PHSSR Research In Progress Webinar

Wednesday, March 16, 2016

12:00-1:00pm ET

Cost, Quality and Value of Public Health Services

Economic, Organizational, and Network Variation in Public Health Services Delivery

Funded by the Robert Wood Johnson Foundation
Agenda

Welcome: CB Mamaril, PhD, Senior Research Scientist, RWJF Systems for Action National Coordinating Center, U. of Kentucky

Economic, Organizational, and Network Variation in Public Health Services Delivery

Presenters:
CB Mamaril, PhD, MS, Research Assistant Professor cbmamaril@uky.edu, University of Kentucky College of Public Health

Commentary: Georgia Heise DrPH, Director, Three Rivers District Health Department, Kentucky georgiaf.heise@ky.gov
Glen Mays, PhD, MPH, Scutchfield Endowed Professor of Health Services & Systems Research Glen.Mays@uky.edu

Questions and Discussion
Cesar B. Mamaril, PhD
Senior Research Scientist, *Systems for Action*
National Coordinating Center
Research Assistant Professor, Health Management and Policy, College of Public Health
University of Kentucky
cbmamaril@uky.edu
Economic, Organizational, and Network Variation in Public Health Services Delivery:

Model Simulation Techniques to Estimate the Cost of Providing Foundational Public Health Services

C.B. Mamaril, PhD
Glen Mays, PhD
Keith Branham, MPH
Lava Timsina, MPH

Systems for Action Research in Progress Webinar
16 March 2016
Acknowledgements

**Systems for Action** is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Center for Public Health Systems and Services Research in the College of Public Health, & the Center for Poverty Research in the Gatton College of Business and Economics, administered by the University of Kentucky, Lexington, KY.

- Robert Wood Johnson Foundation
- Washington Practice-Based Research Network (PBRN) Delivery & Cost Study (DACS) Research Team (University of Washington) led by Justin Marlowe, PhD and Betty Bekemeier, PhD
- Public Health Leadership Forum (PHLF) – ASTHO, NACCHO, PHAB, CDC, RESOLVE…
- Graduate research assistance of Keith Branham, Lava Timsina, Andrew Jonelis, Ben Wallace, Nurlan Kussainov, Justin McDaniel, Marylou Wallace, Arveen Kaur
- Kentucky Health Departments Association (KHDA) and Georgia Heise, DrPH
- Association of Ohio Health Commissioners, Inc. (AOHC) and Terry Allan
Toward a deeper understanding of costs & returns in public health

2012 Institute of Medicine Recommendations

- Identify the components & costs of a minimum package of public health services
  - Foundational capabilities
  - Array of Basic programs
- Implement a national chart of accounts for tracking spending & flow of funds
- Expand research on costs & effects of public health delivery

Defining What to Cost:
The Public Health Package

- Washington State’s **Foundational Public Health Services**
- Ohio’s Public Health Futures Committee: **Minimum Package of Services**
- Colorado’s **Core Public Health Services**

National Workgroup on Foundational Public Health Capabilities – Public Health Leadership Forum (PHLF)

- The National Workgroup developed definitions of foundational public health capabilities, specified in the *Public Health Leadership Forum’s Articulation of Foundational Capabilities & Foundational Areas* (funded by RWJF, facilitated by RESOLVE):
  
  http://www.resolv.org/site-healthleadershipforum/

- FPHS Categories articulated and defined (V1)
Definitions

**Foundational Capabilities (FC):** Cross-cutting skills that need to be present in state & local health departments *everywhere* for the health system to work *anywhere*. Needed to support the foundational areas, & other programs & activities, key to protecting community health & achieving equitable health outcomes.

**Foundational Areas (FA):** substantive areas of expertise or program-specific activities in all state & local health departments essential to protect the community’s health.

