New Health Delivery Networks: Merging Public Health and Health Care Systems

Glen P Mays, University of Kentucky
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Glen Mays, PhD, MPH
University of Kentucky

glen.mays@uky.edu

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Why do medical care and public health delivery systems often fail to connect?

What are the causes and consequences of this failure?

Where are the opportunities for connection to improve population health?
Failing to connect

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

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

Inefficient delivery
Inequitable outcomes
Limited population health impact
Failing to connect

Amenable mortality, men ages 0–64
Age-standardized death rate/100,000

Amenable mortality, women ages 0–64
Age-standardized death rate/100,000

* Data for Germany are 1999 and 2006.
Failing to connect

Source: Commonwealth Fund 2012
What Does Public Health Offer?

Organized programs, policies, and laws to prevent disease and injury and promote health on a population-wide basis

- Epidemiologic surveillance & investigation
- Community health assessment & planning
- Communicable disease control
- Chronic disease and injury prevention
- Health education and communication
- Environmental health monitoring and assessment
- Enforcement of health laws and regulations
- Inspection and licensing
- Inform, advise, and assist school-based, worksite-based, and community-based health programming
- Linking people to needed services & supports
Challenges in public health delivery

- Lack of clear, coherent mission and expectations
- Complex, fragmented, variable delivery systems
- Resources ≠ preventable disease burden
- Large inequities in resources & capacity
- Variable productivity and efficiency
- Gaps in evidence base for public health delivery
- Inability to demonstrate value/return on investment
How Does the Public Health System Perform?
Delivery of recommended activities

Variation in Public Health Delivery

Delivery of recommended public health activities, 2012

Organizations engaged in public health delivery
Delivery of recommended public health activities, 2012

% Change 2006-2012

Scope of Activity 2012

Local health agency
Other local government
State health agency
Other state government
Hospitals
Physician practices
Community health centers
Health insurers
Employers/business
Schools
CBOs

Imbalance of resources & needs

>75% of national health spending is attributable to conditions that are largely preventable

- Cardiovascular disease
- Diabetes
- Lung diseases
- Cancer
- Injuries
- Vaccine-preventable diseases and sexually transmitted infections

<5% of national health spending is allocated to public health and prevention

CDC 2008 and CMS 2011
Variation in Local Public Health Spending

Gini = 0.485
Changes in Local Public Health Spending 1993-2010

62% growth

38% decline
### Mortality reductions attributable to local public health spending, 1993-2008

<table>
<thead>
<tr>
<th>Mortality Type</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant mortality</td>
<td>-9.4</td>
</tr>
<tr>
<td>Heart disease</td>
<td>-6.7</td>
</tr>
<tr>
<td>Diabetes</td>
<td>-6.1</td>
</tr>
<tr>
<td>Cancer</td>
<td>-6.0</td>
</tr>
<tr>
<td>Influenza</td>
<td>-3.0</td>
</tr>
<tr>
<td>All-cause</td>
<td>-2.0</td>
</tr>
<tr>
<td>Alzheimer's</td>
<td>-1.0</td>
</tr>
</tbody>
</table>

Hierarchical regression estimates with instrumental variables to correct for selection and unmeasured confounding

Mays et al. 2011
Medical cost offsets attributable to local public health spending, 1993-2008

For every $10 of public health spending, ≈$9 are recovered in lower medical care spending over 15 years

Bridging the Gap: Why Now?

Integrated Medical Care & Public Health Delivery

- Hospital community benefit regs
- Funding constraints
- Payment reform
- Accountable care organizations
- Patient centered medical homes
- Employer wellness incentives
- Health insurance expansions
- Health information exchange
- Public Health Accreditation
Some Leading Examples

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
Some Leading Examples

Akron Accountable Care Community

- Partnership of multiple hospital systems, county health department, FQHCs, schools, libraries and CBOs
- Targets community-wide population at risk for diabetes
- Invests in primary prevention, screening, and active disease management
- Savings from avoided medical care reinvested in prevention initiatives
  - Nutrition/food environment
  - Physical activity
Some Leading Examples

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
Toward next generation public health

Public health as a chief health strategist for the community

- Articulate population health needs & priorities
- Engage community stakeholders
- Plan with clear roles & responsibilities
- Recruit & leverage resources
- Develop and implement policies
- Ensure coordination
- Promote evidence-based practices
- Monitor and feed back results
- Mobilize performance improvement
- Ensure transparency & accountability: resources, results, ROI
Evidence gaps: toward a “rapid-learning system”

In a learning health care system, research influences practice and practice influences research.

Evaluate
- Collect data and analyze results to show what does and does not work

Adjust
- Use evidence to influence continual improvement

Implement
- Apply the plan in pilot and control settings

Design
- Design care and evaluation based on evidence generated here and elsewhere

Disseminate
- Share results to improve care for everyone

Internal and External Scan
- Identify problems and potentially innovative solutions

Internal

External
Public Health Practice-Based Research Networks (PBRNs)

- First cohort (December 2008 start-up)
- Second cohort (January 2010 start-up)
- Affiliate/Emerging PBRNs (2011-13)
Conclusions: finding the connection

- 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
For More Information

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Glen P. Mays, Ph.D., M.P.H.
glen.mays@uky.edu

Email: publichealthPBRN@uky.edu
Web: www.publichealthsystems.org
Journal: www.FrontiersinPHSSR.org
Archive: works.bepress.com/glen_mays
Blog: publichealththeconomics.org

University of Kentucky College of Public Health
Lexington, KY