Mission: Widen the lens beyond health care & public health systems

Rigorous research to identify novel mechanisms for aligning delivery and financing systems in *medical care, public health, and social & community services* in ways that improve *health* and *wellbeing*, achieve *efficiencies* in resource use, and reduce *inequities*.

www.systemsforaction.org
Wide lens: implicated sectors

- Public health
- Medical care: ACOs, PCMCs, AHCs
- Income support
- Nutrition and food security
- Education and workforce development
- Housing
- Transportation
- Criminal justice
- Child and family services
- Community development and finance
Study **novel mechanisms** for aligning systems and services across sectors

- Innovative alliances and partnerships
- Inter-governmental and public-private ventures
- New financing and payment arrangements
- Incentives for individuals, organizations & communities
- Governance and decision-making structures
- Information exchange and decision support
- New technology: m-health, tele-health
- Community engagement, public values and preferences
- Innovative workforce and staffing models
- Cross-sector planning and priority-setting
S4A Program Structure

Collaborating Research Centers

- University of Chicago
- Arizona State University
- Indiana University – Purdue University Indianapolis

National Coordinating Center
University of Kentucky

Individual Research Projects

IRP

partners

NCC

Collaborative Research Project
Signature research projects

- **University of Chicago**: Randomized trial of a Comprehensive Care, Community and Culture program

- **Arizona State University**: Analysis of medical, mental health, and criminal justice system interactions for persons with behavioral health disorders

- **IUPUI**: Evaluating integration and decision support strategies for a community-based safety net health care and public health system

- **University of Kentucky**: Measuring multi-sector contributions to public health services and impact on population health.
Understanding the Value of Multi-Sector Work to Improve Population Health

Glen Mays, PhD, MPH
University of Kentucky

glen.mays@uky.edu
systemsforaction.org

AcademyHealth Annual Research Meeting • Boston, MA • 26 June 2015
Losing ground in population health

Life expectancy at birth, years

Total expenditure on health per capita, US $ PPP

1. Or latest year available.
Source: OECD Health Data 2010.
How do we support effective 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
  - Infrastructure
  - Information
  - Incentives

**Challenge:** overcoming collective action problems across systems & sectors

- 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

Ostrom E. 1994
Catalytic functions to support multi-sector actions in health

Foundational Capabilities for Population Health

- Assess needs & risks
- Recommend actions
- Engage stakeholders
- Develop plans & policies
- Mobilize multi-sector implementation
- Monitor, evaluate, feed back

Questions of interest

- Which organizations contribute to the implementation of population health activities in local communities?
- How do these contributions change over time?
  - Recession  |  Recovery  |  ACA implementation
- What are the health and economic effects attributable to these multi-sector activities?
A useful lens for studying multi-sector work

National Longitudinal Survey of Public Health Systems
- Cohort of 360 communities with at least 100,000 residents
- Local public health officials report:
  - **Scope**: availability of 20 recommended population health activities
  - **Network**: organizations contributing to each activity
  - **Centrality of effort**: contributed by governmental public health agency
  - **Quality**: perceived effectiveness of each activity

** Expanded sample of 500 communities<100,000 added in 2014 wave
Data linkages expand analytic possibilities

- **Area Health Resource File**: health resources, demographics, socioeconomic status, insurance coverage
- **NACCHO Profile data**: public health agency institutional and financial characteristics
- **CMS Impact File & Cost Report**: hospital ownership, market share, uncompensated care
- **Dartmouth Atlas**: Area-level medical spending (Medicare)
- **CDC Compressed Mortality File**: Cause-specific death rates by county
- **Equality of Opportunity Project (Chetty)**: local estimates of life expectancy by income
- **National Health Interview Survey**: individual-level health
- **HCUP**: area-level hospital and ED use, readmissions
Classifying multi-sector delivery systems for population health 1998-2014

<table>
<thead>
<tr>
<th>Scope</th>
<th>Centrality</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>Mod</td>
</tr>
<tr>
<td>Mod</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Mod</td>
<td>Low</td>
<td>Mod</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Mod</td>
</tr>
</tbody>
</table>

- Comprehensive (High System Capital)
- Conventional
- Limited
Comprehensive Public Health Systems
One of RWJF’s Culture of Health National Metrics

- **Broad scope** of population health activities
- **Dense network** of multi-sector relationships
- **Central actors** to coordinate actions

Access to public health

Overall, 47.2 percent of the population is covered by a comprehensive public health system. Individuals are more likely to have access if they are non-White (51.5 percent vs. 45.5 percent White) or live in a metropolitan area (48.7 percent vs. 34.1 percent in nonmetropolitan areas).