**Foundational Public Health Services (FPHS):** Suite of skills, programs, & activities that must be available in state & local health departments system-wide; includes foundational capabilities & areas.
Defining what to cost

RESOLVE/Articulation of Definitions Workgroup (as of November 2014)

Programs/Activities Specific to an HD and/or Community Needs Most of an HD’s Work is “Above the Line”

Foundational Areas
- Communicable Disease Control
- Chronic Disease & Injury Prevention
- Environmental Public Health
- Maternal, Child, & Family Health
- Access to and Linkage w/Clinical Care

Foundational Public Health Services
- Assessment (Surveillance, Epidemiology, and Laboratory Capacity)
- All Hazards Preparedness/Response
- Policy Development/Support
- Communications
- Community Partnership Development
- Organizational Competencies (Leadership/Governance; Health Equity, Accountability/Performance Management, QI; IT; HR; Financial Management; Legal)
FPHS CE Workgroup & Research Team

- **Workgroup on Foundational Public Health Services (FPHS) Cost Estimation (CE)** convened to develop a methodology for estimating the resources required by governmental public health agencies to implement foundational public health services. Released a report on recommended methodology:
  
  **Estimating the Costs of Foundational Public Health Capabilities: A Recommended Methodology**
  

- Pilot-Tested Methodology with KHDA Finance Workgroup comprised of 6 Kentucky Health Departments (June-October 2014)

- Pre-Tested web-based survey questionnaire using FPHS V2 definitions with selected Ohio LHDs from AOHC (February 2015-May 2015).

- Ongoing national survey of LHDs in selected states (July 2015-present)
DATA COLLECTION INSTRUMENT: Basic Process Flow

- Adapted & modified Washington PBRN Delivery and Cost Studies (DACS) FPHS CE data-collection instrument.
- FPHS CE respondent answers survey based on understanding of each FPHS capability and area as defined and articulated.
- Questionnaire is divided into six sections:
  1) LHD **workforce composition** (# of employees per category)
  2) LHD **labor resource use** (average hrs/wk per occupational category)
  3) **Salary** and Indirects (wage rate scale: min-ave-max)
  4) Total **Annual Non-Labor** Costs (per FPHS category)
  5) **Needs assessment** (current attainment scale relative to full attainment of projected need)
Estimation of “projected/need” costs from current attainment rating

```
<table>
<thead>
<tr>
<th>Attainment level</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>A. Cost at current attainment level</td>
</tr>
<tr>
<td>0%</td>
<td>B. Projected cost of full attainment</td>
</tr>
</tbody>
</table>
```

“Based on your understanding of how each public health foundational capability & foundational area is defined, please provide your global or overall assessment on the following question: *For each foundational category, what is the estimated percentage currently being met by your health department?*”
Development of FPHS CE Methodology

- Given inherent burden of complex survey, goal of efficiently self-administered to capture estimates that account for variation in costs due to the dynamic nature of public health.

- **Pragmatic Empirical approach**: Simulation modelling approach to estimate cost of implementing FPHS by modeling variation (i.e. uncertainty) associated with collected cost data

- Generate probability distributions of costs – the range of all possible cost values & the likelihood of their occurrence (versus point estimate).
  - Input costs distribution → Output value distribution
  - Distribution of output values calculated from all possible combinations (‘scenarios’=iterations) of input costs.
  - Since probability distributions can be graphed, useful as a analytical, decision-making tool & planning aid.
Illustrating the Model Simulation Approach: Current Per Capita Costs

In summary, the FPHS CE Methodology produces a **cost distribution** (as opposed to point estimates) or each Foundational Capability (FC) & Foundational Area (FA) specified in the National FPHS Definitions_V2 document ... and for separate estimates of “current” & “projected/need” costs

- **Current**: cost of resources currently used to produce FCs & FAs
- **Projected/Need**: cost of resources estimated to be required to fully meet FC & FA definitions, based on current levels of attainment.

Total Foundational Public Health Services (FPHS) Costs = $\sum FC + \sum FA$
Model Simulation Results from FPHS CE Pilot Sample Survey Sites

(Population weighted per capita cost estimates from pilot survey of 6 LHDs in Kentucky & 8 LHDs in Ohio and preliminary results incorporating data from Washington DACS)
Total Per Capita Costs of Foundational Public Health Services (FPHS)

(Full Combined Sample: Current Per Capita Costs in Red – Projected/Need in Blue)

Current Per Capita Costs ($) – Full Sample

Per Capita Cost of Projected / Need ($) - Full Sample

Graph Overlay of Current & Projected / Need – Full Sample
“Tornado Chart” – inputs ranked by effect on output mean (i.e. total per capita FPHS costs)

“Spider Graph” – change in output mean across range of input values (i.e. total per capita FPHS costs)
Total Per Capita Costs of Foundational Public Health Services (FPHS)

(Between States: Graph Overlay of Kentucky in Blue / Ohio in Red)
Total Per Capita Costs of Foundational Public Health Services (FPHS)

