

Building Evidence to Improve the Infrastructure of Local Public Health Through Practice- Based Research Networks

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Goals of the Presentation

- Increase awareness, interest and involvement in CT and MA public health practice-based research networks (PBRN)
- Increase understanding of PBRN research findings to date and implications
- Share information regarding current Massachusetts/Connecticut PBRN collaborative study

Public Health Services and Systems Research (PHSSR)

A field of study that examines the **organization, financing and delivery of public health services** within communities, and the impact of these services on public health.

2009, PHSSR interest Group of Academy Health

Public Health Practice-Based Research Network

Public health agencies and partners engaged in ongoing collaboration with academic researchers to conduct applied studies of strategies for *organizing, financing and delivering* public health services in real world community settings.

PHPBRN National Coordinating Center Overview Document

Why PBRNs are Important to Local Health Departments

Policy makers are making decisions about local public health structure and financing

PHSSR is the only field focusing on local public health practice-driven needs

Resources are diminishing, with increasing demands to be efficient and effective

Changing role of local public health under the Affordable Care Act

CT and MA at a glance:

	Massachusetts		Connecticut	
Population	6.7 million		3.6 million	
# of municipalities	351		169	
# of Health Departments/ Boards of Health	351		74	
Type of Departments	Municipal	303	Full-time Municipal	29
	Multi-jurisdictional	10	Part-time Municipal	24
			District	21

