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# **Recommendations for Improved Effectiveness and Efficiency of Local Public Health Protections in the Commonwealth**

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## **Report Narrative**

**Draft | May 17, 2019**

**For public review and comment**

**Comments may be submitted until May 31, 2019  
by e-mail to**

**[localregionalpublichealth@massmail.state.ma.us](mailto:localregionalpublichealth@massmail.state.ma.us)**

or by mail to  
Massachusetts Department of Public Health  
Office of Local and Regional Health  
Attn: Jessica Ferland  
5 Randolph Street, Canton, MA 02021

**Report of the Special Commission on  
Local and Regional Public Health**

**Commonwealth of Massachusetts**

## **About the Special Commission on Local and Regional Public Health**

The Special Commission on Local and Regional Public Health was created by a legislative resolve signed by Governor Baker in August 2016. The 25-member body's charge was to "assess the effectiveness and efficiency of municipal and regional public health systems and to make recommendations regarding how to strengthen the delivery of public health services and preventive measures."

This is the draft report of the  
Special Commission on Local and Regional Public Health

Comments on this report are welcome through May 31, 2019  
by email at [LocalRegionalPublicHealth@massmail.state.ma.us](mailto:LocalRegionalPublicHealth@massmail.state.ma.us)  
or by mail to

Massachusetts Department of Public Health  
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Attn: Jessica Ferland  
5 Randolph Street, Canton, MA 02021

The approved report is expected to be released in July 2019.

This draft report and other information about the Commission is available on the  
Massachusetts Department of Public Health website at

[www.mass.gov/dph/olrh](http://www.mass.gov/dph/olrh)

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## **MESSAGE FROM PUBLIC HEALTH COMMISSIONER MONICA BHAREL**

Dear Colleague,

As the Massachusetts Department of Public Health celebrates its 150th anniversary and its extraordinary public health accomplishments, the Commonwealth's public health infrastructure is at a turning point. Studies over the past two decades document significant document differences across cities and towns in the quality, depth, and breadth of public health protections. Recognizing the need to reassess the Massachusetts local and regional public health system and make recommendations to improve it, the legislature passed and Governor Baker signed into law Chapter 3 of the Resolves of 2016 to establish the Special Commission on Local and Regional Public Health. As chair of the Commission, it is my pleasure to share its findings and recommendations and to invite you to join us as we follow the path outlined by the Commission to strengthen the Massachusetts local public health system.

The report reflects the participation of a wide range of stakeholders who were actively engaged in the nearly two years of study and discussion by the Commission. To ensure that the recommendations of the Commission represented a diverse set of interests in the wellbeing of residents of the Commonwealth, the Commission was structured to include members of the legislature, designees of the leadership of key executive branch agencies, representatives of public health and other key stakeholders, and appointees by the governor. We have been fortunate that the people selected to serve on the Commission have brought extraordinary wisdom, passion, and experience to its work. For that reason, readers of this report can trust that it is the product of careful, thoughtful, and informed deliberation on ways to strengthen our local and regional public health system.

I hope that this report will foster continued discourse on strengthening local public health capacity and add to the Commonwealth's legacy as a public health leader and innovator.

Sincerely,

Monica Bharel, MD, MPH, Commissioner  
Massachusetts Department of Public Health  
Chair, Special Commission on Local and Regional Public Health

## **Special Commission on Local and Regional Public Health**

### **Executive Branch Representatives**

#### **Department of Public Health**

Dr. Monica Bharel, MD, MPH, Commissioner, Chair, Special Commission on Local and Regional Public Health

#### **Executive Office of Administration and Finance**

Sean Cronin<sup>1</sup>, Senior Deputy Commissioner of Local Services

#### **Department of Environmental Protection**

C. Mark Smith, PhD, MS, Director, Office of Research and Standards

#### **Department of Agricultural Resources**

Lorraine O'Connor, DVM, Chief Veterinary Health Officer, Division of Animal Health

### **Appointments by the Governor**

#### **Research/Academic Institution**

Justeen Hyde, PhD, Health Sciences Researcher, U.S. Department of Veterans Affairs

#### **Community Health Center**

Maria Pelletier, MPA, BSN, RN, Administration Director, Pediatrics, East Boston Neighborhood Health Center

#### **Hospital System**

David McCready, Brigham Health

#### **Workforce Development**

Charles Kaniecki, Local Public Health Consultant

#### **Municipality with population greater than 50,000**

Sharon Cameron, MPA, RS, Director, Peabody Department of Health and Human Services

#### **Municipality with population between 5,000 and 50,000**

Vacant

#### **Public Health District (at least one town with population less than 5,000)**

Phoebe Walker, MPPA, Director of Community Services, Franklin Regional Council of Governments

#### **At Large**

Dr. Carmela Mancini, DO, MPH, FACP, Physician, Marblehead

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<sup>1</sup> Replaced Lauren Peters, May 2018

### **Appointments by Legislative Leadership**

#### **Senate President**

Senator Jason M. Lewis, Fifth Middlesex District

#### **Senate Minority Leader**

Senator Ryan Fattman<sup>2</sup>, Worcester and Norfolk District

#### **Speaker of the House**

Edward Cosgrove, PhD, Chair, Needham Board of Health (designee of Rep. Denise Garlick<sup>3</sup>, Thirteenth Norfolk District)

#### **House Minority Leader**

Representative Hannah Kane, Eleventh Worcester District

### **Representatives of Named Organizations**

#### **Massachusetts Municipal Association**

Kevin Mizikar, Town Manager, Town of Shrewsbury

#### **Massachusetts Taxpayers Foundation**

Eileen McAnneny, President

#### **Massachusetts Public Health Association**

Bernard Sullivan, MPH, CHO, RS, Independent Public Health Consultant

#### **Massachusetts Health Officers Association**

Sam Wong, PhD, Director of Public Health, City of Framingham

#### **Massachusetts Association of Health Boards**

Cheryl Sbarra, JD, Director of Policy and Law

#### **Massachusetts Environmental Health Association**

Steven Ward, MA, MPH, RS/REHS, Public Health Solutions, LLC

#### **Massachusetts Association of Public Health Nurses**

Terri Khoury, RN, DNP, Public Health Assistant Nursing Professor, Worcester State University

#### **Western Massachusetts Public Health Association**

Laura Kittross, JD, MPH, Public Health Program Manager, Berkshire Regional Planning Commission

#### **Public Health Regionalization Working Group**

Harold Cox, MSSW, Associate Dean for Public Health Practice, Boston University School of Public Health

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<sup>2</sup> Replaced Senator Richard Ross, December 2018

<sup>3</sup> Replaced Representative Stephen Ultrino, December 2018

**Coordinating Committee**

Ron O'Connor, Chair (designee of DPH Commissioner Monica Bharel)  
Sean Cronin, Rep. Hannah Kane, Terri Khoury, Laura Kittross, Kevin Mizikar  
Cheryl Sbarra, Bernie Sullivan, Phoebe Walker, Steven Ward, Sam Wong

**Standards Subcommittee**

Cheryl Sbarra (Chair)  
Sharon Cameron, Terri Khoury, Laura Kittross, Maria Pelletier, Bernie Sullivan  
Phoebe Walker, Steven Ward

**Structure Subcommittee**

Bernie Sullivan (Chair)  
Rep. Hannah Kane, Harold Cox, Kevin Mizikar  
Charlie Kaniecki, Terri Khoury, Lorraine O'Connor

**Workforce Credentials Subcommittee**

Laura Kittross (Chair)  
Sharon Cameron, Charlie Kaniecki, Maria Pelletier, Steven Ward

**Data Subcommittee**

Justeen Hyde (Co-chair), Phoebe Walker (Co-chair)  
Cheryl Sbarra, Mark Smith, Carmela Mancini, David McCready

**Finance Subcommittee**

Sam Wong (Chair)  
Sean Cronin, Sen. Jason Lewis, Eileen McAnneny, Cheryl Sbarra

## **Acknowledgments**

The Special Commission on Local and Regional Public Health is grateful to the many individuals and organizations that contributed their time, talents, expertise, and resources:

- The MDPH **Office of Local and Regional Health (OLRH)** led by **Ron O'Connor** with direction and support from **Eileen Sullivan**, MDPH Chief Operating Officer, provided critical information gathering, meeting coordination, and administrative support for the Commission. The OLRH team of **Shelly Yarnie, Erica Piedade, Jessica Ferland, Damon Chaplin, and Michael Coughlin** provided a wide array of services that ensured the smooth and effective functioning of the Commission including research, communication, meeting logistics, document preparation and review, and data analysis.
- **DPH bureau, office, and program leadership and staff** were frequently called upon for guidance and support on a wide range of topics. They assisted with data gathering and analysis, verification of information in the status report and this final report, and other advice to staff, the Commission, and subcommittees.
- **Shaye Laridian**, Art Director in the DPH Communications Office, provided the design and layout work for the executive summary and report.
- **Anastacia Marx de Salcedo**, the principal writer/editor of the report, used her exceptional writing, research, and editing skills to create a compelling and engaging narrative of the Commission's findings and recommendations.
- **Boston University School of Public Health (BUSPH)** Associate Dean **Harold Cox** and Assistant Dean **Anne Fidler** worked with the Office of Local and Regional Health to recruit and assign graduate students through the Activist Lab Fellowship program. The students, **Elizabeth Doyle** (Spring 2017), **Eddy Atallah** (2017-2018), and **Lendy Chu** (2018-2019), contributed valuable research, document preparation, and data analysis.
- **Hayley D'Auteuil**, Worcester State University, and **Donna Allen**, University of New England, supported the Commission's work through data analysis and research assignments associated with their internship and practicum experiences.
- The **Kansas Department of Health and Environment** hosted a fact-finding visit by BUSPH student Eddy Atallah that provided valuable perspectives for the Commission's discussions.
- **Patrick Libbey** and **Grace Gorenflo** of the national **Center for the Sharing of Public Health Services** at the University of Kansas staff provided an insightful presentation on cross-jurisdictional sharing that provided Commission members with a common understanding of the benefits and complexities of sharing public health services.

- Several Massachusetts public health stakeholders attended and contributed to discussions at subcommittee meetings. They include **Donna Moultrup, Doug Halley, Rae Dick, Melanie O'Malley, and Maddie Ribble.**
- 275 local public health officials completed the Commission's workforce credentials survey, which provided a valuable assessment of the needs of the local public health workforce.
- Many local public health stakeholders (Appendix B) participated in the June 2018 listening sessions or submitted written comments on the Commission's Status Report. Their comments helped shaped many of the findings and recommendations in this report.
- The following organizations provided space for the listening sessions: **Waltham Public Library, Lakeville Public Library, Peabody Municipal Light Plant, Massachusetts Division of Fisheries and Wildlife, Western Massachusetts Hospital, and John W. Olver Transit Center.**
- Many agencies and organizations generously provided conference rooms for the nearly 50 meetings of the Commission, the Coordinating Committee, and the five subcommittees. The **Massachusetts Division of Fisheries and Wildlife** hosted the majority of the Commission and subcommittee meetings. The **Town of Shrewsbury, Worcester Senior Center, Massachusetts Emergency Management Agency, Massachusetts Technology Collaborative, and YWCA Central Massachusetts** also hosted Commission meetings.
- **Juanita Estrada, MS, Senior Epidemiologist, Office of Local Health Administration, Connecticut Department of Public Health** provided valuable insight on their approach to data reporting from local public health authorities.