(Within State: Current vs Projected/Need Graph Overlay in Kentucky & Ohio)
Per Capita Costs of FPHS Category By Sample Site

(Within State: Current vs Projected/Need Graph Overlay in Kentucky & Ohio)
Weighted Estimates of Total FPHS Costs – Pilot KY+OH with WA DACS

(Combined & separate: Current Per Capita Costs in Red – Projected/Need in Blue)

- Current Per Capita Costs ($) – Full Sample
- Per Capita Cost of Projected / Need ($) - Full Sample
- Current Costs (WA DACS vs. KY-OH Pilot/)
- Projected Need (WA DACS vs. KY-OH Pilot/)
Towards first-generation FPHS cost estimates…

• Part of the critical step outlined in 2012 IOM Report
• Model simulation results show both the variation across FPHS categories and the substantial gap between current costs of FPHS implementation and the projected costs to fully meet FPHS needs.
• Demonstrate feasibility and value of a hybrid cost-estimation methodology that combines survey-based cost allocation approaches with model simulation techniques to quantify the geographic variation of costs in implementing public health services
• Data-collection instrument and model simulation approach for analytical, decision-making, and policy related purposes.
Commentary

**Georgia Heise DrPH**
Director, Three Rivers District Health Department
Co-director, Kentucky Population Health Institute
Immediate Past President, National Association of County and City Health Officials (NACCHO)

georgiaph.heise@ky.gov
Presenter

Glen Mays, PhD, MPH
Director, Systems for Action National Coordinating Center, and Center for Public Health Systems and Services Research
Scutchfield Endowed Professor of Health Services and Systems Research, College of Public Health
Associate Director, Center for Health Services Research, College of Medicine
University of Kentucky glen.mays@uky.edu
Inter-organizational Network Effects on the Implementation of Public Health Services

Glen Mays, PhD, MPH  
University of Kentucky  
glen.mays@uky.edu | @GlenMays  
www.systemsforaction.org
Acknowledgements & Disclosures

- Funded by the Robert Wood Johnson Foundation through the **Systems for Action National Program Office**
- Collaborators include Cezar Mamaril, Lava Timsina, Rachel Hogg, David Bardach
How do we support implementation of 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

Fundamental challenge: overcoming collective action problems

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

Stability & sustainability of funding

Implementing Foundational Public Health Services

Assess needs & risks

Recommend actions

Monitor, evaluate, feed back

Develop plans & policies

Mobilize actions

Research questions of interest

- Which organizations contribute to the implementation of public health activities in local communities?
- How do these contributions change over time?
  - Recession | Recovery | Accreditation
  - ACA implementation
- How do changes in delivery system structures influence service delivery & population health?
Data: public health delivery systems

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 public health activities
- **Network**: types of organizations contributing to each activity
- **Effort**: contributed by designated local public health agency
- **Quality**: perceived effectiveness of each activity

** Expanded sample of 500 communities<100,000 added in 2014 wave
Data: community & market characteristics

- **Area Health Resource File**: physician, hospital and CHC supply; population size and demographics, socioeconomic status, racial/ethnic composition, health insurance coverage

- **NACCHO Profile data**: public health agency institutional and financial characteristics

- **Medicare Cost Report**: hospital ownership, market share, uncompensated care

- **CDC Compressed Mortality File**: Cause-specific death rates by county
Cluster and network analysis to identify “system capital”

Cluster analysis is used to classify communities into one of 7 categories of **public health system capital** based on:

- **Scope of activities** contributed by each type of organization
- **Density of connections** among organizations jointly producing public health activities
- **Degree centrality** of the governmental public health agency

Average public health system structure in 2014

Node size = degree centrality
Line size = % activities jointly contributed (tie strength)
Prevalence of Public Health System Configurations 1998-2014

Scope

- Cluster 1: High, Mod, High
- Cluster 2: High, Low, High
- Cluster 3: High, High, Mod
- Cluster 4: Mod, High, Mod
- Cluster 5: Mod, Low, Mod
- Cluster 6: Low, High, Low
- Cluster 7: Low, Low, Mod

Centrality

- Cluster 1: Mod
- Cluster 2: Low
- Cluster 3: High
- Cluster 4: High
- Cluster 5: Low
- Cluster 6: High
- Cluster 7: Low