Connecticut PBRN



State of Connecticut Local Health Departments and Districts - July 2015

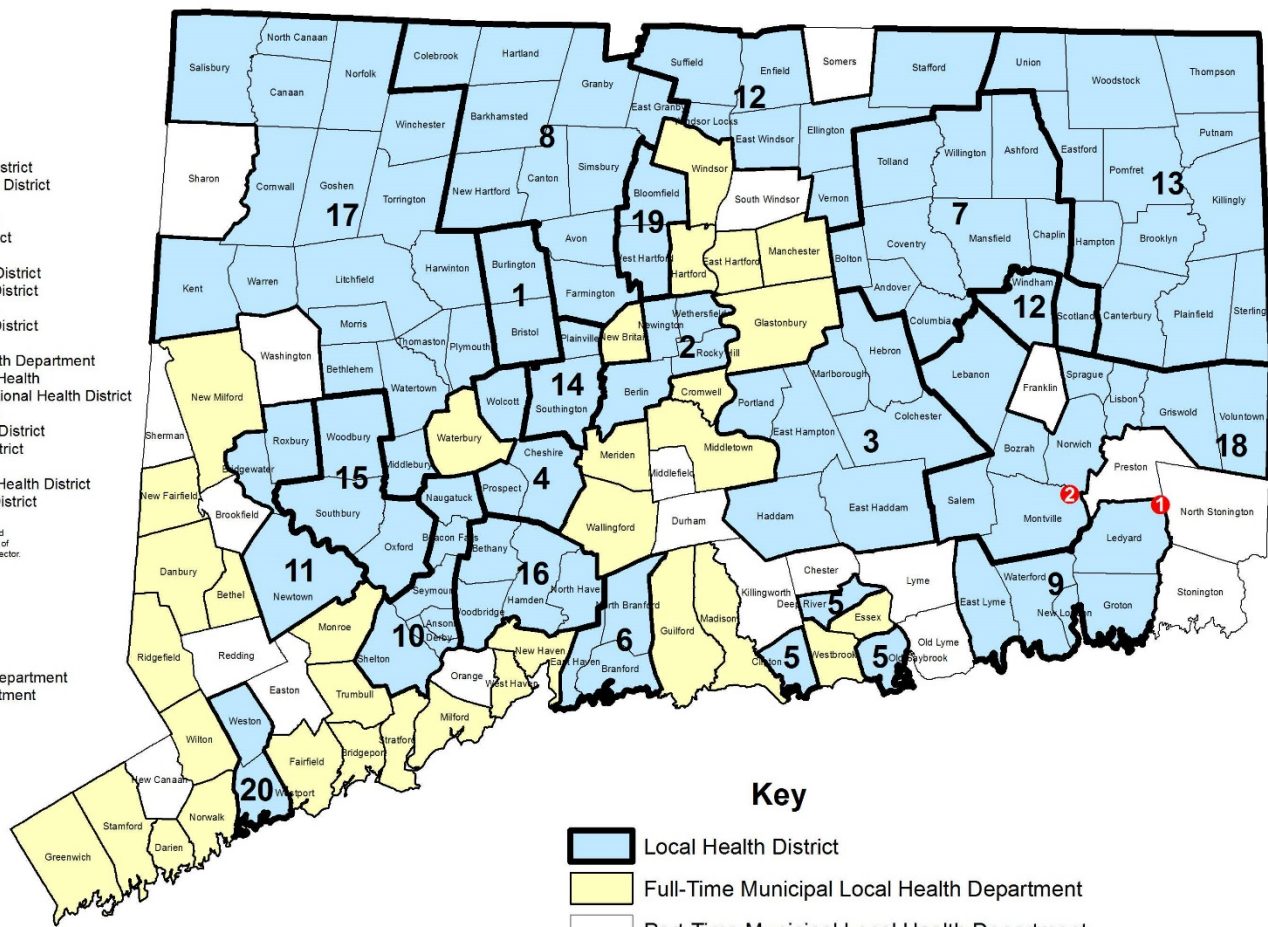
Health Districts¹

1. Bristol-Burlington Health District
2. Central Connecticut Health District
3. Chatham Health District
4. Chesproct Health District
5. CT River Area Health District
6. East Shore Health District
7. Eastern Highlands Health District
8. Farmington Valley Health District
9. Ledge Light Health District
10. Naugatuck Valley Health District
11. Newtown Health District
12. North Central District Health Department
13. Northeast District Dept of Health
14. Plainville-Southington Regional Health District
15. Pomperaug Health District
16. Quinnipiac Valley Health District
17. Torrington Area Health District
18. Uncas Health District
19. West Hartford-Bloomfield Health District
20. Westport Weston Health District

¹ Health Districts are towns, cities, and boroughs united to form departments of health and have a full-time Health Director.

Sovereign Nations

1. Mashantucket Health Department
2. Mohegan Health Department



Connecticut's Practice-Driven Research Agenda

➤ What factors strengthen the ability of local health departments (LHDs) to provide public health services within a changing political and economic environment?

➤ What is the existing local public health structure?

➤ Are there variations in cost, effectiveness and quality of services across different types of LHDs?

➤ What challenges, best practices and opportunities exist in financing of LHDs?

➤ What are the characteristics of the existing local public health workforce?

CT PBRN Studies

1. Influence of state per capita funding cuts on local health services, workforce and regionalization
2. Local economic conditions and their effect on revenues and services for LHDs
3. Characteristics of LHDs that support the use of the Health Equity Index to address the social determinants of health
4. Quality measures of local public health services: An exploration in the H1N1 response
5. Efficiency and cost-effectiveness of local environmental health inspection services.

Study Methods

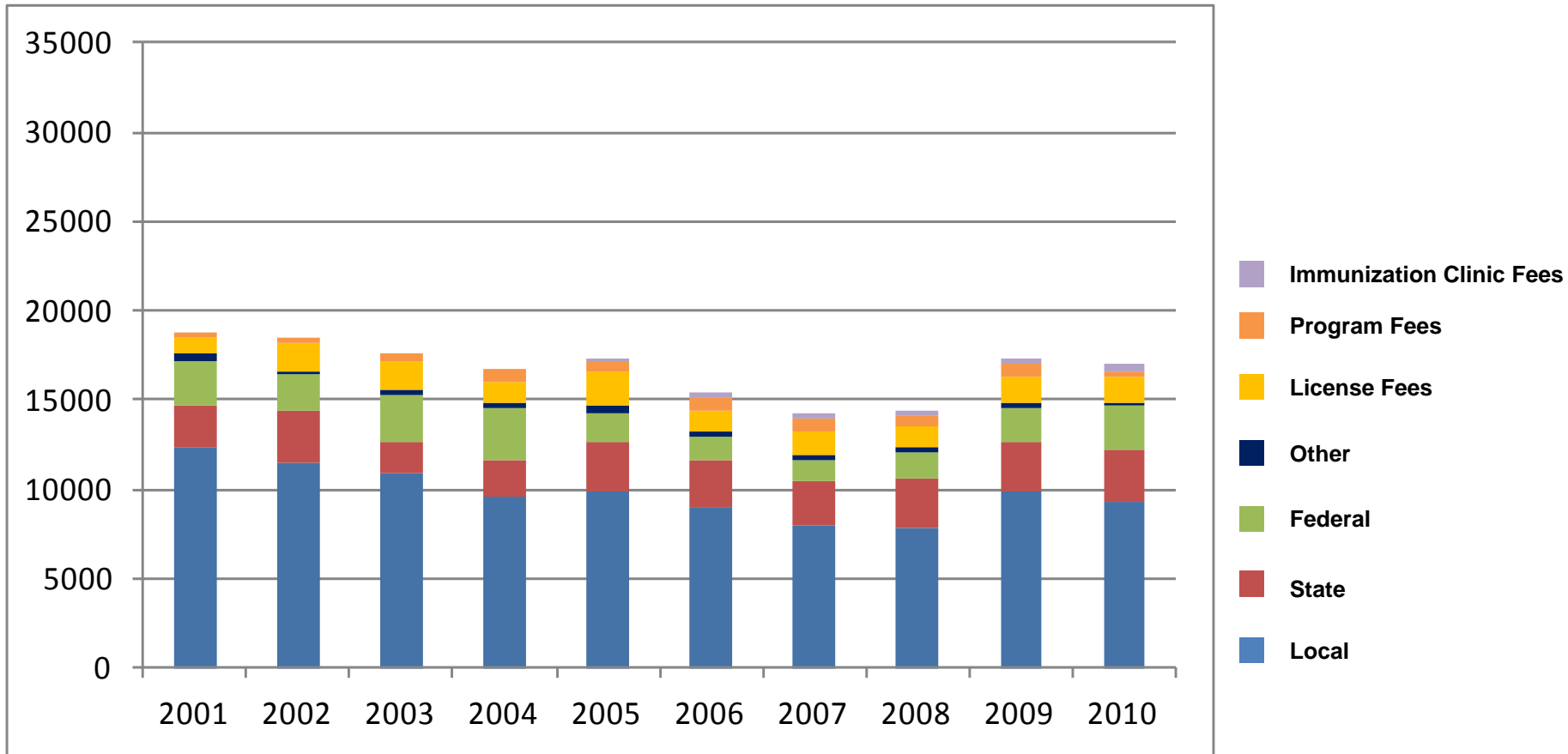
- Surveys
- Qualitative interviews
- Focus Groups
- Abstraction of data from state reports



