Analysis of State and Local Governmental Public Health Spending 2000-2018 and COVID-19 Response Implications

Strategies to Achieve Alignment, Collaboration, and Synergy Across Delivery and Financing Systems

Research-In-Progress Webinar
April 15, 2020
12-1pm ET
Agenda

Welcome: Chris Lyttle, JD
   Deputy Director for Systems for Action

Presenters: Beth Resnick, DrPH, MPH
   David Bishai, MD, PhD, MPH
   JP Leider, PhD
   Johns Hopkins Bloomberg School of Public Health

Q&A: Moderated by Chris Lyttle, JD
Dr. Beth Resnick is a Senior Scientist at the Johns Hopkins Bloomberg School of Public Health, Department of Health Policy and Management. She is Assistant Dean for Public Health Practice and Training and Director of the MSPH Program in Health Policy. Her research and practice interests include assessing and improving the public health infrastructure, enhancing knowledge of potential environment and health connections, and developing effective public health policies.

Prior to her appointment at Johns Hopkins, Beth Resnick was Director of Environmental Health at the National Association of County and City Health Officials (NACCHO). She provided education, information, research, and technical assistance to the nation’s 3,000 local health departments and facilitated partnerships among local, state, and federal agencies in order to promote and strengthen local environmental public health practice.
Agenda

• Research findings

• Why this is relevant in light of COVID-19

• Plans for building on this work

• Discussion
National estimates show public health spending as 3% of total health expenditures... But are these estimates accurate?

Census State Finance Division Data Used to Build the State Health Expenditure Data (SHED) Set

SHED available at: https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/36741

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
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<tr>
<td>• Recoded Census State Finance Division Data 2000-2013</td>
<td>• Inconsistencies across states in accounting for local public health spending and intergovernmental state to local transfers</td>
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<td>• Basis of Public Health Activity estimate in NHEA</td>
<td>• Incomplete data prior to 2008 and absence of California spending data</td>
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<td>• Includes spending by all state agencies</td>
<td>• Limitations due to initial state coding in South Carolina</td>
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<td>• Includes other agencies with health functions (not just health departments)</td>
<td>• Beholden to Census coding determinations</td>
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<td>• Highly detailed line item expenditures that allows parsing by specific activity</td>
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SHED available at: https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/36741
SHED Coding Framework Built on the Foundational Public Health Services Model

**Public Health**

- **Environmental Health***
  - Food Safety
  - Water
  - Air
  - Sewerage
  - Vector Borne
  - Solid Waste
  - Lead
  - Other

- **Chronic Disease**
  - Tobacco
  - Cancer
  - Obesity
  - Cardiovascular
  - Asthma
  - Other

- **Injury Prevention**
  - Falls
  - Motor Vehicle
  - RX Drug Abuse
  - Firearm
  - Occupation
  - Other Intentional
  - Other Unintentional
  - Other

- **Maternal, Child Health**
  - Family Planning
  - Newborn Screening
  - Immunization Services
  - Clinical MCH
  - Supplemental Nutrition
  - Populated-based MCH
  - School-Based
  - Other

- **All Hazards**
  - Planning
  - Training Drills
  - Emergency Response
  - Other

- **Communications**
  - Emergency Response
  - Health Communications & Media Relations
  - Maintenance of Communications Networks
  - Web

- **Access Linkage**
  - Immunization
  - Health Care Licensing
  - Eligibility Determination
  - Other

- **Communicable Disease**
  - HIV/AIDS
  - STD
  - TB
  - Hepatitis
  - Other

- **Policy Development**
  - Vital Records
  - Surveillance
  - Lab

- **Assessment**
  - CBO

- **Community Partnership**
  - Community Engagement

- **Organizational Competencies**
  - Public Safety
  - Medical Transportation
  - Research
  - Other Social Services

**Other Health/Services**

- **Clinical Services (primary)**
  - Other Health Care
  - Primary Care
  - Free Care Clinic
  - Community Health Centers
  - Rural Health Clinic
  - MCH

- **Clinical services (secondary or tertiary)**
  - Oral Health Care
  - Specialty Care
  - Disability Related Clinical Care
  - Genetic Clinical Care
  - Home Health Care
  - EMS & Trauma
  - Medical Reimbursement to 3rd Party Providers

- **Environmental Protection***
  - Environmental Protection
  - Behavioral Health

- **Behavioral Health**
  - Behavioral Health

- **Other Services**
  - Nutrition

*Environmental Health" refers to prevention (permitting, education, regulation) activities, "Environmental Protection" refers to remediation and environmental quality.*
Foundational Public Health Services Model in the Context of COVID-19 Response

**Public Health**
- Environmental Health*: Food Safety, Water, Air, Sewerage, Vector Borne, Solid Waste, Lead, Other
- Chronic Disease: Tobacco, Cancer, Obesity, Cardiovascular, Asthma, Other
- Injury Prevention: Falls, Motor Vehicle, Rx Drug Abuse, Firearm, Occupation, Other Intentional, Other Unintentional
- Maternal, Child Health: Family Planning, Newborn Screening, Coordination of Services, Clinical MCH, Prenatal-based MCH, School-Based