Density

- Cluster 1: High
- Cluster 2: High
- Cluster 3: Mod
- Cluster 4: Mod
- Cluster 5: Low
- Cluster 6: Mod
- Cluster 7: Mod

Comprehensive (High System Capital)

Conventional

Limited
Changes in system prevalence and coverage

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<thead>
<tr>
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<tr>
<td>Comprehensive systems</td>
<td></td>
<td></td>
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<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>
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<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>
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<tr>
<td>Conventional systems</td>
<td></td>
<td></td>
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<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>
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<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>Limited systems</td>
<td></td>
<td></td>
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<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>
Estimating network effects

**Dependent variables:**

- **Health outcomes**: premature mortality (<75), infant mortality, death rates for heart disease, diabetes, cancer, influenza
- **Resource use**: Local governmental expenditures for public health activities

**Independent variables:**

- **Network characteristics**: network density, organizational degree centrality, betweenness centrality
- **Delivery system structure**: comprehensive, conventional, or limited public health delivery systems
Estimating delivery system effects

Statistical Model

- Log-transformed Generalized Linear Latent and Mixed Models
- Account for repeated measures and clustering of public health jurisdictions within states
- Instrumental variables address endogeneity of system structures

\[
\Pr(\text{System}_{z,ijt} = 1) = \sum \alpha_z \text{Governance}_{ijt} + \beta_1 \text{Agency}_{ijt} + \beta_2 \text{Community}_{ijt} + \mu_j + \phi_t + \epsilon_{ijt}
\]

\[
\ln(\text{Outcomes}|\text{Cost}_{ijt}) = \sum \alpha_z (\hat{\text{System}}_z)_{ijt} + \beta_1 \text{Agency}_{ijt} + \beta_2 \text{Community}_{ijt} + \mu_j + \phi_t + \epsilon_{ijt}
\]

All models control for type of jurisdiction, population size and density, metropolitan area designation, income per capita, unemployment, racial composition, age distribution, educational attainment, and physician availability.
Implementation of recommended public health activities 1998-2014

- Assurance: -18.4%
- Assessment: +5.6%
- Policy/Planning: +15.8%
- Total: +1.1%
## Implementation of recommended activities

### 1998-2014

<table>
<thead>
<tr>
<th>Public Health Activity</th>
<th>1998</th>
<th>2014</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Community health needs assessment</td>
<td>71.5%</td>
<td>86.0%</td>
<td>20.2%**</td>
</tr>
<tr>
<td>2 Behavioral risk factor surveillance</td>
<td>45.8%</td>
<td>70.2%</td>
<td>53.2%**</td>
</tr>
<tr>
<td>3 Adverse health events investigation</td>
<td>98.6%</td>
<td>100.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>4 Public health laboratory testing services</td>
<td>96.3%</td>
<td>96.5%</td>
<td>0.2%</td>
</tr>
<tr>
<td>5 Analysis of health status and health determinants</td>
<td>61.3%</td>
<td>72.8%</td>
<td>18.7%**</td>
</tr>
<tr>
<td>6 Analysis of preventive services utilization</td>
<td>28.4%</td>
<td>39.4%</td>
<td>38.8%**</td>
</tr>
<tr>
<td>7 Health information provision to elected officials</td>
<td>80.9%</td>
<td>84.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>8 Health information provision to the public</td>
<td>75.4%</td>
<td>83.8%</td>
<td>11.1%*</td>
</tr>
<tr>
<td>9 Health information provision to the media</td>
<td>75.2%</td>
<td>87.5%</td>
<td>16.3%**</td>
</tr>
<tr>
<td>10 Prioritization of community health needs</td>
<td>66.1%</td>
<td>82.3%</td>
<td>24.6%**</td>
</tr>
<tr>
<td>11 Community participation in health improvement planning</td>
<td>41.5%</td>
<td>67.7%</td>
<td>63.0%**</td>
</tr>
<tr>
<td>12 Development of community health improvement plan</td>
<td>81.9%</td>
<td>86.2%</td>
<td>5.2%</td>
</tr>
<tr>
<td>13 Resource allocation to implement community health plan</td>
<td>26.2%</td>
<td>43.2%</td>
<td>64.9%**</td>
</tr>
<tr>
<td>14 Policy development to implement community health plan</td>
<td>48.6%</td>
<td>57.5%</td>
<td>18.4%*</td>
</tr>
<tr>
<td>15 Communication network of health-related organizations</td>
<td>78.8%</td>
<td>84.8%</td>
<td>7.6%</td>
</tr>
<tr>
<td>16 Strategies to enhance access to needed health services</td>
<td>75.6%</td>
<td>50.2%</td>
<td>-33.6%**</td>
</tr>
<tr>
<td>17 Implementation of legally mandated public health activities</td>
<td>91.4%</td>
<td>92.4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>18 Evaluation of public health programs and services</td>
<td>34.7%</td>
<td>38.4%</td>
<td>10.8%**</td>
</tr>
<tr>
<td>19 Evaluation of local public health agency capacity/performance</td>
<td>56.3%</td>
<td>55.0%</td>
<td>-2.4%</td>
</tr>
<tr>
<td>20 Implementation of quality improvement processes</td>
<td>47.3%</td>
<td>49.6%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Composite availability of assessment activities (1-6)</td>
<td>66.7%</td>
<td>77.6%</td>
<td>16.4%**</td>
</tr>
<tr>
<td>Composite availability of policy development activities (7-15)</td>
<td>60.2%</td>
<td>72.5%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Composite availability of assurance activities (16-20)</td>
<td>64.4%</td>
<td>52.8%</td>
<td>-18.0%*</td>
</tr>
<tr>
<td>Composite availability of all activities (1-20)</td>
<td>63.8%</td>
<td>67.6%</td>
<td>6.0%*</td>
</tr>
</tbody>
</table>
Inequities in Implementation
Delivery of recommended public health activities, 2006-14