Financing of Local Public Health

- On average, **local revenues** are the largest single revenue source across all department types
- **State** per capita investment did not change during the 2001-2010 study period
- **Political support** from local government officials is an important determinant of local health revenue
- Districts have more **diffuse political influence** and lower revenue from municipalities

Revenues per 1000 population from each revenue source: annual average across all LHJs (inflation-adjusted 2001 dollars)

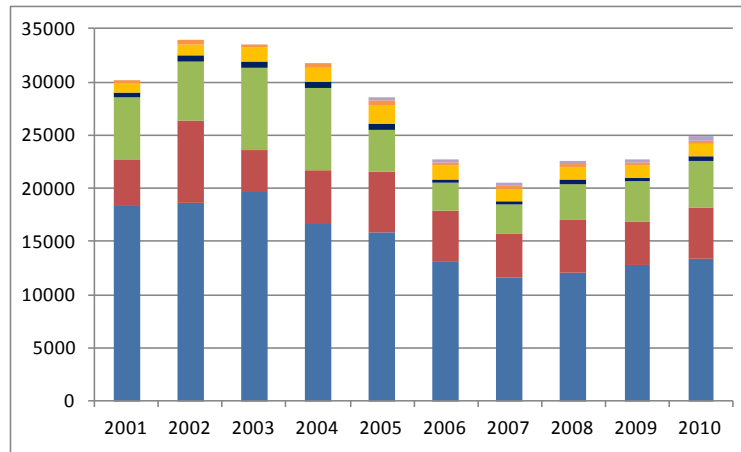


All LHJs: revenues of \$14-\$18 per capita

Financing of Local Public Health

- **Revenue sources** are different across department type
- Full-time municipal departments have **greater variation** in revenue sources compared to part-time and district departments
- District and part-time departments have similar **per capita revenues**
- Full-time municipal departments have **higher per capita revenues**
- Health directors employ a range of options for changing service mix and revenue streams to **maintain essential services**

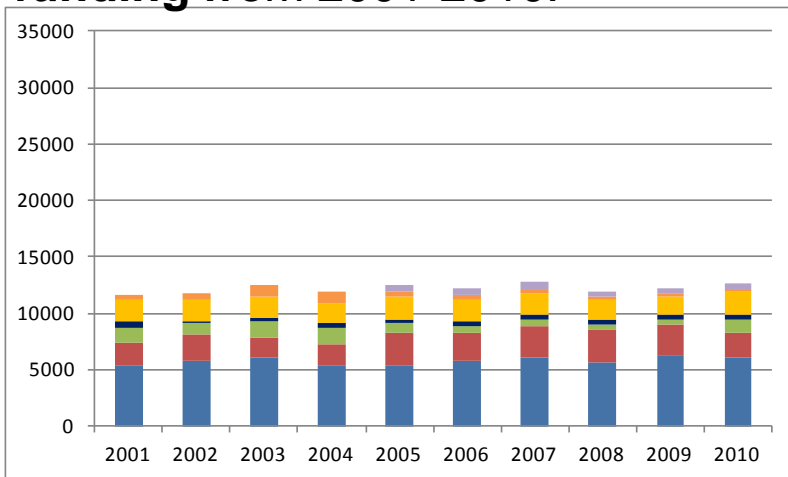
Full time LHJs had large variation in revenue sources