**Other Health/Services**
- Clinical Services (primary):
  - Other Health, Primary Care, Free Care Clinic, Community Health Centers, Rural Health Clinic, MCH
- Clinical services (secondary or tertiary):
  - Oral Health, Specialty Care, Disability Related Clinical Care, Long-term Clinical Care, Home Health Care, EMS & Trauma, Medical Reimbursement to 3rd Party Providers
- Environmental Protection*: Environmental Protection, Behavioral Health

**Foundational Capabilities**
- All Hazards: Planning, Training Data, Emergency Response, Other
- Communications: Emergency Response, Health Communications, Media Relations, Maintenance of Communications Networks, Web Other
- Access Linkage: Communication, Health Care Licensing, Eligibility Determination, Other
- Communicable Disease: HIV/AIDS, STD, TB, Hepatitis, Other

**Foundational Areas**
- Policy Development: Vital Records, Surveillance, Other
- Assessment: CHP, Community Partnership & Engagement, Other
- Community Partnership: Other
- Organizational Competencies: Other

*Environmental Health* refers to prevention (permitting, education, regulation) activities, *Environmental Protection* refers to remediation and environmental quality.
Results

Percent of Total State Spending on Public Health Services, 2018

- Communicable Disease: 7%
- Chronic Disease & Injury Prevention: 5%
- Environmental Health: 10%
- Maternal and Child Health: 31%
- Access and Linkage: 3%
- Other Public Health: 14%

Foundational Capabilities

- Assessment: 4%
- Community Partnerships: 0%
- Organizational Competencies: 5%
- Policy Development: 0%
- All Hazards: 2%
- Other Capabilities: 1%

*Only public health component using the FPHS coding framework, as a percentage of Code 32 spending*
Results

Percent of Total Spending on Other Health Services, 2018

- Medicaid & Public Insurance: 9%
- Disability Related Clinical Services: 12%
- Environmental Protection: 6%
- Behavioral Health: 38%
- Other Health Care: 23%
Results

State Spending in the Census Public Health Activity Estimate (2000-2018)

- Public Health: 39%
- Behavioral Health: 23%
- Disability-Related Clinical Care: 8%
- Environmental Protection: 6%
- Other Health Care: 4%
- Other: 20%
Results

National Public Health Activity Estimate 2000-2018

*JHSPH estimate includes added-back federal dollars.
**JHSPH estimate is a range to include margin of error.
Health care spending grew by **52 percent** in the past decade, while the budgets of local health departments shrank by as much as 24 percent, according to a [2019 report](https://example.com) from the public health nonprofit Trust for America’s Health, and the C.D.C.’s budget [remained flat](https://example.com). Today, public health claims just 3 cents of every health dollar spent in the country.
Results

Non-hospital health spending by state government, 2018
Key Local Level Findings

• County level spending on health and public health statistically significantly lowered all cause mortality
  – Models controlled for county spending on hospitals and total county revenue
  – Based on data from 2850 counties from 1972-2012
  – Fixed effects models with Koyck lags

• Effect sizes were larger in counties with a high proportion of African American
  – Can infer that county health spending lowers racial disparities in mortality
Summary

• We spend considerably less on population-level services than estimates indicate
  – We are seeing impact on inadequate capacity for COVID-19 response

• Better understanding of what we really spend on public health:
  – Assess impact of actual spending
  – Uncover spending disparities and reallocations
  – Inform future resource allocations
  – Assure adequate public health capacity for emergencies such as COVID-19
Next Steps

Publishing

• AJPH:
  • Inaccuracy of Official Estimates of Public Health Spending in the United States, 2000-2018
  • The state of rural public health: enduring needs in a new decade
  • Aligning US spending priorities using the Health Impact Pyramid lens

In process for submission: **US States’ Spending on Public Health 2008-2018**

• Seeking funding to build on this work to track spending pre- and post-COVID-19
Discussion

Implications for the Public Health Systems of the Future

How do we increase transparency in resource allocations & spending to assure:

• Adequate public health protections are maintained for the long-term

• Assure that other key public health protections are not defunded in wake of COVID-19

• A sustainable funding model
Thank you!
Questions?

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Upcoming ResProg Webinars

April 29 | 12 pm ET

**Integrating Cross-Sectoral Health and Social Services for the Homeless**

Jesus Valero, PhD, University of Utah
Hee Soun Jang, PhD, University of North Texas

May 13 | 12 pm ET

**Testing an Integrated Delivery and Financing System for Older Adults with Health and Social Needs**

José Pagán, PhD, New York University
Elisa Fisher, MPH, MSW, New York Academy of Medicine
Systems for Action is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Colorado School of Public Health, administered by the University of Colorado Anschutz Medical Campus in Aurora, CO.