## **List of Acronyms**

ASTHO .....	Association of State and Territorial Health Officials
BCBOHA .....	Berkshire County Boards of Health Association
BOH .....	Board of Health (also referred to as local health department)
BSAS .....	Bureau of Substance Addiction Services
CDC .....	Centers for Disease Control and Prevention
CLPH .....	Coalition for Local Public Health
CJS .....	Cross-Jurisdictional Sharing (or regionalization)
CSPHS .....	Center for Sharing Public Health Services
DEP .....	Massachusetts Department of Environmental Protection
DOR .....	Massachusetts Department of Revenue
DPH .....	Massachusetts Department of Public Health
FPHS .....	Foundational Public Health Services
LHD .....	Local Health Department (also referred to as local board of health)
LPH .....	Local Public Health
LPHI .....	Local Public Health Institute
MAVEN .....	Massachusetts Virtual Epidemiological Network
MAHB .....	Massachusetts Association of Health Boards
MAPHIT .....	Massachusetts Public Health Inspector Training
MAPHN .....	Massachusetts Association of Public Health Nurses
MEHA .....	Massachusetts Environmental Health Association
MDAR .....	Massachusetts Department of Agricultural Resources
MDPH .....	Massachusetts Department of Public Health
MHOA .....	Massachusetts Health Officers Association
MMA .....	Massachusetts Municipal Association
MPHA .....	Massachusetts Public Health Association
NACCHO .....	National Association of County and City Health Officials
OLRH .....	Office of Local and Regional Health
PHDIG .....	Public Health District Incentive Grant
PHPBRN .....	Public Health Practice-Based Research Networks
PHAB .....	Public Health Accreditation Board
PHII .....	Public Health Informatics Institute
PHIT .....	Massachusetts Population Health Information Tool
PHN .....	Public Health Nurse
PHO .....	Public Health Officer
REHS .....	Registered Environmental Health Specialist
RWG .....	Massachusetts Public Health Regionalization Working Group
RS .....	Registered Sanitarian
SCLRPH .....	Special Commission on Local and Regional Public Health
WMPHA .....	Western Massachusetts Public Health Association

## **Executive Summary**

No other government agencies are as far-reaching—and invisible—as local public health departments. No matter where you are—at home, at work, at school, or at play, local public health departments are responsible for ensuring your safety and wellbeing. Massachusetts is unique in the country in that it has a board of health for each of its 351 cities and towns and a long and proud history of home rule. Its tiny, standalone boards of health, many formed over a century ago, stand in contrast to the county or regional organization of local public health authority in most other states. Their budgets, often bare bones, are the sole responsibility of individual cities and towns with no dedicated state funding. Their ever-expanding duties are determined by a patchwork of state laws and regulations in addition to local ordinances and by-laws. They report to numerous officials, yet there are few systems in place to assess their performance and no benchmarks for their overall success.

Many of Massachusetts' local health departments are already struggling to meet existing mandates to address communicable diseases, food safety, housing, sewage, well water, and environmental hazards. But in the 21<sup>st</sup> century, their list of duties has ballooned to include protecting the environment, planning for natural and manmade disasters, preventing new insect and tick-borne diseases, reducing substance addiction, reducing the prevalence of chronic diseases, and improving mental health. The Commonwealth's local public health system has mostly been unable to keep up with these new demands.

Local public health systems can help improve health, build a stronger Massachusetts, and reduce health care costs. If local health departments can forestall just one in one thousand preventable hospitalizations in Massachusetts, it would represent a savings of hundreds of thousands of dollars.<sup>4</sup> If they can, by educating the public and providing opportunities to eat right and exercise, steer those at risk for chronic diseases to healthier paths, the savings could be millions more. Finally, safe and healthy communities are more likely to have happy and productive residents, increasing the value

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<sup>4</sup> Based on data in "Quality and Access: Preventable Hospitalizations in Low-Income Communities." Massachusetts Health Policy Commission. (August 27, 2017)

and reducing the healthcare costs of the state's human capital, a critical component of its thriving educational, medical, biotech, technology, financial, and other industries.

If adequately structured, the existing system can improve health for all. Building on existing infrastructure and respecting local autonomy, Massachusetts can offer new ways to organize and support local health departments to raise standards, strengthen collaboration, better use technology, improve skills, and stabilize resources. This report, the findings of the Special Commission on Local and Regional Public Health (SCLRPH), shows how, providing six interlocking recommendations and a detailed roadmap to achieve them. It is time to move the Massachusetts' local public health system to a position of national leadership.

## **KEY COMMISSION FINDINGS**

### **Current State of the Massachusetts Local Public Health System**

- Many Massachusetts cities and towns are unable to meet statutory requirements and even more lack the capacity to meet rigorous national public health standards.
- Massachusetts has more local public health jurisdictions than any other state (351) - one for each city and town - and cross-jurisdictional sharing of services is limited despite evidence that it improves effectiveness and efficiency.
- While other states have county or regional systems, most Massachusetts municipalities operate standalone boards of health that are unable to keep up with the growing list of duties.
- Because Massachusetts lacks a comprehensive system to collect local public health data, there is limited capacity to measure local public health system performance and to use local data to plan public health improvements.
- The Massachusetts local public health system does not adequately support the local public health workforce with standards and credentials that align with the capacity to meet current mandates and future standards.
- Funding for local public health is inconsistent and inequitable in its ability to meet the current mandates and the needs of a 21<sup>st</sup> century local public health system.

### **Evidence to Support System Improvements**

- National public health standards provide a framework for a minimum package of services and a roadmap to strengthen the system to meet those standards.
- Massachusetts and national evidence supports cross-jurisdictional sharing as a means to improve effectiveness and efficiency.
- The best practices for data collection and disease surveillance in Massachusetts and other

states hold promise for improved data reporting and gathering capabilities.

- While there is an emerging effort to set national workforce standards, many states already have minimum qualifications for some members of the local public health workforce. In Massachusetts, minimum qualifications exist for other municipal officials such as building commissioners and library directors.
- The nationally recognized Foundational Public Health Services framework provides a means for costing out local public health services. Massachusetts and many other states face the challenge of limited investment of resources to ensure local capacity to provide 21<sup>st</sup>-century public health protections.

Below is a summary of the Commission's findings and recommendations in response to the Commission's charge. These findings and recommendations correspond to six areas—standards, shared services, data, credentials, resources, and continuity—around which the remainder of the report is organized.

## **Public Health Standards**

Massachusetts' 351 boards of health are tasked by multiple statutes and state regulations to provide a broad array of protections to residents. Over two decades of academic, government, and non-profit studies and the Commission's own observations show that many local public health departments are falling short of meeting requirements.

Massachusetts has not kept pace with national standards for the local public health system. While not alone among the states, the Massachusetts standard, implicit in its decades-old statutes and regulations, has not been raised to a level that even addresses an older set of standards (the Ten Essential Public Health Services) recommended by the U.S. Centers for Disease Control and Prevention over two decades ago. These standards are the underpinning for the present-day expectations for our public health system.

To improve, the local public health system must first have clear, comprehensive, uniform, and quantifiable goals. The nationally accepted Foundational Public Health Services (FPHS), a set of seven cross-cutting capabilities and five program areas that all health departments should have, is best suited to elevate standards in Massachusetts.

A two-step process is the most realistic for this transformation. The first step is to bring local health departments into compliance with existing statutes and regulations. The second is to help them meet the criteria for FPHS in readiness for when these are adopted

at the state level. Higher standards will compel a higher level of functioning across the local public health system, improving outcomes and reducing disparities.

Massachusetts can learn from the experience of several other states that have adopted FPHS or are in the process of doing so. The process of capacity assessment, priority setting, and implementation has been well documented, particularly for Oregon, Washington, and Ohio—three pilot states that have used FPHS as the cornerstone of public health modernization efforts.

While an even more rigorous system—voluntary, national public health accreditation—is currently out of reach for many municipalities, the Foundational Public Health Services can be a stepping stone to it. The Worcester-led Central Massachusetts Regional Public Health Alliance, Boston, and Cambridge are currently the only accredited local health departments in the Commonwealth. The Massachusetts Department of Public Health is one of 36 state health departments that are accredited.

<b>PUBLIC HEALTH STANDARDS</b>
<b>KEY FINDINGS</b>
Many Massachusetts cities and towns are unable to meet statutory requirements and even more lack the capacity to meet rigorous national public health standards. National public health standards provide a framework for a minimum package of services and a roadmap to strengthen the system to meet national standards.
<b>RECOMMENDATIONS</b>
Elevate the standards for and improve the performance of local public health departments by: <ul style="list-style-type: none"><li>• Finding ways to help cities and towns meet existing statutory and regulatory requirements, and</li><li>• Evaluating timeline and appropriate phases of implementation of the Foundational Public Health Services (FPHS) as the minimum set of services that every Massachusetts resident can expect to receive.</li></ul>

## **Cross-jurisdictional Sharing**

Massachusetts has 351 local public health jurisdictions, far more than any other state, and a long history of local autonomy. Most states, by contrast, organize their local public health system at the larger county and district levels, a structure demonstrated to improve effectiveness and efficiency by the Center for Sharing Public Health Services. Despite its obvious value, Massachusetts' cities and towns have been slow to embrace models for shared public health services.

By pooling resources, functions, and expertise, a consortium of cities and towns, especially those that are smaller or less prosperous, can improve compliance with their statutory and regulatory mandates and expand the protections and opportunities they offer residents.

Cross-jurisdictional sharing (CJS) has many advantages. It can offer both division of labor and economies of scale. Individual boards of health do not give up statutory authority, and taxpayer investment is maximized.

The Commonwealth already has a long history of public health resource sharing, often in response to a crisis or Massachusetts Department of Public Health (DPH) funding. Today, some Massachusetts municipalities participate in public health districts or other shared services arrangements. A sample of compliance measures for Massachusetts cities and towns in a federally-funded pilot program for shared services showed marked improvement in food inspections; use of the Massachusetts Virtual Epidemiologic Network (MAVEN), the state's electronic epidemiological surveillance system; and the capacity to do lead determinations during housing inspections.

Progress has been made, but Massachusetts' local public health system remains a patchwork, and most residents are not receiving the full complement of services and protections. This deficiency is exacerbated by new 21<sup>st</sup> century challenges. Further cross-jurisdictional sharing is the natural next step in the evolution of Massachusetts' local public health system.

In its efforts to build upon its experience with cross-jurisdictional sharing, the Commonwealth can look to best practices in Massachusetts and nationally for tools, roadmaps, and similar evidence-based resources.

## **CROSS-JURISDICTIONAL SHARING**

### **KEY FINDINGS**

- Massachusetts has more local public health jurisdictions than any other state (351) - one for each city and town and cross-jurisdictional sharing of services is limited despite evidence that it improves effectiveness and efficiency.
- While other states have county or district-based systems, most Massachusetts municipalities operate standalone boards of health that are unable to keep up with the growing list of duties.
- Massachusetts and national evidence supports cross-jurisdictional sharing as a means to improve the effectiveness and efficiency of the Massachusetts local public health system.

### **RECOMMENDATION**

Increase cross-jurisdictional sharing of public health services to strengthen the service delivery capabilities of local public health departments, take advantage of economies of scale, and coordinate planning.

- Increase the number and scope of comprehensive public health districts, formal shared services agreements, and other arrangements for sharing public health services.

## **Data Reporting and Analysis**

In the Commonwealth, local health departments maintain three dozen different kinds of records, according to the Massachusetts Association of Health Boards. These include records of inspections, immunizations, court filings, meetings, and complaints. Only a few are required by statute or regulation to be reported to DPH, impeding the state's ability to support the local public health system and to do statewide monitoring and planning.

Local boards of health in Massachusetts are the local arm of both DPH and the Massachusetts Department of Environmental Protection (DEP). Yet neither DPH nor DEP have a centralized system for processing and analyzing information about how well local health departments are protecting the public. Both departments have limited capacity to gather and share data with local health departments - data that could inform and improve local planning and decision-making. A centralized data system would allow DPH and DEP to do this.

The Commission's Data Subcommittee sought to assess compliance of Massachusetts' local boards of health with mandated reporting to DPH, but the results

were inadequate because response rates were low and the state agency’s ability to follow up was limited. An important next step in the improvement of Massachusetts’ local and state public health system is a robust capacity assessment as has been done in other states to determine if it can deliver the FPHS services model.

In other states, local health departments have begun to use public health informatics to help acquire, store, and use information to improve population health. Many of these states have implemented mandatory local health “report cards” that can be reviewed by state and local administrators, the state legislature, and consumers.

Massachusetts’ local data infrastructure and data-related workforce capacities are underdeveloped. National studies suggest that local health departments are eager for more data-related training and professional development, especially in using and interpreting data. Adopting higher standards such as the Foundational Public Health Services will create an even greater demand for informatics proficiency.