Quintiles of communities

2014

Δ 2006-14

% of recommended activities performed

Quintiles of communities
## Organizational contributions to recommended public health activities, 1998-2014

<table>
<thead>
<tr>
<th>Type of Organization</th>
<th>1998</th>
<th>2006</th>
<th>2012</th>
<th>2014</th>
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<tbody>
<tr>
<td>Local public health agency</td>
<td>60.7%</td>
<td>66.5%</td>
<td>62.0%</td>
<td>67.4%</td>
</tr>
<tr>
<td>Other local govt agencies</td>
<td>31.8%</td>
<td>50.8%</td>
<td>26.3%</td>
<td>32.7%</td>
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<tr>
<td>State public health agency</td>
<td>46.0%</td>
<td>45.3%</td>
<td>36.4%</td>
<td>34.0%</td>
</tr>
<tr>
<td>Other state govt agencies</td>
<td>17.2%</td>
<td>16.4%</td>
<td>13.0%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Federal agencies</td>
<td>7.0%</td>
<td>12.0%</td>
<td>8.7%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>37.3%</td>
<td>41.1%</td>
<td>39.3%</td>
<td>47.2%</td>
</tr>
<tr>
<td>Physician practices</td>
<td>20.2%</td>
<td>24.1%</td>
<td>19.5%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Community health centers</td>
<td>12.4%</td>
<td>28.6%</td>
<td>26.9%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Health insurers</td>
<td>8.6%</td>
<td>10.0%</td>
<td>9.8%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Employers/business</td>
<td>25.5%</td>
<td>16.9%</td>
<td>13.4%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Schools</td>
<td>30.7%</td>
<td>27.6%</td>
<td>24.9%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Universities/colleges</td>
<td>15.6%</td>
<td>21.6%</td>
<td>21.2%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Faith-based organizations</td>
<td>24.0%</td>
<td>19.2%</td>
<td>15.7%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Other nonprofits</td>
<td>31.9%</td>
<td>34.2%</td>
<td>31.6%</td>
<td>33.6%</td>
</tr>
<tr>
<td>Other organizations</td>
<td>8.5%</td>
<td>8.8%</td>
<td>5.4%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>
Bridging capital in public health delivery systems
Trends in betweenness centrality

* Change from prior years is statistically significant at p<0.05
Comprehensive systems do more with less

Expenditures per capita

% of recommended activities performed

Type of delivery system

Comprehensive
Conventional
Limited
Very limited
Health and economic impact of comprehensive systems

Fixed Effects and IV Estimates: Effects of Comprehensive System Capital on Mortality and Spending

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
Impact on equity: larger gains in low-resource communities

Effects of Comprehensive Public Health Systems in Low-Income vs. High-Income Communities

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

- **Average all communities**
- **Bottom 20% of communities**
- **Top 20% of communities**

**Mortality**

**Medical costs**

95% CI
Conclusions

Comprehensive and highly-integrated public health systems appear to offer considerable health and economic benefits over time.