- Immunization
- Clinic Fees
- Program Fees
- License Fees
- Other
- Federal
- State
- Local

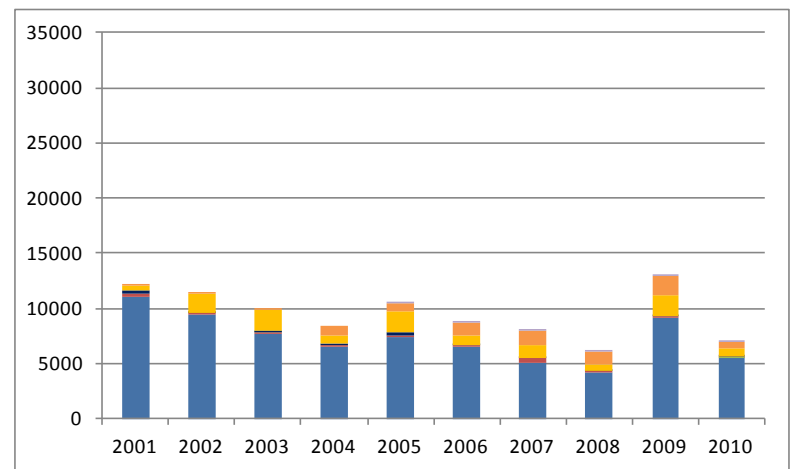
Full Time LHJs: revenues of \$20-\$34 per capita

District LHJs had variation in revenue sources and relatively stable funding from 2001-2010.



District LHJs: revenues of \$11-\$13 per capita

The largest revenue source for part time LHJs came from local funding.



Part Time LHJs: revenues of \$5-\$13 per capita

Local Public Health Structure (size, organization, department type)

- District health departments experienced less fluctuation in revenue than municipal departments during the 2001-2010 time period.
- Rural/urban location and type of LHJ (district, full time, or part time) are more important predictors of revenues and services than local economic conditions
- FT LHJs received roughly double the average revenue of district and PT LHJs.

Health Equity

- Use of the Health Equity Index to assess and monitor health disparities is associated with:
 - Departments with higher proportion of MPH-level staff
 - Longer serving administrators
 - Local health jurisdictions serving racially diverse populations
- Timely local data about community conditions results in more effective, resource efficient method to address health inequities

Cost Effectiveness

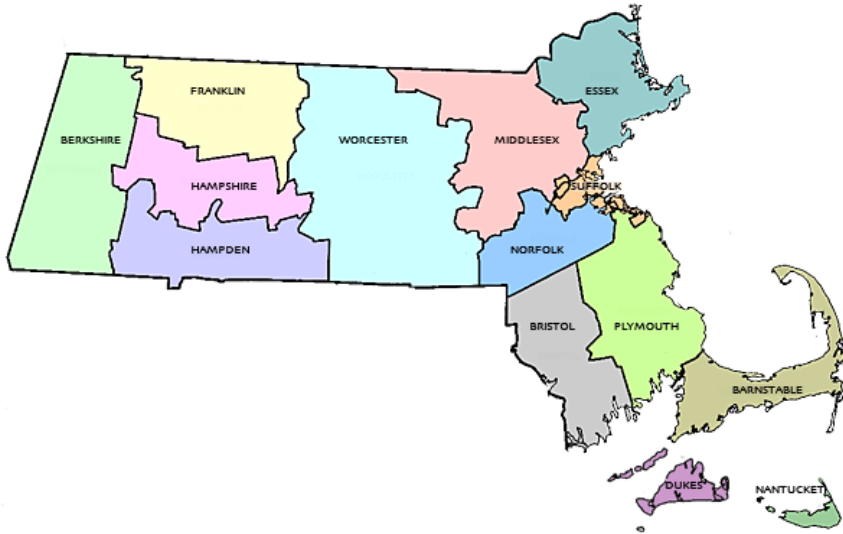
- Findings related to costs and economies of scale for environmental health services:
 - Most Connecticut departments are too small to achieve economies of scale.
 - Districts are more efficient than full-time departments.
 - Part-time departments are most inefficient.
- Process to measure service unit costs in local health jurisdictions are lacking and should be developed