## **DATA REPORTING AND ANALYSIS**

### **KEY FINDINGS**

- Because Massachusetts lacks a comprehensive system to collect local public health data, there is limited capacity to measure local public health system performance and limited capacity to use local data to plan public health improvements.
- The best practices for data collection and disease surveillance in Massachusetts and other states hold promise for improved data reporting and gathering capabilities.

### **RECOMMENDATIONS**

Improve state and local public health departments’ planning and system accountability by:

- Creating a standardized, integrated, and unified public health reporting system, and
- Strengthening the DPH, DEP, and local public health capacity to collect, analyze, and share data.

## **Workforce Credentials**

In Massachusetts, the lack of uniform standards for experience, training, credentialing, and staffing for board of health members and staff creates differences in local public health capacity across the state. Where you live determines not only the

depth and breadth of public health protections that are available, but also the qualifications of the individuals providing the services.

The personnel crisis is even worse in small towns and rural areas, hamstrung by small budgets, geographic isolation, and a lack of infrastructure. Lower salaries and part-time positions make it challenging to recruit and retain employees with cutting-edge public health training. Those that are hired and want to acquire or update credentials may have difficulty doing so.

The Special Commission on Local and Regional Public Health's Workforce Credentials Subcommittee gathered data from over 275 local boards of health on staff positions and qualifications, training and training budgets, staffing budgets, permits, and inspections. It found differences in service delivery resulting from disparities in support and funding and the lack of workforce standards. The subcommittee concluded from its survey and other studies that the following contributed to those disparities: 1) lack of incentives or penalties for ensuring a qualified staff; 2) limited return on investment for individuals investing in training and credentialing; and 3) high turnover, high rates of retirement, and challenges in recruitment and retention.

Overall, the health districts and other shared services arrangements in the survey, 11 of 15 statewide, outperformed the standalone health departments, with a higher rate of certified and credentialed staff and better pay for management and clerical staff. The survey also revealed that many Massachusetts boards of health have little or no budget for professional training, often lack coverage for staff to attend training, face long travel times to training programs, or have limited internet access to online training. In some cases, boards of health so poorly understand their role that they simply do not know what they need to know.

Massachusetts' institutes of higher learning do not offer undergraduate majors or programs in municipal public health, so there is no pipeline of students field-trained to inspect food establishments and housing, oversee waste disposal, respond to chemical hazards, or support other common local public health needs. This problem will be exacerbated by the large number of experienced workers who are expected to retire in the next few years.

While free and low-cost voluntary training programs for the Massachusetts public health workforce exist, including online, webinars, and blended classroom training and other formats, they are offered infrequently and in limited parts of the state. The fact that these are voluntary may also widen existing disparities, since, when combined with work demands, distance, and other considerations that impede participation, it often means that those who could most benefit from the training, often cannot or do not.

WORKFORCE CREDENTIALS
KEY FINDINGS
<ul style="list-style-type: none"><li>● The Massachusetts local public health system does not adequately support the local public health workforce with standards and credentials that align with the capacity to meet current mandates and future standards.</li><li>● While there is an emerging effort to set national workforce standards, many states already have minimum qualifications for some members of the local public health workforce. In Massachusetts, minimum qualifications exist for other municipal officials such as building commissioners and library directors.</li></ul>
RECOMMENDATIONS
<p>Set education and training standards for local public health officials and staff and expand access to professional development by:</p> <ul style="list-style-type: none"><li>● Implementing the local public health workforce credentialing standards adopted by the Commission,</li><li>● Making training available and accessible to local public health departments, and</li><li>● Developing a system to track and monitor workforce credentialing.</li></ul>

### **Resources to Meet System Needs**

Unlike most other states which distribute state funding to local health departments, in Massachusetts, local public health relies almost exclusively on municipal property taxes and fees for funding. Many or most are already straining to provide necessary services.

System-wide changes recommended by the Commission to improve the local public health system such as grant programs, technology, training, and technical assistance will clearly benefit individual cities and towns. However, while municipalities

have some incentive to financially support such efforts on their own, the reality is they may not without state-level support.

These changes will also improve state-level outcomes, reducing health costs overall and helping to create a healthy workforce, indirectly bolstering the economy—a significant public good. It is therefore appropriate that the Commonwealth consider providing funding to modernize the local public health system so it can meet its existing mandates and the expanded expectations of the 21<sup>st</sup> century.

Board of health budgets in Massachusetts vary wildly and are almost always subject to the many and competing demands of other municipal departments. Some large and mid-size health departments fare well but most are unable to provide essential public health services to their residents. The half of Massachusetts health departments that represent towns of 10,000 or fewer residents face significant challenges with resources.

States that have modernized their local public health systems usually provide direct aid to local health departments. Massachusetts does not, although it does offer more than \$1 billion in Unrestricted General Government Aid (UGAA) to cities and towns.<sup>5</sup> Many other local government departments in Massachusetts, such as schools, libraries, and councils on aging, have dedicated state funding with credentialing and performance requirements which allows them to consistently provide high-quality services to residents and to plan and carry out long-term projects. This type of stable resource should be considered for the local public health system.

Existing resources should be used more efficiently. One of the most impactful strategies is the formation of multi-municipal districts. This pools budgets, staff, and functions and can improve effectiveness and efficiency as compared to standalone boards of health. In doing so, local health departments are better able to partner with hospitals and other health and human services providers to expand the scope of public health protections available to residents.

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<sup>5</sup> The state also provides approximately \$5B for education via Chapter 70 funding.

## **RESOURCES TO MEET SYSTEM NEEDS**

### **KEY FINDINGS**

- Funding for local public health is inconsistent and inequitable in its ability to meet the current mandates and the needs of a 21<sup>st</sup> century local public health system.
- The nationally recognized Foundational Public Health Services framework provides a means for costing out local public health services
- Massachusetts and many other states face the challenge of limited investment of resources to ensure local capacity to provide 21<sup>st</sup>-century public health protections.

### **RECOMMENDATIONS**

- To ensure optimal health protections and wellness opportunities for all Massachusetts residents, the Commonwealth should commit appropriate resources for the local public health system changes proposed by the Commission.

## **Continuity and Sustainability**

Modernizing Massachusetts' local public health system is a monumental but necessary task. Like any project of this magnitude, it has progressed slowly but steadily toward the goal. To keep the state moving forward on its journey, it is critical that there be an oversight body to monitor progress, that the relevant state entities have appropriate authority and resources, and that stakeholders continue to be partners in the process.

## **CONTINUITY AND SUSTAINABILITY**

The Massachusetts local public health system depends on the continuing engagement of the stakeholders who have laid out an actionable path to effectiveness and efficiency.

### **RECOMMENDATIONS**

- Continue to engage a wide range of stakeholders to provide ongoing support for the recommendations for local public health systems improvement.
- Give DPH and DEP the infrastructure and authority to support the recommendations for local public health system improvement.
- Identify and address administrative actions at DEP and DPH that can support the recommendations of the Commission.

Every day about 200 lives begin in Massachusetts. Another 150 end.<sup>6</sup> Between those two bookmarks, there is no other entity more important to ensuring the health and wellbeing of residents than their local boards of health. While each of the individual measures recommended in this report is beneficial by itself, they are intended to be adopted as an interlocking set, reinforcing and magnifying each other. Only this type of systemic change will help make Massachusetts a leader in the local public health modernization process and give all the Commonwealth's inhabitants the services and protections they need to lead healthy, productive lives.

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<sup>6</sup> Massachusetts Department of Public Health. "Massachusetts Births 2016" (May 2018) and "Massachusetts Deaths 2016." (December 2018)

## **KEY COMMISSION FINDINGS**

- Many Massachusetts cities and towns are unable to meet statutory requirements and even more lack the capacity to meet rigorous national public health standards.
- Massachusetts has more local public health jurisdictions than any other state (351) - one for each city and town but cross-jurisdictional sharing of services is limited despite evidence that it improves effectiveness and efficiency.
- While most other states have county or district-based systems, most Massachusetts municipalities operate standalone boards of health that are unable to keep up with the growing list of duties.
- Because Massachusetts lacks a comprehensive system to collect local public health data, there is limited capacity to measure local public health system performance.
- The Massachusetts local public health system does not adequately support the local public health workforce with standards and credentials that align with the capacity to meet current mandates and future standards.
- Funding for local public health is inconsistent and inequitable in its ability to meet the current mandates and the needs of a 21<sup>st</sup> century local public health system.

## **SUMMARY OF COMMISSION RECOMMENDATIONS**

- Elevate the standards for and improve the performance of local public health departments.
- Increase cross-jurisdictional sharing of public health services to strengthen the service delivery capabilities of local public health departments, take advantage of economies of scale, and coordinate planning.
- Improve state and local public health departments' planning and system accountability
- Set education and training standards for local public health officials and staff and expand access to professional development.
- Commit appropriate resources for the local public health system changes proposed by the Commission.
- Continue to engage stakeholders as partners in the process; ensure that relevant state entities have appropriate authority; and explore administrative actions that DPH and DEP can take that support the recommendations.

## **Introduction**

No matter where you are—at home, at work, at school, or at play, the local public health system is looking out for your safety and wellbeing. Pick up a pizza for dinner? Food safety inspectors were there. Drop off your teenage daughter for a day at the town pool? Sanitarians reviewed and approved its cleanliness. Concerned that your apartment has lead paint that may be harming your toddler? The health inspector will determine if lead paint is present. When you add in functions such as ensuring that septic systems sited and installed correctly, monitoring the drinking water supply, and enforcing tobacco regulations, you have described just some of the protections and opportunities local public health departments provide to Massachusetts residents.

Except when they don't.

Massachusetts is unique in the country in that it has 351 municipalities and a long and proud history of home rule. Unlike other states, its boards of health are funded mostly by local tax levy and administered locally. Unfortunately, because budgets, staff sizes, and capacities vary widely, this means there are often glaring differences from one municipality to another. In general, urban municipalities fare better than rural ones, and wealthy towns better than poorer ones, although this observation is not universal. The consequences are that some Commonwealth inhabitants may, get sick at a local restaurant that commingled raw salmonella-infected chicken with cooked, be at risk from an infectious disease when an investigation is delayed due to lack of a public health nurse, have their well or groundwater contaminated by an improperly-built septic system, or experience lifelong consequences of severe childhood lead poisoning because a home was not inspected for lead paint. In Massachusetts, where you live can impact how safe and healthy you are likely to be.

This patchwork system is a legacy from a time when almost all aspects of health were local. Boards of health, which proliferated after the turn of the 20<sup>th</sup> century, worked within their city or town limits to address problems. Very few people had health insurance. If residents got sick, they visited a nearby general practitioner and paid him out of pocket. But over the 20<sup>th</sup> and 21<sup>st</sup> centuries, medicine, healthcare systems, and public health have increasingly been organized regionally, at the state level, or nationally.

In other states, local public health kept pace with this trend toward consolidation, since services were often provided by counties, the state itself, or large population or geography-based health districts. In Massachusetts, most local health departments still maintain their mid-20<sup>th</sup> century structure and organization.

The mismatch between local public health capacity and the rest of Massachusetts' medical, healthcare, and public health systems is underscored by new and emerging threats. One hundred years ago, a board of health's primary duties were to reduce infectious diseases, contaminated or adulterated food and drink, maternal and infant mortality, and work-based injuries. Today, that list has ballooned. The 21<sup>st</sup> century local health department is also tasked with inspecting summer camps, permitting farmers markets, investigating hoarding, protecting groundwater, planning for natural and manmade disasters, preventing new insect and tick-borne diseases, reducing substance addiction, addressing chronic diseases, and improving mental health. Local public health authorities are a vital partner in key functions of the state Department of Public Health. But Massachusetts' boards of health, already struggling to meet existing mandates, can't keep up.

If local health departments can forestall just one in one thousand preventable hospitalizations in Massachusetts, it would represent a savings of hundreds of thousands of dollars.<sup>7</sup> If they can, by educating the public and promoting opportunities to eat right and exercise, steer those at risk for chronic diseases to healthier paths, it could be millions more. Finally, safe and healthy communities are more likely to have happy and productive residents, increasing the value and reducing the healthcare costs of the state's human capital, a critical component of its thriving educational, medical, biotech, technology, and other industries.