47.2%

of population served by a comprehensive public health system

## Changes in system prevalence and coverage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehensive systems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of communities</td>
<td>24.2%</td>
<td>36.9%</td>
<td>31.1%</td>
<td>32.7%</td>
<td>25.7%</td>
</tr>
<tr>
<td>% of population</td>
<td>25.0%</td>
<td>50.8%</td>
<td>47.7%</td>
<td>47.2%</td>
<td>36.6%</td>
</tr>
<tr>
<td><strong>Conventional systems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of communities</td>
<td>50.1%</td>
<td>33.9%</td>
<td>49.0%</td>
<td>40.1%</td>
<td>57.6%</td>
</tr>
<tr>
<td>% of population</td>
<td>46.9%</td>
<td>25.8%</td>
<td>36.3%</td>
<td>32.5%</td>
<td>47.3%</td>
</tr>
<tr>
<td><strong>Limited systems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of communities</td>
<td>25.6%</td>
<td>29.2%</td>
<td>19.9%</td>
<td>20.6%</td>
<td>16.7%</td>
</tr>
<tr>
<td>% of population</td>
<td>28.1%</td>
<td>23.4%</td>
<td>16.0%</td>
<td>19.6%</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

Changes in intensive and extensive margins of system capital during the Great Recession

## Organizational contributions to population health activities, 1998-2014

<table>
<thead>
<tr>
<th>Type of Organization</th>
<th>1998</th>
<th>2014</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local public health agencies</td>
<td>60.7%</td>
<td>67.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Other local government agencies</td>
<td>31.8%</td>
<td>33.2%</td>
<td>4.4%</td>
</tr>
<tr>
<td>State public health agencies</td>
<td>46.0%</td>
<td>34.3%</td>
<td>-25.4%</td>
</tr>
<tr>
<td>Other state government agencies</td>
<td>17.2%</td>
<td>12.3%</td>
<td>-28.8%</td>
</tr>
<tr>
<td>Federal government agencies</td>
<td>7.0%</td>
<td>7.2%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>37.3%</td>
<td>46.6%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Physician practices</td>
<td>20.2%</td>
<td>18.0%</td>
<td>-10.6%</td>
</tr>
<tr>
<td>Community health centers</td>
<td>12.4%</td>
<td>29.0%</td>
<td>134.6%</td>
</tr>
<tr>
<td>Health insurers</td>
<td>8.6%</td>
<td>10.6%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Employers/businesses</td>
<td>16.9%</td>
<td>15.3%</td>
<td>-9.6%</td>
</tr>
<tr>
<td>Schools</td>
<td>30.7%</td>
<td>25.2%</td>
<td>-17.9%</td>
</tr>
<tr>
<td>Universities/colleges</td>
<td>15.6%</td>
<td>22.6%</td>
<td>44.7%</td>
</tr>
<tr>
<td>Faith-based organizations</td>
<td>19.2%</td>
<td>17.5%</td>
<td>-9.1%</td>
</tr>
<tr>
<td>Other nonprofit organizations</td>
<td>31.9%</td>
<td>32.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Other</td>
<td>8.5%</td>
<td>5.2%</td>
<td>-38.4%</td>
</tr>
</tbody>
</table>
Health effects attributable to multi-sector work

Fixed effects IV Estimates on Mortality, 1998-2014

Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. N=1019 community-years
Economic effects attributable to multi-sector work

Fixed effects and IV Estimates of Comprehensive System Capital Effects 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. N=1019 community-years. Vertical lines are 95% confidence intervals.
Economic effects attributable to multi-sector work

Fixed effects Estimates of Comprehensive System Capital Effects 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. N=1019 community-years. Vertical lines are 95% confidence intervals.
Conclusions: What we know and still need to learn

- Large potential benefits of integrated multi-sector work on population health
- Inequities in population health activities are large
- Integration requires support
  - Infrastructure
  - Institutions
  - Incentives
- Sustainability and resiliency are not automatic