Local Public Health Workforce

- In the year following the 2010 state funding cuts 26% of affected departments and 47% of unaffected departments experienced workforce reductions in two or more job categories
- District department more likely to make adjustments to staffing patterns (reduced hours, furloughs) to avoid lay-offs or program cuts

Implications of CT PBRN studies:

- Size and structure has implications for revenue, cost, scope and efficiency.
- Funding sources and overall investments vary significantly depending on department type.
- Political support can influence funding, range of services and delivery models.
- Reductions in funding for LHDs with small jurisdictions may not be a critical driver of shared service arrangements/districts.
- Local health departments employ a range of coping mechanisms when faced with resource reductions.
- Existing data systems can be improved to provide better and more meaningful data for research endeavors.



Massachusetts
Practice
Based
Research
Network
Public Health

Overview of Focus and Research Findings To-Date

MA Focus of Research

➤ Understand variability in local public health infrastructure and services across MA

➤ Identification of factors influencing the delivery of high quality governmental public health services

➤ Identification and evaluation of strategies for improving the equitable delivery of public health services

MA PBRN Studies

1. A Qualitative Study of Planning for Shared Public Health Service Delivery (2008-09)
2. Local Public Health Activities, Capacity & Technical Skills Survey (Local PHACTS) (2009-2011)
3. Evaluation of the Public Health District Incentive Grant (DIG) (2010-15)