The good news is that this idiosyncratic, municipality-based system—highly sensitive to local needs and issues and able to develop its own policies—can be turned into a powerful force for better health for all of us. Building on existing infrastructure and respecting local autonomy, Massachusetts can offer new ways to organize and support local health departments to raise standards, strengthen cooperation, better use technology,

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<sup>7</sup> Based on data in “Quality and Access: Preventable Hospitalizations in Low-Income Communities.” Massachusetts Health Policy Commission. (August 27, 2017)

improve skills, and stabilize resources. This report, the findings of the Special Commission on Local and Regional Public Health (SCLRPH), shows how, providing six recommendations and a detailed roadmap to achieve them. The project builds on almost two decades of earlier work by government, nonprofits, and academia and is intended to move the state a giant step forward in the formidable project of transforming Massachusetts' local public health system to a position of national leadership.

## **Public Health Standards**

Having clear, comprehensive, uniform, and quantifiable goals is a vital first step to improvement in any domain. In the area of local public health, the Foundational Public Health Services (FPHS) standards (Appendix C), which come out of work done by the National Academy of Sciences' Institute of Medicine (IOM; now the National Academy of Medicine) define a minimum set of cross-cutting capabilities and program areas that a health department must provide to do its job well. In Massachusetts, adopting FPHS would both help boards of health focus on needed capabilities and reduce differences across the state. But this is not a change that can be made overnight. More study is required to determine feasibility, opportunities, and costs. In the meantime, to prepare the local public health system for this possible transformation, the Special Commission envisions a two-step process. The first step is to bring all local health departments into compliance with existing statutes and regulations. The second step is to help build local capacity to meet the criteria for FPHS in readiness for when these are adopted at the state level. This more gradual implementation will elevate health department functioning, eventually bringing them into alignment with their peers in FPHS states, and jumpstart Massachusetts in the local public health modernization process.

<b>STATUTORY AND REGULATORY DUTIES OF LOCAL MASSACHUSETTS HEALTH DEPARTMENTS</b>	
<b>Area of Responsibility</b>	<b>Specific Duties</b>
Environmental Health	Reduce exposure to lead; ensure safe housing; inspect and issue permits to food establishments, summer camps, pools, beaches, tanning facilities, and body art establishments; investigate hoarding, trash, noisome trades, and other nuisances such as odors; provide information on radon; ensure on-site septic systems are properly sited, installed, and repaired, site and permit, municipal solid waste, and recycling; ensure safety of private water supplies (wells); and address air quality issues.
Infectious Disease Prevention, Reporting, and Case Management	Investigate and report cases of over 90 infectious diseases—including tuberculosis; enter data into MAVEN and complete disease investigation duties; manage foodborne disease outbreaks; hold immunization clinics and disease screenings; provide chronic disease self-management counseling; educating the public about the risk of vector-borne infections (mosquitoes and ticks); enforce isolation and quarantine regulations.
Emergency Preparedness	Conduct all-hazards planning, including emergency dispensing site plans; inspect shelters.
Animal and Vector Control	Surveil for and prevent rabies, rodents, mosquitos, ticks, and the illnesses they carry.
Hazardous and Toxic Substances	Inspect and issue permits to sites; regulate household and medical waste disposal including home sharps.
Regulations, By-Laws, and Ordinances	Set local regulations for a wide range of public health issues (e.g., tobacco, vaping) that might exceed state requirements.

Massachusetts' 351 boards of health are tasked by multiple statutes and state regulations to provide a broad array of protections to residents. These range from inspecting pools, summer camps, and housing, hazardous waste disposal, and food establishments, to reporting on and managing cases of communicable diseases. Some local public health departments are meeting all these requirements, but others are not—it is impossible to say how many, since local health system compliance with even mandatory reporting is spotty.

There are several reasons for this limited and missing information on local health department performance in Massachusetts. The departments report information to multiple authorities, both state and local, making it difficult to collect and collate data. More importantly, there is no standard data set or data collection tool that captures the information that informs our understanding of performance. Local health department

compliance with the various laws and regulations varies from good to uneven to nonexistent. Because of the home rule government structure, there is no central agency or department charged with monitoring and enforcing the functioning of the local public health system. A business truism is that what gets measured, gets managed. While it was beyond the scope of the Special Commission to conduct its own broad-based assessment of local health departments' capacity and analyze the results, its Data Subcommittee did develop a proxy measure of capacity. (A cautionary note: For the above reasons, it was challenging to find quality statewide data, thus the results are limited in their ability to truly represent local public health capacity.)

The subcommittee found that the Commonwealth's cities and towns had a moderate capacity to fulfill their public health mandates, with an average rank of 2.9 on a scale from 0 to 5. The capacity measure was the sum of points given across five indicators—emergency response, communicable disease response, surveillance, state reporting, and public health policymaking. Scores on the individual indicators varied widely, with most municipalities doing well on surveillance and emergency response and least well on state reporting. Within each category, smaller population size was consistently associated with poorer performance. Based on this analysis, the expertise of members, and the extensive work done by other organizations, described below, the Special Commission has concluded that the Massachusetts local public health system as currently configured largely does not meet existing statutory and regulatory requirements.

MASSACHUSETTS LOCAL HEALTH DEPARTMENT CAPACITY					
Capacity Score	# of Municipalities	Average Population Size	Communicable Disease Response At least 85% of enteric disease investigations had occupation known	Surveillance On MAVEN and logged in within last 2 months	State Reporting Submitted 2016 food inspection report to DPH
Low (0-2)	112	12,153	11%	70%	6%
Medium (2.5-3.5)	134	21,961	47%	90%	31%
High (4-5)	105	28,678	69%	98%	73%
Statewide (2.9)	351		58%	90%	36%

From: Special Commission on Local and Regional Public Health, Data Subcommittee. "Progress Report." (April 6, 2018)

The Special Commission’s assessment of the condition of local health in Massachusetts is confirmed by a decade and a half of work by academia, non-profits, and government. While there have been new initiatives to address some issues, overall, the system has not improved. Therefore, the Special Commission feels that the key findings from these earlier studies, needs assessments, and surveys hold true today, based, in part, on the Data Subcommittee’s analysis of its proxy measures. They were:

- Over 70% of local public health departments did not have enough staff to comply with their statutory and regulatory duties.

——Coalition for Local Public Health, 2006<sup>8</sup>

- 80% of local public health department representatives agreed or strongly agreed that local public health departments are understaffed, underfunded, under-resourced, and cannot provide the most essential public health services to their citizens.

——Massachusetts Public Health Regionalization Project, survey conducted at February 29, 2008 statewide meeting

- Of the 246 cities and towns that responded to a 2011 survey of local health departments, most performed well in just two of ten areas—“Diagnose and Investigate Health Problems” and “Enforce Laws and Regulations”—and had limited capacity in all the rest.

——Institute for Community Health and the Boston University School of Public Health 2012

- Nearly 25% of local health departments did not report the occupation of individuals with reported Salmonellosis in 2015-2016. This means that whether any of the over 500 people infected with Salmonellosis were food handlers was not known.

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<sup>8</sup> Hyde, J., and Tovar, A., Institute for Community Health. Strengthening Public Health in Massachusetts: A Call to Action. Coalition for Local Public Health, June 2006

- Over 100 cities and towns did not report in FY2017 that they had required emergency dispensing site plans in place.
- Fewer than 40% of local health departments submitted the required annual report of food inspections to the MDPH in 2016
- In a review of FY2017 response rates to Health and Homeland Alert Network quarterly drills, between 20% and 30% of cities and towns did not respond to a drill in the required amount of time.

——SCLRPH Data Subcommittee 2018

The divide between those Massachusetts residents who receive high-quality and comprehensive local public health protections and those who don't follows two basic patterns. In general, larger and wealthier towns and cities have bigger budgets, larger staffs, more public health issues, and more programs and protections for inhabitants. But smaller municipalities, most often rural, are less likely to have the resources necessary to meet all their statutory and regulatory duties. The Institute for Community Health and Boston University School of Public Health project found that although 49% of local health departments serve populations of 10,000 or less, "higher performance has been associated with health departments who serve larger populations." There are 172 towns in Massachusetts – nearly half the state - that fall into this small population category.

A related pattern is an east-west split. A 2004 DPH needs assessment administered to local boards of health found that 22% of western Massachusetts municipalities had no public health director/agent compared to 3% for metropolitan Boston and that 17% of western Massachusetts cities and towns didn't keep records of reportable diseases compared to 1.6% for metropolitan Boston. Since these projects were completed, the state of local public health in Massachusetts may have worsened due to an inability to keep pace with inflation. Although some developments, such as the Commonwealth's 2006 statewide MAVEN epidemiological online tracking system, are clearly improvements (See p. 44 for more information on MAVEN). (A 2005 Coalition

for Local Public Health survey found that, on average, local health budgets didn't even keep pace with inflation; although this work was completed a decade ago, funding mechanisms remain the same.)

Differences in local public health capacity are compounded when coupled with residents' increasing need for services. For the past twenty years, health practitioners have focused on addressing social determinants—the conditions in which people are born, live, work, and age that affect their health and account for differences in health status among population groups. In Massachusetts, Hispanic workers are 80 times more likely and black workers 50 times more likely than non-Hispanic white workers to have a fatal occupational injury. African-American babies are twice as likely to die as white babies. Ninety percent of Massachusetts adults who have substance use disorders started before the age of 18.<sup>9</sup> Rural residents are more likely to die from a variety of diseases and have a 50 percent higher rate of death from unintentional injuries, including opioid overdoses, than their urban counterparts, according to the National Association of County and City Health Officials. Many of these inequalities must be addressed at the local or regional level. Another change since the turn of the 21<sup>st</sup> century is the number of issues that fall into the purview of the local board of health. Responsibilities now include responding to bioterrorism, climate-change related natural disasters, the opioid epidemic, new insect- and tick- borne diseases, homelessness, mental health issues, and other social determinants of health. The combination of limited capabilities and ever-expanding obligations has left some Massachusetts' local public health departments woefully unprepared to meet existing and future challenges.

In this, the Commonwealth is not alone. Although none has the sheer number of local health departments that Massachusetts does, other states have also experienced growing pains as they try to meet the demands of the 21<sup>st</sup> century. This chasm was described as early as 1988 when the National Academy of Sciences' Institute of Medicine issued *The Future of Public Health* in response to the HIV/AIDS epidemic and an alarming increase in chronic diseases such as diabetes. Over the next two decades, national public health leaders sought to strengthen federal and state government public

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<sup>9</sup> Alie, Robyn. "State Targets Social Determinants to Improve Public Health Status." *Vital Signs*. Massachusetts Medical Society, Waltham, MA: March 2017.

health infrastructure, but new crises, such as the September 2001 anthrax attacks, Hurricane Katrina, and the 2009 H1N1 pandemic, made clear that this strategy was insufficient. At the same time, through the Centers for Disease Control and Prevention (CDC), a group of experts created a way to link public health performance with outcomes, publishing *The Ten Essential Services of Public Health* (“essential services”) in 1994.

The essential services concept quickly gained traction, and became the basis for other instruments. Fifteen years later, with funding from the Robert Wood Johnson Foundation, IOM adapted them to address measurement, the law, and funding. These policymakers sought a powerful mechanism that would boost system-wide capacity, upgrade and make uniform local public health standards, professionalize staff, and stabilize budgets. The solution, foundational public health services (FPHS), is the minimum set of skills, programs, and activities a health department must have to function well. The FPHS integrated into its model the original essential services promulgated by CDC, but went further by incorporating ways to estimate costs and evaluate outcomes. The FPHS, detailed in IOM’s 2012 *For the Public’s Health: Investing in a Healthier Future*, defines seven critical capabilities, each of which should be functional within five basic program areas.