- 30-45% more PH services implemented
- 10-40% larger reductions in preventable mortality rates
- 15% lower public health resource use

Low-income communities are less likely to achieve comprehensive public health system capital, but they benefit disproportionately

Failure to account for endogenous network structure can lead to biased estimates of impact
Policy and Practice Implications

Opportunities for building public health system capital and interorganizational networks:

- Hospital community benefit requirements
- CMMI State Innovation Models (SIMs)
- Accountable Communities initiatives
- Insurer and employer incentives
- Community development projects
Project Information & Updates

National Longitudinal Survey of Public Health Services:


Costs of Foundational Public Health Services

http://www.publichealthsystems.org/research/costs-foundational-public-health-services

Questions and Discussion
Webinar Archives & Upcoming Events

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### Upcoming Webinars

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<td><strong>QUALITY IMPROVEMENT FOR COST EFFECTIVE SEXUALLY TRANSMITTED INFECTION PREVENTION SERVICES</strong></td>
<td>William Livingood, PhD, and Lori Bilello, PhD, University of Florida</td>
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<td>Wed, April 6</td>
<td>12-1p ET/ 9-10a PT</td>
<td><strong>ACCOUNTABLE COMMUNITY OF HEALTH STRUCTURES AND CROSS-SECTOR COORDINATION</strong></td>
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<td>Lainie Rutkow, JD, PhD, MPH, and Katherine C. Smith, PhD, Johns Hopkins</td>
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Thank you for participating in today’s webinar!

For more information about the webinars, contact:

Ann Kelly, Project Manager  Ann.Kelly@uky.edu
111 Washington Avenue #201, Lexington, KY 40536
859.218.2317

www.systemsforaction.org
**Speaker Bios**

**Glen Mays, PhD, MPH**, director of the RWJF Systems for Action National Coordinating Center, is the Scutchfield Endowed Professor of Health Services & Systems Research at the University of Kentucky College of Public Health. He also serves as director of the Center for Public Health Systems and Services Research within the College of Public Health, and associate director of the Center for Health Services Research within the College of Medicine. His research focuses on strategies for organizing and financing public health services, preventive care, and care management systems for underserved and high-risk populations. Dr. Mays earned PhD and MPH degrees in health policy and administration from the University of North Carolina-Chapel Hill, and completed a postdoctoral fellowship in health economics at Harvard Medical School. He previously chaired the Department of Health Policy and Management at the University of Arkansas for Medical Sciences for eight years.

**Cezar Brian (CB) Mamaril, PhD, MS**, is a senior research scientist at the RWJF Systems for Action National Coordinating Center and a research faculty member at the University of Kentucky College of Public Health. His research focuses on public health systems financing and economics. CB received his PhD in Public Policy and Administration from the University of Kentucky Martin School. Dr. Mamaril also holds an MS degree in Agricultural and Applied Economics from VirginiaTech.

**Georgia Heise DrPH**, is the Director for Three Rivers District Health Department, one of the first health departments in the nation to achieve PHAB accreditation. Three Rivers was designated one the 2015 Best Places to Work by the Kentucky Chamber of Commerce. Dr. Heise is involved in many initiatives across the Commonwealth. She serves on the Executive Committee and Legislative Committee for the Kentucky Health Department Association and chairs both its Strategic Planning Committee and Foundational Capabilities Workgroup. She has been a mentor for a Balderson Award winning Kentucky Public Health Leadership Institute Project and is a fellow of the institute. Dr. Heise serves on the Board of Directors and the Legislative Committee for the Kentucky Public Health Association. She is an adjunct faculty member for the University of Kentucky’s College of Public Health, where she is a member of Delta Omega National Public Health Honor Society, Beta Gamma Chapter, and very active with many of the College’s other projects. Additionally, Dr. Heise co-directs the newly established Kentucky Population Health Institute. Beyond Kentucky, Dr. Heise is the Immediate Past President of the National Association of County and City Health Officials (NACCHO). Three Rivers is one of six local health departments in a national pilot study for RESOLVE, an independent non-profit organization funded by the Robert Wood Johnson Foundation to study Public Health Foundational Capabilities. Dr. Heise is passionate about advancing public health through accreditation, governance, and policy development. She speaks and trains nationally on those topics and others.