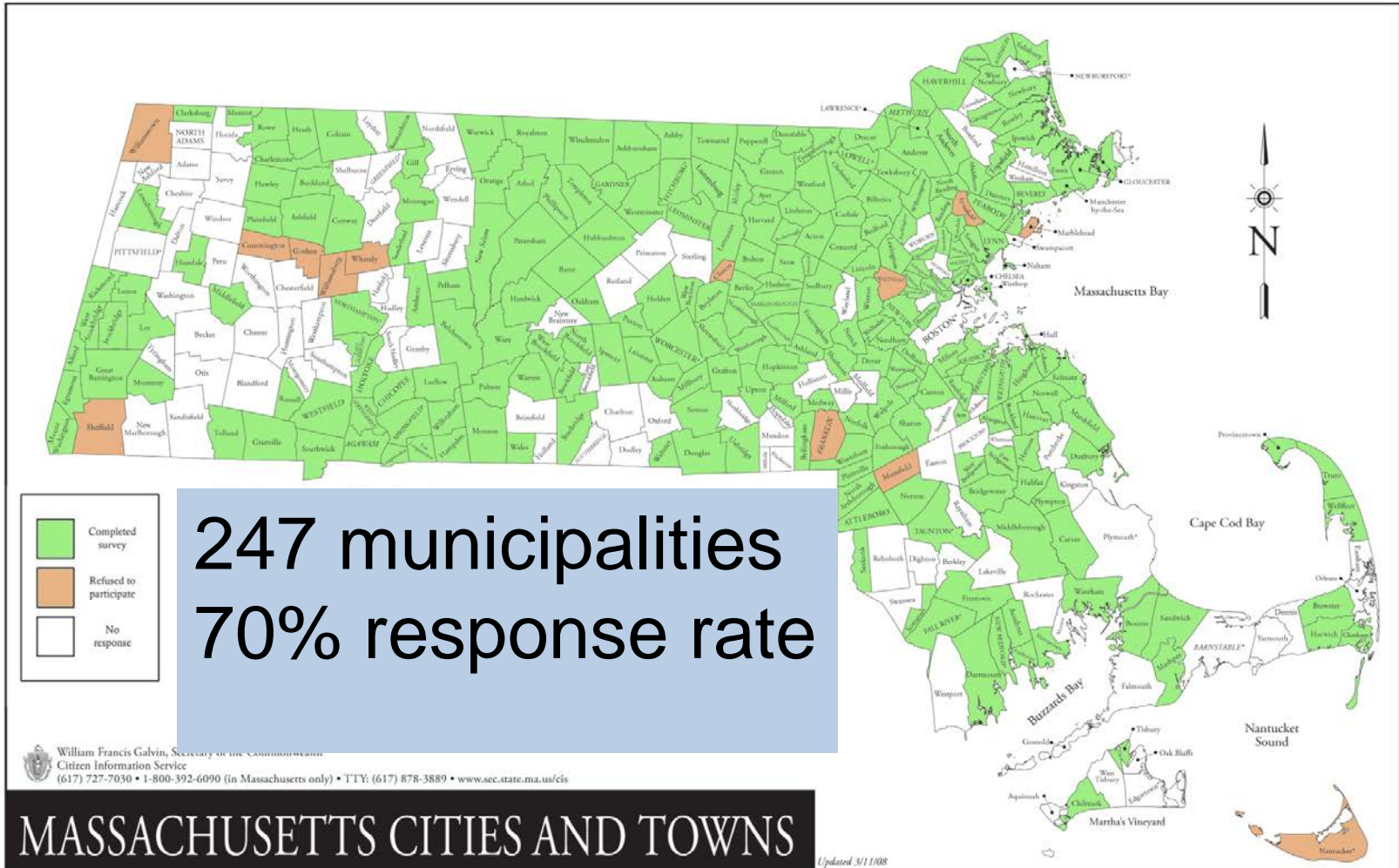
Focus Area #1

**Understand Variability in Local Public
Health Infrastructure and Services**

Methods: Survey Instrument

- Governance (municipal and board of health)
- Public health services delivered
- Public health workforce (type, # FTEs, affiliation with LHD, qualifications of leadership)
- Funding sources
- Food safety practices (FDA Standards)
- Communicable disease control practices
- Capacity to provide 10 Essential Public Health Services

Who participated in 2009-10 study?



Governance and Leadership

- Board of Health
 - 55% Elected
 - 40% Appointed
 - 5% fulfill responsibilities as elected official
- 17% of municipalities with all BOH members formally trained to perform duties
- Elected/appointed municipal officials with good/very good understanding of local public health
 - 65% of Chief Executives
 - 43% of Select Boards or City Councils

Per capita revenues by population size

<u>Population</u>	<u>Median</u>	<u>Range</u>
0-5,000	= \$10.40	(\$0.70 - \$763)
5,001-10,000	= \$10.40	(\$1.30 - \$136.20)
10,000-20,000	= \$ 9.00	(\$0.80 - \$21.60)
20,001-50,000	= \$ 8.75	(\$1.80 - \$21.00)
50,000 +	= \$ 7.90	(\$0.30 - \$109.60)

Multi-jurisdictional Service Sharing

22%

Reported having a partial or comprehensive service sharing model

Municipalities with populations <10,000 are more likely to share services

36%

Reported sharing resources with other municipalities on a continuous basis

41%

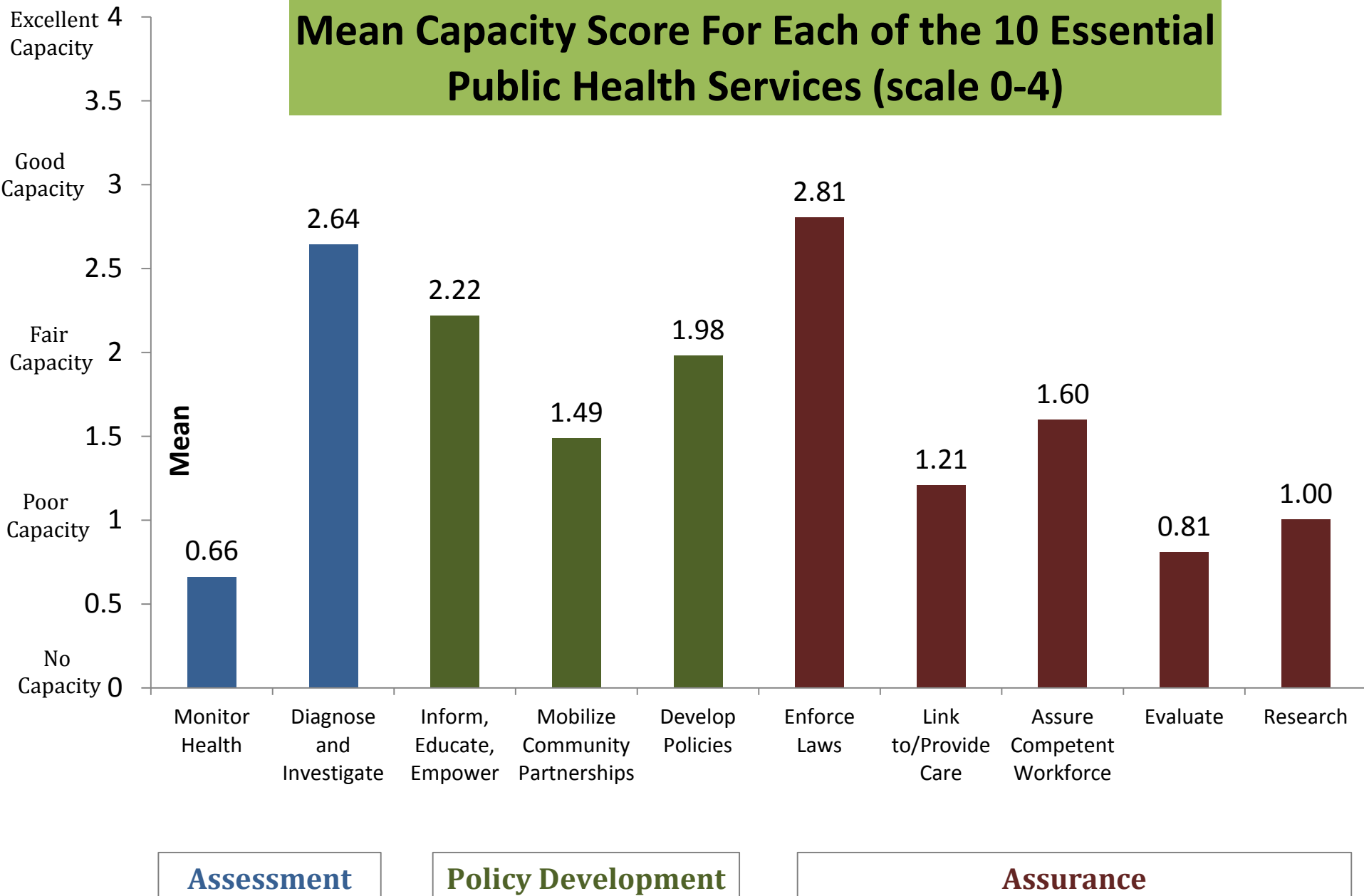
Interested in exploring cross jurisdictional service sharing