FOUNDATIONAL PUBLIC HEALTH SERVICES CAPABILITIES AND PROGRAM AREAS	
Capabilities	Program Areas
<ul style="list-style-type: none"><li>-Assessment / Surveillance</li><li>-Community Partnership Development</li><li>-Emergency Preparedness and Response</li><li>-Organizational Administrative Competencies</li><li>-Policy Development and Support</li><li>-Accountability / Performance Management</li><li>-Communications</li></ul>	<ul style="list-style-type: none"><li>-Communicable Disease Control</li><li>-Chronic Disease and Injury Prevention</li><li>-Environmental Public Health</li><li>-Maternal, Child, &amp; Family Health</li><li>-Access to and Linkage with Clinical Care</li></ul>

The Public Health Accreditation Board (PHAB), founded in 2007 and operational by 2009, also came out of the early work done at the CDC and the Robert Wood Johnson Foundation. PHAB administers a voluntary accreditation program for tribal, state, local,

and territorial health departments to help them improve performance and quality. Departments are assessed in 12 different domains, generally considered to be more rigorous than the FPHS; the first ten of these were based on the original essential services; the last two address management, administration, and governance. PHAB also provides specific measures with which to assess whether an entity is meeting standards, including the types of documentation that can be used and an ample toolkit of self-assessments, checklists, and orientations. Preparing for accreditation can help local health departments improve the quality of the protections they offer the public, whether or not the organization completes the process.

A small number of states have already adopted foundational public health services or similar standards. Between 2007 and 2015, Colorado, Kentucky, North Carolina, North Dakota, Ohio, Oregon, Washington, and Texas passed legislation or, in the cases of Kentucky and North Dakota, used another mechanism to initiate the process. As a first step, many of these states conducted comprehensive capacity assessments. Ohio requires that each of its local public health departments achieve Public Health Accreditation Board (PHAB) accreditation as a condition of state funding. Although some work has been done on estimating the cost of the transformation and no data is yet available on how adopting FPHS has affected outcomes for residents, this approach appears promising.

Massachusetts has not ratified any national standards. Given that many municipalities fall short of fulfilling their existing statutory and regulatory duties, it probably should not —yet. (A very small number of larger cities—Worcester, as part of a health district, in 2016; Boston in 2017; and Cambridge in 2018 have sought and achieved national accreditation from PHAB.) But carefully evaluating, preparing for, and then adopting the Foundational Public Health Services would dramatically improve the functioning of the Commonwealth's local health departments, ensuring that all its residents receive the expected services and protections.

<b>PUBLIC HEALTH STANDARDS</b>
<b>KEY FINDINGS</b>
<ul style="list-style-type: none"><li>● Many Massachusetts cities and towns are unable to meet statutory requirements and even more lack the capacity to meet rigorous national public health standards.</li><li>● National public health standards provide a framework for a minimum package of services and a roadmap to strengthen the system to meet national standards.</li></ul>
<b>RECOMMENDATION</b>
<p>Elevate the standards for and improve the performance of local public health departments by:</p> <ul style="list-style-type: none"><li>● Finding ways to help cities and towns meet existing statutory and regulatory requirements, and</li><li>● Evaluating timelines and appropriate phases of implementation of the Foundational Public Health Services (FPHS) as the minimum set of services that every Massachusetts resident can expect to receive.</li></ul>
<b>ACTION STEPS</b>
<ul style="list-style-type: none"><li>● The Commission will oversee the process for assessing the feasibility, opportunities, and costs of implementation of the Foundational Public Health Services (FPHS) as the minimum set of public health services that every resident can expect to receive from the public health system.</li><li>● Conduct a comprehensive FPHS capacity assessment that includes readiness for FPHS implementation and state and local priorities for foundational capabilities and foundational areas.</li><li>● Provide technical assistance for pilot shared services models that either help municipalities carry out statutory duties or strengthen capacity to meet FPHS.</li><li>● Provide incentives and use state funding and other resources strategically to achieve systems change that is consistent with the two-step process described in this report.</li><li>● Develop a training plan to ensure the workforce has capacity to meet existing standards and for operationalizing FPHS.</li><li>● Codify FPHS through statute or regulation.</li></ul>

## **Cross-Jurisdictional Sharing**

Massachusetts has 351 local public health jurisdictions, far more than any other state, and a long history of local autonomy. Most states, by contrast, organize their local public health system at the larger county and district levels, a structure demonstrated to improve effectiveness and efficiency by the Center for Sharing Public Health Services. Despite its obvious value, Massachusetts' cities and towns have been slow to embrace models for shared public health services.

Cross-jurisdictional sharing (CJS) is a powerful model for capacity improvement. By pooling resources, functions, and expertise, a consortium of cities and towns, especially those that are smaller or less prosperous, can improve compliance with their statutory and regulatory mandates and expand the protections and opportunities they offer residents. This is done without individual boards of health giving up any statutory authority and maximizes the investment made by taxpayers. The reason the CJS arrangement can be so advantageous is that it offers both division of labor and economies of scale. For example, aggregating inspections and permits across an entire region may justify hiring full-time or better-trained specialized staff. A broader and deeper bench of personnel enhances the level of service enjoyed by townspeople and allows smaller towns access to expertise from medical, healthcare, and academic partners they wouldn't otherwise have. A unified local public health system can quickly and efficiently communicate among member municipalities and with the state about emerging health issues and coordinate responses, contributing to a well-functioning system for all Massachusetts residents. Finally, sharing personnel, policies, and procedures ensures standardized protections for all residents.

The Commonwealth already has a long history of public health resource sharing. The Barnstable County Department of Health and the Environment, which provides valuable complementary services to local health departments on Cape Cod, was created in 1926 by a special act of the legislature. The Tri-Town Health Department was formed in 1929 to counter the bacterial and parasitic infections, spread through poor farm sanitation and worker hygiene that plagued the dairy industry of the towns of Lee, Lenox, and Stockbridge. Since 1931, Nashoba Associated Boards of Health has provided inspection, code enforcement, prevention, and disease monitoring for 16 cities and towns in Central Massachusetts.

In the 1980s, several more public health districts were formed, including Eastern Franklin County Health District, Foothills Health District, and Quabbin Public Health District. The benefits of these longstanding cooperatives can be measured by the fact that once established, all have continued. Still, by the late 1990s, these six original health districts and one more (Acushnet-Marion-Rochester), covering about 5% of the

population and fewer than 50 municipalities, were the only ones in the state. Most had arisen in the throes of a crisis or at the instigation of and with funding from DPH.

The need for cross-jurisdictional sharing in Massachusetts intensified with the new challenges faced by the nation in the 21<sup>st</sup> century. Starting in 2002 and funded by CDC bioterrorism monies, DPH worked with municipalities to create seven public health emergency preparedness regions. The department also began several categorical grant programs, which encourage cooperation among smaller applicants, for tobacco control, substance addiction, and wellness. But while the trend was clearly toward CJS, there was no detailed roadmap on how to accomplish it and little or no information on evidence-based best practices.

In 2003, the Coalition for Local Public Health published *A Case for Improving the Massachusetts Local Public Health Infrastructure* documenting disarray in the Commonwealth's local public health system and the ever-increasing demands placed on boards of health despite stagnant resources. In response, two years later, the Massachusetts Public Health Regionalization Working Group was formed, based at the Boston University School of Public Health. The Working Group has had some significant successes. With the support of key legislators, in 2008, it persuaded the Massachusetts General Court to amend M.G.L. Chapter 27C to streamline the legal process for creating Regional Health Districts. It developed a theoretical framework and core principles for increasing cross-jurisdictional sharing (see below). And it advanced understanding of the mechanics of collaboration by advocating for two pilot programs testing different CJS structures.

#### **MASSACHUSETTS PUBLIC HEALTH REGIONALIZATION WORKING GROUP KEY PRINCIPLES**

1. The system must respect existing legal authority of local health (home rule).
2. As a voluntary initiative, communities need incentives, not mandates, to participate.
3. One size does not fit all; different models of regional structures and operations will allow communities to cluster in ways that will meet their needs.
4. The system will require adequate and sustained state funding.
5. The system will augment, not reduce, the existing local public health workforce.

The first pilot study was run by the Working Group itself. In 2009, with \$3000-per-site funding from the national Public Health Practice-Based Research Networks, it financed 20 cities and towns to create plans for CJS. Each of the three districts had a slightly different organizational structure. Many lessons were learned in the process, including that all players should have clear roles and responsibilities, planning should move from performance concepts to concrete changes early on, decision-making should be broken into steps, and all local boards of health must retain their legal authority.

The second pilot study was run by DPH. It came out of further Working Group recommendations that were adopted wholesale by a 2010 regionalization advisory commission to find ways to reduce the cost of providing local services after the 2007-2009 recession. Measures included amending state law to remove the requirement for a town meeting vote to form a public health district ( 2016); reopening DPH's Office of Local and Regional Health (closed from 1990 to 2013); and funding six public health regional collaborations as an additional pilot study.

In 2010, through the CDC's National Public Health Improvement Initiative program, DPH awarded a total of \$276,000 in Public Health District Incentive Grants (PHDIG) for planning to 11 proposed public health districts covering 114 municipalities and a total population of 1.7 million. After the planning phase, DPH awarded \$325,000 more for first-year implementation for five of the proposed districts, representing 58 cities and towns and over 800,000 people. The grantees were charged with developing plans in one of three models: consolidated districts, shared services, or contracting for certain services. Each received four years of implementation funding at declining amounts in years three and four. With minor alterations in composition, all five of those experiments in cross-jurisdictional sharing continue functioning today, more than three years after the grant program ended. Throughout the program, DPH provided technical assistance and resources such as templates and models for needs assessments, evaluations, and legal documents. (A map of those five public health districts and other shared services arrangements is provided in Appendix E.)

The results were impressive. The PHDIG program more than doubled the number of Massachusetts municipalities in public health districts or shared services arrangements from 50 (14%) to 112 (33%). It nearly tripled the Massachusetts population served by

some form of CJS arrangements from approximately 450,000 residents (7%) in 10 districts to approximately 1,250,000 residents (19.5%) in 15 districts. While it's important to note that not all of these shared services arrangements represent a comprehensive approach, this is still an impressive increase in the number of municipalities that participate in some form of cross-jurisdictional sharing. One of the funded districts, the Central Massachusetts Regional Public Health Alliance, under the leadership of the Worcester Division of Public Health, became the first public health department in Massachusetts to be accredited by the Public Health Accreditation Board (PHAB). Over the course of the program, the 58 participating cities and towns showed the following improvements in a sample of compliance measures:\*

- An increase from 43% to 73% in the percentage of municipalities that met the state mandate of two inspections per year per food establishment.
- An increase from 55% to 96% of the percentage trained and using MAVEN, the state's electronic infectious disease epidemiologic surveillance and reporting database.
- An increase from 74% to 97% of the percentage that had the capacity to conduct their own lead determination during housing inspections (without relying on DPH inspectors).
- In addition, each of the districts was successful in obtaining new funding from federal, state, or foundation sources.

\*Compliance was a condition of the implementation grant.

SUMMARY OF PHDIG IMPLEMENTATION SITES		
Implementation Site	Population*	Municipalities
Berkshire Public Health Alliance	109,243	24
Cooperative Public Health Service	15,501	12
Central Massachusetts Regional Public Health Alliance	291,364	7
Montachusett Public Health Network	158,248	11
North Shore Shared Public Health Services Program	296,400	8
<b>Total</b>	<b>870,756</b>	<b>62</b>

\*2010 U.S. Census

## LESSONS LEARNED FROM PHDIG PILOT SITES

- Cross-jurisdictional sharing improves public health protections and services.
- Involve key stakeholders early in discussions on shared services.
- Strive for consensus in vision and goals from the beginning.
- Design a realistic and responsive structure that can grow over time.
- Emphasize sustainability, management, and long-term planning.

These changes to Massachusetts' local public health system haven't been made in a vacuum. Other states, such as Colorado, New Jersey, Texas, Washington, Ohio, and Connecticut, have also instituted cross-jurisdictional sharing, and the Commonwealth can learn from their experiences as well. There are some important basic differences however, such as state funding for local public health services and county, rather than municipal, boards of health.<sup>10</sup> The national Center for Sharing Public Health Services (CSPHS) has compiled case studies and offers models including a spectrum of cross-jurisdictional sharing arrangements, tools, and technical assistance for cities and towns

Spectrum of Cross-Jurisdictional Sharing Arrangements			
As-Needed Assistance	Service-Related Arrangements	Shared Programs or Functions	Regionalization/Consolidation
<ul style="list-style-type: none"> <li>• Information sharing</li> <li>• Equipment sharing</li> <li>• Expertise sharing</li> <li>• Assistance for surge capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Service provision agreements (e.g., contract to provide immunization services)</li> <li>• Purchase of staff time (e.g., environmental health specialist)</li> </ul>	<ul style="list-style-type: none"> <li>• Joint programs and services (e.g., shared HIV program)</li> <li>• Joint shared capacity (e.g., epidemiology, communications)</li> </ul>	<ul style="list-style-type: none"> <li>• New entity formed by merging existing local public health agencies</li> <li>• Consolidation of one or more local public health agencies into an existing local public health agency</li> </ul>
Looser Integration		Tighter Integration	

Source: Center for Sharing Public Health Services. (2017).

exploring cross-jurisdictional sharing (Appendix D). One lesson learned is that flexibility about structure is an asset, as it allows authorities to choose the organization that best accommodates local and regional needs and strengths. In Massachusetts, for

<sup>10</sup> Some states have minimum population and/or land area sizes for health districts. This idea of a 50,000 population or 155-square-mile land area minimum for Massachusetts was explored and discarded by the Public Health Regionalization Project so as not to infringe on local autonomy to choose partners.

example, service collaborations vary from inter-municipal agreements (the Melrose and Wakefield health departments); a host agency that covers multiple towns (Berkshire Regional Planning Commission and the Franklin Regional Council of Governments); or contracts with a consultant (the Eastern Franklin County Health District). A corollary is that public health resource-sharing works best when coupled with alliances that honor community choice, including for reasons other than geographic proximity.

While considerable progress in cross-jurisdictional sharing has been made, Massachusetts' local public health system remains a patchwork. Fewer than one-third of municipalities and one-fifth of residents are currently covered by public health districts and other shared services arrangements with many residents not receiving a comprehensive set of services and protections. This leaves the vast majority of the state's inhabitants still reliant on standalone local health departments, many of them small, underfunded, and short-staffed. While some municipalities are able to provide comprehensive public health services on their own, the situation is much more challenging for the 105 Massachusetts towns with fewer than 5,000 residents. The statistics for those communities show that 78% have no full-time public health staff, 58% have no health inspector, and 90% have no public health nurse, according to the 2009 Massachusetts Public Health Regionalization Project Status Report.

Most Massachusetts' boards of health already know their neighbors and have indicated they'd like to work more closely with them. In a 2008 meeting of 250 public health officials and staff, "85% indicated they have working relationships with neighboring health departments/health boards, and 75% agreed or strongly agreed that regionalization of public health services is the right approach to enhance the delivery of public health services to Massachusetts residents." Until recently, however, when that cooperation has been formalized, cross-jurisdictional sharing has most often been in response to a crisis such as the contaminated dairy that sparked the 1929 creation of the Tri-Town Health Department or the improper disposal of hazardous waste that prompted the 1980 founding of the Quabbin Health District. It's now time for local public health cross-jurisdictional sharing in the Commonwealth to move beyond ensuring that minimum safeguards and protections are in place to exploring how different CJS models might be applied to elevate the health and wellbeing of all the state's inhabitants, no

matter how small or economically disadvantaged their cities and towns. Further cross-jurisdictional sharing is the natural next step in the evolution of the local public health system in Massachusetts.

<b>CROSS-JURISDICTIONAL SHARING</b>
<b>KEY FINDINGS</b>
<ul style="list-style-type: none"><li>● Massachusetts has more local public health jurisdictions than any other state (351) - one for each city and town and cross-jurisdictional sharing of services is limited despite evidence that it improves effectiveness and efficiency.</li><li>● While other states have county or district-based systems, most Massachusetts municipalities operate standalone boards of health that are unable to keep up with the growing list of duties.</li><li>● Massachusetts and national evidence supports cross-jurisdictional sharing as a means to improve the effectiveness and efficiency of the Massachusetts local public health system.</li></ul>
<b>RECOMMENDATIONS</b>
<ul style="list-style-type: none"><li>● Increase cross-jurisdictional sharing of public health services to strengthen the service delivery capabilities of local public health departments, take advantage of economies of scale, and coordinate planning.<ul style="list-style-type: none"><li>● Increase the number and scope of comprehensive public health districts, formal shared services agreements, and other arrangements for sharing public health services.</li></ul></li></ul>
<b>ACTION STEPS</b>
<ol style="list-style-type: none"><li>1. Support planning and implementation of new public health districts that meet Commission workforce standards in areas of the Commonwealth in which municipalities are not meeting statutory and regulatory responsibilities.</li><li>2. Support expansion of existing districts that meet Commission workforce standards to add additional municipalities or create more comprehensive sharing of services.</li><li>3. Support formation of new districts and expansion of current districts to include services that are aligned with the FPHS model and workforce standards.</li><li>4. Encourage innovative partnerships that enhance local capacity to align with best practices and the FPHS model.</li></ol>

## **Data Reporting and Analysis**

Boards of health are responsible for an astonishing amount of paperwork. They maintain three dozen different kinds of records, according to the Massachusetts

Association of Health Boards. These include records of inspections, immunizations, court filings, meetings, and complaints. They investigate cases of communicable diseases. They review subdivision plans and process septic system installation plans. They grant permits to restaurants, farmers markets, summer camps, and carbonated beverage plants.

#### **Massachusetts Virtual Epidemiologic Network**

Approximately 90 diseases and conditions must be reported to DPH and local boards of health, by healthcare providers, and laboratories, generating almost 200,000 disease reports a year. Prior to 2006, reports went directly to a corresponding DPH program and were entered into separate databases. Hard copy reports were then forwarded to the local boards of health for follow-up. The process was slow and inefficient, which in times of crisis had the potential to cost lives. This changed in 2006 when the Massachusetts Virtual Epidemiologic Network (MAVEN), a web-based surveillance and case management system, was launched. MAVEN allows DPH, the state public health laboratory, and local public health authorities to communicate in real time about infectious disease.

In 2011, Massachusetts began to require that local boards of health use the system for surveillance and case investigation. The use of MAVEN has increased the potential that infectious disease is investigated quickly, that sources of illness are alleviated, and that the public's health is protected and outbreaks are contained. Today, 326 of 351 Commonwealth cities and towns have logged onto and use MAVEN. The municipalities that don't use MAVEN at all and those that do not use it regularly, often have capacity issues such as the cost of broadband to access the network and/or insufficient staff. Although these numbers are small, they put all residents at risk, as infectious disease does not respect municipal boundaries.

Currently, there are an estimated 800 open cases on MAVEN, suggesting there is a gap between municipalities that are "on-line" versus those following the required case follow-up procedures. DPH provides training and on-going technical assistance with the goal of having all municipalities use MAVEN as it was intended to be used, thereby ensuring real time disease surveillance and case follow up throughout the state.

They evaluate each food establishment every six months on over 50 safety standards and track the results. But while municipalities are awash in information, only a fraction of this data is required by statute or regulation to be reported to DPH or DEP. Omitted are many measures vital to understanding the health status of our state, including housing inspection results, housing code enforcement case outcomes, the results of food inspections, septic code violations, and town compliance with certifications for water protection under Title 5, to name a few. The incomplete picture also impedes the state's ability to support the local public health system by evaluating its performance, comparing peers, identifying service gaps, and making the case for additional resources.

Public health depends on data—its collection, analysis, and interpretation. From John Snow's 1854 mapping of cholera cases to track the outbreak to a dirty diaper washed in a London-area well to the estimated \$230 billion reduction in direct medical costs if minority health disparities were eliminated in the United

States,<sup>11</sup> practitioners identify and address problems by creating pools of information. Yet despite its importance, public health informatics—the acquisition, storage, and use of information to improve population health—is still a very young field and most boards of health lack the knowledge, technology, and skilled staff to maximize its benefits for residents. In fact, they are often still struggling with the basics.

“Smart public health decisions depend on the right data getting to the right people, at the right time, and in a form they can use.”<sup>12</sup> While the use of technology and computing has spread as a whole, many local public health departments have not kept pace. Most must report immunization, disease surveillance, and other information online, and interact with electronic health records (EHR) and other databases. DPH has made a substantial investment in the development of the Massachusetts Virtual Epidemiologic Network (MAVEN) and the Massachusetts Immunization Information System (MIIS) to provide ready electronic tools to local public health for infectious disease surveillance and immunization tracking. But without hard and soft infrastructure and the knowledge base and time to use both, even these compulsory tasks may not be performed well—which means the data isn’t being used to better understand and serve local populations.

REQUIRED REPORTING BY BOARDS OF HEALTH TO DPH
<ul style="list-style-type: none"><li>• Massachusetts Virtual Epidemiologic Network (MAVEN) (as needed, according to diseases reported in that municipality)</li><li>• Massachusetts Immunization Information System (MIIS) (as required by statute and regulation)</li><li>• Responses to Health and Homeland Alert Network (HHAN) drills and emergency dispensing site plans (as needed, at least quarterly)</li><li>• Retail food inspection reports (annually)</li><li>• Beach and drinking water testing results (annually)</li><li>• Basic information on licensed recreational camps for children (annually) and camper injury reports (as needed)</li><li>• Name and town of employment for certified Lead Determinators</li></ul>



Local boards of health in Massachusetts are the local arm of both DPH and DEP. Yet neither DPH nor DEP have a centralized system for processing and analyzing

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<sup>11</sup> Graham, Garth. “Disparities in cardiovascular disease risk in the United States” *Current Cardiology Reviews* 11, no. 3 (2015): 238-45.

<sup>12</sup> Kansas Health Institute, Public Health Informatics Workgroup. “Final Workgroup Report.” KHI/17-26 (October 2017)

information about how well local health departments are protecting the public. Forms are available on a multitude of DPH, DEP, and other websites. Reports are completed on paper and electronically. While MAVEN and MIIS have eliminated the bulk of paper-based processing for infectious disease control, many other reports are mailed, faxed, or emailed to the different state programs that oversee sanitation, the environment, housing, and health. The current diffuse system is cumbersome, susceptible to errors, discouraging to users (accounting for low rates of completion) and difficult to manage. It will be unable to meet the increased demands when the Commonwealth adopts the more rigorous Foundational Public Health Services (FPHS). Nor does the current system provide the legislature, local officials, DEP or DPH with the tools to quickly spot and address statewide, regional, or local issues.

The state-level piece of the information picture is also incomplete. The various bureaus, offices, and programs of DPH and DEP manage a wide range of data that could inform and improve local health department planning and decision-making, from cancer incidence to deaths from a myriad of diseases. Categorical grants programs such as tobacco control, substance addiction, emergency preparedness, and DEP recycling have a data component that could be used to identify trends and project future needs. The DPH also collects detailed morbidity and mortality data. All of these data sources could, singly or in tandem, contextualize issues and improve local health department responses.

There are three significant—but not insurmountable—obstacles to making that data readily available. First, under current laws and regulations, local health departments are only mandated to report to the state on five of several dozen important public health protections and face no consequences if they do not. This leaves officials and policymakers with more questions than answers, a sample of which are shown below. Second, the information that is reported must be verified by DPH before it can be released, a time-consuming process that may delay the availability of data sets by up to two years and sometimes beyond. Third, DPH does not currently have sufficient staff or resources to serve as a data hub, a function that would include the ability to inventory all the types of local health department data available, identify the ones that most contribute to resident health, and perform ongoing data collection, analysis, and related communications.

**IMPORTANT QUESTIONS THAT CANNOT BE ANSWERED  
WITH EXISTING REPORTING REQUIREMENTS**

- How many towns have food inspectors that meet the current food code and DPH training standard?
- What kind of food violations are being found across the state?
- How many foodborne illness reports were traced to restaurants and then how many of those were inspected appropriately by qualified personnel?
- What percentage of municipalities on MAVEN have an RN or MD reviewing the reports?
- How many cities and towns go on MAVEN daily and complete case follow up as required?
- Which municipalities actually meet the state requirement to have lead determinators?
- Are lead determinations done on every housing inspection involving a child under 6, as required to protect children from lead poisoning?
- How many towns with EDS plans have integrated it into the town's Emergency Plans (e-CEMP)?
- How many municipalities have a Title 5 Inspector?
- How many septic systems are failing across the state?
- How many municipalities have a Soil Evaluator?
- How many septic systems are being given local approval that does not meet one or more Title 5 requirements?
- How many housing inspections are done on unsafe housing in the state and what are the violations?
- How often are housing cases brought to court and what is the outcome?
- How many towns have updated private well regulations?