Focus Area #2

Factors Influencing the Delivery of High Quality Public Health Services



Mean Capacity Score For Each of the 10 Essential Public Health Services (scale 0-4)



Strongest Predictors of Capacity to Deliver Essential Public Health Services

4X Municipalities whose local elected officials were reported to understand roles/responsibilities of local public health

2.5X Municipalities with a full-time public health director or agent

Other associations

- Annual municipal budget
- Population size over 26,000
- Greater number of staff

Strongest Predictors of a Quality Food Inspection Program

Capacity to perform
Essential Public
Health Services

Chief executive has
a good/very good
understanding of
LPH responsibilities

Full time LPH
director

Population size over
29,000

Annual municipal
budget

Focus Area #3

**Identification and Evaluation of
Strategies for Improving the Equitable
Delivery of Public Health Services**

Evaluation of District Incentive Grant for Cross Jurisdictional Service Sharing

- Mixed method evaluation of 5 groups of municipalities
 - Continuum of service sharing models
 - Range of partnering municipalities (3-22)
- 5 years of funding, including 1 planning year
- Evaluation focused on performance expectations and lessons learned

Key findings from DIG grantees

Increase in capacity to meet state mandates for retail food inspections

Improvement in surveillance of communicable diseases and response times

Increased capacity to provide community health programs and services

Increase in public health professionals performing work, especially in smaller jurisdictions

Key challenges from DIG grantees

Time - to negotiate work and develop formal agreements

Local Politics and Home Rule – Variation among municipalities with respect to investment and values

Change Management – Changing routines and every day expectations is not easy

Engagement – Recognition of the importance of engaging key stakeholders, but doing it was a challenge

Accountability – Need to understand what different stakeholders expect and ensure ability to report on these areas