Municipalities are not only challenged by providing required reports to DPH and DEP. Nationwide, there's been a sea change in the way local public health practitioners use data, moving from a "consumer," collecting data, analyzing, and generating statistics, to a "broker" role, sharing data in their collaborative work with other sectors (housing, education, business, etc.) to address social determinants of health. While Massachusetts may not yet be ready for this transition, when it is, the ability to partner will be key. State, regional, and some local boards of health must now seek out, facilitate interoperability, and coordinate the mining of a variety of sources, whether to make clinical decisions, heighten awareness of issues, or assess community needs. "One result of these trends is increased pressure on public health agencies to electronically exchange data using health care standards. Data are now arriving from more sources and at faster velocities. Agencies face the daunting challenge of effectively processing the information, separating the "data wheat from the chaff," given the high "signal-to-noise ratio" in these new data sources," states a 2014 article in the *Journal of Public Health Management*

*Practice.* This need has been exacerbated by the federal transition to “e-public health” promoted by the Affordable Care Act and HITECH Act and the proliferation of healthcare entities such as accountable care organizations (ACOs) and health IT vendors.

As part of its work, the Commission’s Data Subcommittee sought to assess Local public health capacity to carry out statutory duties using the most recently available data. The hope was that this data set might serve as a proxy measure for health department capacity and performance. The results of the data gathering and analysis effort, however, were largely inadequate. Response rates were low—for example, only about one-third of all boards of health submit an annual report of retail food inspections—and the ability of DPH to follow up was limited. It should be noted that the state programs that had the capacity to make follow-up calls had better rates of compliance, as did local health departments that received state and federal grants. For example, the Bureau of Environmental Health uses follow up to achieve approximately 98% reporting by recreational camps and 96% reporting for beach data. By contrast, other DPH programs may have to make multiple outreach efforts to get even partial data collection from some cities and towns, making it prohibitively staff and time intensive. Some categories of information that the subcommittee intended to use as proxy measures had to be dropped out entirely. The Data Subcommittee concluded that an important next step in the improvement of Massachusetts’ local public health system is a robust assessment to determine the state’s capacity to carry out statutory duties and how it can deliver the FPHS services model.

Many other states are further along in the evolution of local public health informatics than Massachusetts. This includes Colorado, Connecticut, Kansas, New Jersey, Ohio, and Oregon. Many of them have implemented mandatory local health “report cards” that can be reviewed by state and local administrators, the state legislature, and consumers. Our neighbor, Connecticut, provides a good example. Their local health departments, as a condition of state funding, are required to complete an annual online survey that compiles information about 16 different board of health functions and the 10 Essential Services. This has resulted in higher rates of reporting, with “82% of full-time municipal health departments, 85% of health districts, and 37% of part-time local health departments report[ing] they have collected primary quantitative data.” Connecticut also

incorporates informatics into evaluation—a full 95% of health districts and 73% of full-time municipal health departments have conducted program evaluations—and research, both of which are foundational capabilities. New Jersey, Ohio, and Oregon also require annual local health department report cards.

Kansas serves as a model of a state that determined that its own local public health data capabilities were inadequate and, through its Kansas Health Institute Public Health Informatics Workgroup, developed a roadmap for improving them. The two major components of this multi-year project merit consideration in Massachusetts. First, the Workgroup, whose members came from state and local government, academia, and non-profits, created an informatics evaluation tool for local boards of health based on the Public Health Informatics Institute’s (PHII) Informatics-Savvy Health Department Self-Assessment Tool. They then worked with local health departments around the state to support them in administering and scoring the instrument. Second, they conducted an inventory of public health data sources in Kansas to serve as a central online resource for practitioners, policymakers, researchers, and the public. The Workgroup process also helped Kansas more clearly define leadership roles, either for state government or allied organizations, in improving local public health department informatics.

At the national level, surveys of local health departments have shown that while public health remains data-driven, data infrastructure and data-related workforce capacities remain undeveloped. A 2013 study involving key informant interviews with 50 local health department executives nationwide (Practitioner Perspectives on Foundational Capabilities) underscored the importance of informatics and data analytics in the modern local health department. The practitioners said that “assessment [w]as integral to everything they do.” Local health departments across the country are eager for more data-related training and professional development, especially in using and interpreting data, according to a 2015 countrywide survey conducted by National Association of County & City Health Officials and Georgia Southern University.

Adopting higher standards such as the Foundational Public Health Services will create an even greater demand for informatics proficiency, both in public health and in informatics staff. Assessment, which is founded on data collection, analysis, and interpretation, is among the six foundational services capabilities. It is critical to

surveillance, program evaluation, and research, as well as other public health functions. As is appropriate for a discussion of technology, its increased use in training should also be considered. The Commonwealth is well-positioned to act as a nexus for all these needs and resources as its local public health system adds informatics capacities to their toolkits for safeguarding and improving the public's wellbeing.

<b>DATA REPORTING, GATHERING, AND ANALYSIS</b>
<b>KEY FINDINGS</b>
<ul style="list-style-type: none"><li>● Because Massachusetts lacks a comprehensive system to collect local public health data, there is limited capacity to measure local public health system performance and limited capacity to use local data to plan public health improvements.</li><li>● The best practices for data collection and disease surveillance in Massachusetts and other states hold promise for improved data reporting and gathering capabilities.</li></ul>
<b>RECOMMENDATIONS</b>
Improve state and local public health departments' planning and system accountability by: <ul style="list-style-type: none"><li>● Creating a standardized, integrated, and unified public health reporting system, and</li><li>● Strengthening the DPH, DEP, and local public health capacity to collect, analyze, and share data.</li></ul>
<b>ACTION STEPS</b>
<ul style="list-style-type: none"><li>● Explore the public health reporting systems used in other states as a possible data reporting model for Massachusetts.</li><li>● Develop state program reporting requirements, including a regional reporting feature, and work with LPH to ensure the system is user-friendly and relevant.</li><li>● Explore cost-effective ways of using technology to improve the state system for LPH reporting, such as the use of interoperable reporting systems, a single portal for reporting and viewing data, or building on existing efficient and user-friendly state municipal reporting models.</li><li>● Create or ensure that data that is collected by the state from LPH is accessible in a timely and relevant way supporting the significance of leading with data by sharing and using real-time data.</li><li>● Determine strategies to:<ul style="list-style-type: none"><li>● Train and provide technical assistance to the workforce to ensure it has the capacity to collect, report, analyze, and interpret data.</li><li>● Assess what funding is needed to implement this data reporting system.</li><li>● Leverage community partnerships.</li><li>● Promote regional collaboration.</li><li>● Encourage online reporting and online permitting</li></ul></li></ul>

- Once critical data is available, request that DPH and DEP provide a bi-annual report on the state of local public health protections to the legislature and municipalities.

## **Workforce Credentials**

Over the past century, the public health landscape has evolved dramatically. One hundred years ago, the biggest threats were contagious diseases, bacterial contamination, and adulterated food and beverages. Local boards of health have had a large role in successfully vanquishing, diminishing, and controlling these risks. That is not to say, however, that they currently require less time and attention. They don't; in fact, addressing these basic issues has been and continues to be at the core of the board of health mission, one that some health departments, especially those that are small and rural, struggle to meet. Today, however, new challenges have arisen that compound their responsibilities. "[N]oncommunicable diseases, which accounted for less than 20% of US deaths in 1900, now account for about 80% of deaths," according to Thomas R. Frieden in his 2004 *American Journal of Public Health* editorial, "Asleep at the Switch: Local Public Health and Chronic Disease." Not only have diabetes, cardiovascular disease, hypertension, and hyperlipidemia reached epidemic proportions, but cities and towns must cope with new and emerging infectious diseases such as West Nile and Lyme Disease and the aftermath from floods, hurricanes, fires, accidents, and other disasters. The tools of 20<sup>th</sup>-century public health—surveillance, vaccinations, inspections—while still vital to maintaining community safety, are inadequate to keep these problems in check.

The National Association of County and City Health Officials 2018 *The Forces of Change in America's Local Public Health System*, an annual survey of health departments around the country, documents the divide between problems and proficiencies. They found that the comprehensiveness of a board of health's response to modern, complex issues such as the opioid crisis, population health, and climate change is linked to the skills and training, both basic and continuing, of their workforces.

**Opioid epidemic** Ninety-two percent of large health departments (representing 500,000 people or more) around the country had opioid-related strategies, while only 52% of smaller ones (under 50,000) did. Of those that didn't create strategies, 53% cited a lack of staff expertise and training.

**Population health** Almost 75% of boards of health across the United States conducted activities to address food insecurity, most often in partnership with local and state government agencies and non-profits.

**Electronic surveillance system** While 34% of large health departments nationally had real-time access to hospital emergency department data, only 6% of smaller ones did. One-third of all health departments indicated that their IT/informatics staff needed professional development.

**Climate-change-related threats** only 42% of all agencies dealt with vector-borne infectious diseases as an emerging concern related to climate change, and 59% provided vector control services overall.

The 21<sup>st</sup>-century public health landscape requires a 21<sup>st</sup>-century mindset in its practitioners, one that is based on broad and continually updated knowledge and a creative approach to systemic, long-term, and intractable issues. Unfortunately, few cities and towns in Massachusetts—and the country—have the resources to keep up with these increased responsibilities. In 2016, in response to the shifting demands placed on public health officers (PHOs), the U.S. Department of Health and Human Services launched Public Health 3.0, calling for the addition of a strategy component to the PHO skill set. This component would enable directors to assess the local institutional landscape, create innovative partnerships and novel programs, and find and assemble new funding sources. But while strategic thinking may help local boards of health aim for and meet the higher standards of Foundational Public Health Services (FPHS) or the Public Health Accreditation Board (PHAB) in the future, there are still no minimum national criteria to

ensure staff have the baseline skills and competencies to safeguard America's health today.

Many of our cities and towns are not set up to address 21<sup>st</sup> century challenges. In Massachusetts, the town level structure and lack of a standard for experience, training, credentialing, and staffing for board of health members and staff creates differences in local public health capacity across the state. Where you live determines not only the depth and breadth of public health protections that are available, but also the qualifications of the individuals providing the services. The issue affects us all. While hiring decisions are made at the local level, the consequences of not having adequately trained and credentialed staff in one municipality can impact other towns or the whole state, for example, in cases of food poisoning or when a contagious disease breaks out.

The average Massachusetts health department is small: 50% have an annual budget for staff salaries of \$100,000 or less and 31%, \$50,000 or less, according to the 2018 Commission's Workforce Credentials Subcommittee's survey, described below. Staff may include directors or commissioners, assistant or deputy directors or commissioners, health officers, inspectors or sanitarians, public health nurses, clerical staff, and boards of health members. None of these positions (with the exception of nursing credentials required for public health nurses) currently has state-level guidelines for education, training, or credentials. This is in contrast to other municipal officials, such as building commissioners, animal control officers, and library directors, all of whom are required by Massachusetts state law to be certified or licensed. The consequence is that the local public health workforce is a grab bag of trained and experienced staff, untrained and inexperienced staff, contractors, volunteers, and board members who, regardless of professional background, may fill in as needed.

The personnel crisis tends to be even worse in small towns and rural areas, hamstrung by small budgets, geographic isolation, and a lack of infrastructure. Lower salaries and part-time positions make it challenging to recruit and retain employees with cutting-edge public health training. Those that are hired and want to acquire or update credentials may have difficulty doing so. They may have to travel long distances to attend classes, multiplying the hours taken from paid employment, or simply lack the public

transportation to do so. Intermittent or nonexistent broadband internet service may limit long-distance learning.