Implications of MA PBRN Research

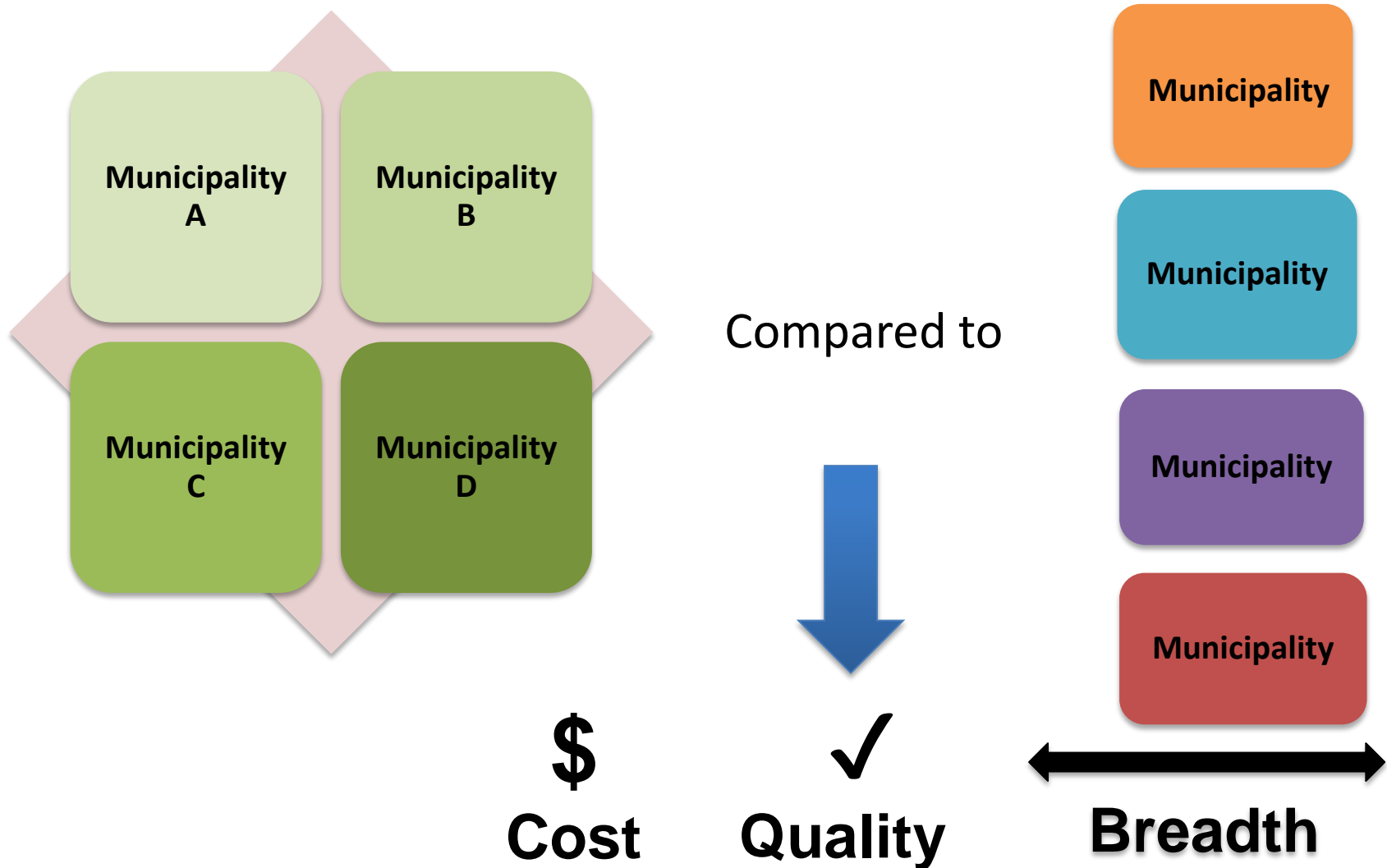
- Vast disparities in the provision of high quality public health services
 - Greatest disparities among smaller jurisdictions
- Capacity to provide quality services can be built:
 - Target education and work to gain buy in from local elected officials
 - Demonstrate accountability for funds through evaluation and communication about work
 - Collaborate with other municipalities to achieve economies of scale
- Cross-jurisdictional service sharing can increase capacity to perform regulatory and community health services

The DIRECTIVE Study

The Effects of Cross-jurisdictional Resource Sharing on the Implementation, Scope and Quality of Public Health Services

Key Research Question

How do different organizational models impact the quality, breadth, and cost of local public health services?



Sources of Information

- Mixed Method Study
 - Census data
 - Municipal characteristics
 - State reported data
 - Retail food inspections
 - Communicable disease
 - Semi-structured interviews
 - Health directors/ Board of Health members
 - Sample of independent and shared service models

Research Team

	Connecticut	Massachusetts
Principal Investigators	Jennifer Kertanis	Justeen Hyde
Co-Investigators	Debbie Humphries	Geoff Wilkinson
Key Team Members	Elaine O'Keefe	Seth Eckhouse
	Steve Huleatt	Erin Cathcart
	Ashika Brinkley	Sam Wong
	CADH	MA PBRN

Collaborating Partner	Adam Atherly, Colorado PBRN
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Contributions to the Field

- Add to limited research on effective and efficient service delivery models for small jurisdictions
- Cost of local public health services
 - Variation in cost by jurisdiction size and service delivery model

Questions?

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