In its 2018 survey, the Commission's Workforce Credentials Subcommittee gathered data from over 275 local boards of health on staff positions and qualifications, training and training budgets, staffing budgets, permits, and inspections. It found differences in service delivery resulting from disparities in support and funding and the lack of workforce standards. The subcommittee concluded from its survey and other studies that the following contributed to those disparities:

1. lack of incentives or penalties for ensuring a qualified staff;
2. limited return on investment for individuals investing in training and credentialing; and
3. high turnover, high rates of retirement, and challenges in recruitment and retention also contributed to disparities.

Overall, the health districts and other shared services arrangements in the survey, 11 of 15 statewide, outperformed the standalone health departments, with a higher rate of certified and credentialed staff and better pay for management and clerical staff. The survey also revealed that many Massachusetts boards of health have little or no budget for professional training, often lack coverage for their staff to attend training, face long travel times to training programs, and have limited internet access to online training. In some cases, boards of health so poorly understand their role that they simply do not know what they need to know.

<b>LOCAL PUBLIC HEALTH WORKFORCE SURVEY KEY FINDINGS ON CREDENTIALS</b>		
<b>Credential</b>	<b>Standalone Municipalities</b>	<b>Districts</b>
Registered Sanitarian (RS)	55%	73%
Registered Environmental Health Specialist (REHS)	21%	18%
Certified Health Officer	27%	45%
Nurse with BSN	45%	77%

Soil Evaluator	72%	82%
System Inspector	64%	82%
ServSafe® or similar	86%	91%
MA Public Health Inspector Training (MAPHIT): Housing Training	50%	45%
MA Public Health Inspector Training (MAPHIT): Food Protection Training	36%	55%
ICS 100	80%	100%
Lead Determinator	51%	82%
Certified Pool Operator (CPO) or Certified Pool Inspector (CPI)	64%	91%
Local Public Health Institute Foundations Class	37%	55%

The Massachusetts local public health system does not adequately support the local public health workforce with standards and credentials that align with the capacity to meet current mandates and future standards. However, the survey revealed good news. Many members of the local public health workforce are already well-prepared for their positions – particularly those working in health districts. In its deliberations on workforce standards, the Commission sought to codify this best practice by recommending a complete set of training, education, and credentials for core board of health positions. These are detailed in the following tables.

(It should be noted that municipalities may ask for waivers for staff who have been employed in a local public health position for at least ten years).

SPECIAL COMMISSION ON LOCAL AND REGIONAL PUBLIC HEALTH EDUCATIONAL, TRAINING, AND CREDENTIALING RECOMMENDATIONS			
POSITION	REQUIRED AT HIRE	REQUIRED AFTER HIRE	RECOMMENDED
<b>MANAGEMENT – e.g., Director, Assistant Director, Deputy Director</b>  <i>Management position does not do inspections but supervises those who do.</i>	<ul style="list-style-type: none"> <li>Registered Sanitarian or equivalent eligible*</li> <li>Master's in relevant field or BA/BS with 5 years of relevant experience</li> </ul>	<ul style="list-style-type: none"> <li>RS or equivalent within a year*</li> <li>Foundations for Local Public Health Practice ("Foundations") course within one year of hire</li> <li>CHO within 3 years of hire</li> <li>Complete Master's within 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Health Association membership</li> <li>LPHI Managing Effectively in Today's Public Health Environment ("Management") course</li> <li>Three years of experience in local or state public health</li> <li>MAVEN training within one year</li> </ul>
<b>MANAGEMENT/AGENT</b>	<ul style="list-style-type: none"> <li>Registered Sanitarian or equivalent eligible</li> </ul>	<ul style="list-style-type: none"> <li>Foundations course within 18 months</li> <li>RS within 18 months of hire</li> <li>Specific certifications for inspections performed, such as soil evaluator, system inspector, food inspector training, housing inspection training, certified pool operator/certified pool inspector, lead determinator within one year of hire</li> </ul>	<ul style="list-style-type: none"> <li>Health Association membership</li> <li>LPHI Management Course</li> <li>CHO within 3 years of hire</li> </ul>
<b>INSPECTOR/SANITARIAN</b>	<ul style="list-style-type: none"> <li>High School Diploma or equivalent</li> </ul>	<ul style="list-style-type: none"> <li>RS within 6 years of hire</li> <li>Foundations course within 18 months</li> <li>Specific certifications for inspections performed, such as soil evaluator, system inspector, food inspector training, housing inspection training, certified pool operator/certified pool inspector, lead determinator within 1 year of hire</li> </ul>	<ul style="list-style-type: none"> <li>Health Association membership</li> <li>Associates degree in science or public health, at hire.</li> </ul>
<b>PUBLIC HEALTH NURSE</b>	<ul style="list-style-type: none"> <li>Bachelor of Science in Nursing (BSN)</li> <li>Registered Nurse (RN), current MA license</li> </ul>	<ul style="list-style-type: none"> <li>MAVEN trained within 6 months</li> <li>Foundations course within one year of hire</li> </ul>	<ul style="list-style-type: none"> <li>MAPHN Membership</li> </ul>
<b>CLERICAL STAFF</b>	<ul style="list-style-type: none"> <li>Microsoft Office (or similar) applications</li> </ul>	<ul style="list-style-type: none"> <li>Modified Foundations course (Foundations course for Clerical Workers) within one year of hire</li> </ul>	<ul style="list-style-type: none"> <li>On-line permitting</li> </ul>
<b>BOH MEMBER</b> (NOTE: IF DOING INSPECTIONS MUST MEET REQUIREMENTS ABOVE)			<ul style="list-style-type: none"> <li>Orientation to Public Health within 3 months</li> <li>Foundations course within one year</li> </ul>

INSPECTION TYPE	REQUIRED	RECOMMENDED
<b>FOOD PROTECTION</b>	<ul style="list-style-type: none"> <li>• ServeSafe or similar</li> <li>• Massachusetts Public Health Inspector Training (MA PHIT) Food Inspection Class</li> <li>• Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Food and Drug Administration/Office of Regulatory Affairs - University (ORAU)</li> </ul>
<b>HOUSING</b>	<ul style="list-style-type: none"> <li>• MA PHIT Housing Class</li> <li>• Housing Court training (TBD)</li> <li>• Lead Determinator</li> <li>• Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>
<b>TITLE 5</b>	<ul style="list-style-type: none"> <li>• Soil Evaluator</li> <li>• System Inspector</li> <li>• MA PHIT Wastewater</li> <li>• Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>
<b>POOLS</b>	<ul style="list-style-type: none"> <li>• Certified Pool Operator or Certified Pool Inspector with Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>
<b>RECREATIONAL CAMPS</b>	<ul style="list-style-type: none"> <li>• MA PHIT Camps (TBD) with Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>
<b>TANNING/BODY ART</b>	<ul style="list-style-type: none"> <li>• MA PHIT (TBD) with Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>
<b>NUISANCES</b>	<ul style="list-style-type: none"> <li>• MA PHIT (TBA) with Field Component</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant LPHI Modules</li> </ul>

- All personnel should have at least ICS 100/NIMS 700 within one year of hire. Those who might have a leadership role should have ICS 200 and above.
- Boards of health may have stricter requirements, but must meet these requirements.
- Boards of health with current staff who have worked for local or state public health for at least 10 years, but who do not meet these requirements, may request a waiver except for inspectional trainings.
- Membership in professional organizations is deemed as critical for professional growth and development, for leadership and mentoring opportunities, and for opportunities for sharing best practices. This is recommended, but not required.
- Management positions should meet the requirements as set forth in this document for the position. However, a request may be submitted by the board of health to waive the Registered Sanitarian (RS) requirement if
  - 1) the health department has a management position and a separate fulltime environmental health director and
  - 2) the environmental health director has an RS, oversees the inspectors, and reports directly to the management position.

Setting standards is the first step in ensuring an adequately educated workforce; developing the infrastructure to deliver this training is the second. Although the Commonwealth's over one hundred colleges and universities offer many undergraduate degrees related to healthcare, medicine, and the biological sciences and postgraduate study in public health or its administration, there are no undergraduate majors or programs in municipal public health. Similarly and related, when university programs place students in internships, they rarely partner with local public health departments. This means there is no pipeline of students field-trained to inspect food establishments and housing, oversee waste disposal, respond to chemical hazards, or support other local public health needs. This problem will be exacerbated by the large number of experienced workers who are expected to retire in the next few years. Once someone has become part of the local public health workforce, however, there are many voluntary training programs to choose from, including the Local Public Health Institute (LPHI) of Massachusetts, New England Public Health Training Center (NEPHTC), Massachusetts Health Officers Association (MHOA), Massachusetts Environmental Health Association (MEHA), Berkshire County Boards of Health Association (BCBOHA), Cape and Islands Health Agents Coalition, Massachusetts Association of Public Health Nurses (MAPHN), Massachusetts Association of Health Boards (MAHB), Western Massachusetts Public Health Association (WMPHA), DPH, and DEP. The DPH-funded Local Public Health Institute at the Boston University School of Public Health offers online, webinars, and blended classroom training. The Coalition for Local Public Health (CLPH) provides orientations for public health professionals and the CLPH member organizations, each of which also run training programs for the public health workforce. That these are voluntary may also widen existing disparities, since when combined with work demands, distance and other considerations that impede participation, it often means that those who could most benefit from training, often cannot or do not attend.

Massachusetts' public health worker training programs have made a concerted effort to remove barriers. Online modules are free and other training programs have a modest fee, although the health department must bear the soft costs of travel and time out of the office. The Local Public Health Institute (LPHI) offers nearly 50 free online modules on a wide range of topics, although they aren't a substitute for critical and

expensive field training. A blended course with both classroom and online instruction that provides a foundation for public health practice quickly fills to capacity whenever it's offered. Several organizations offer seminars in Western Massachusetts to eliminate the four-hour round trip to the Boston area.<sup>13</sup> And workers who have intermittent or no internet access can download modules on a disk or flash drives. While free and low cost training programs for the Massachusetts workforce exist, they are offered infrequently and in limited parts of the state. For small, rural health departments with a single or volunteer staff member attending a training might mean leaving the office empty for a day or sacrificing his or her paid employment.

Other states, such as Colorado, Connecticut, Illinois, New Jersey, North Carolina, Ohio, Oregon, Texas, Washington, and Wisconsin, have a licensing and credentialing process for some local health department positions, generally the director/chief health officer, the environmental health inspector, and nurses. Some states require state approval for hiring a health director at the municipal, county, or health district level, generally when these are in part or wholly state-funded. New Jersey not only requires the health officer and the environmental health specialist to be licensed or registered, it also has specific educational experience requirements for different members of the workforce and boards of health. Ohio has required that all local public health departments be accredited by the year 2020, which includes demonstrating adequately trained staff to fulfill the PHAB requirements.

Change is on the horizon. The Council on Linkages Between Academia and Health Practice is looking at developing national workforce standards and intends to develop core competencies for public health professionals that address the 10 Essential Health Services and the PHAB. The Council has begun the process of assessing and defining these for specific positions, such as public health nurses, performance managers, and health informatics, which, when completed, the Commonwealth could assess and decide on the application of these standards. Meanwhile, the Commonwealth's public health workforce itself has indicated that they are more than ready to implement workforce standards. At a 2008 meeting of 250 public health officials and staff, "92% indicated that the district workforce should meet minimum standards in education,

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<sup>13</sup> BCBOHA, WMPHA, FRCOG, MDPH Northampton.

experience, and credentials.” And as shown by the 2018 Commission survey, many local boards of health already employ appropriately credentialed and educated public health professionals. The time to act is now.

<b>WORKFORCE CREDENTIALS</b>
<b>KEY FINDINGS</b>
<ul style="list-style-type: none"><li>● The Massachusetts local public health system does not adequately support the local public health workforce with standards and credentials that align with the capacity to meet current mandates and future standards.</li><li>● While there is an emerging effort to set national workforce standards, many states already have minimum qualifications for some members of the local public health workforce. In Massachusetts, minimum qualifications exist for other municipal officials such as building commissioners and library directors.</li></ul>
<b>RECOMMENDATIONS</b>
<p>Set education and training standards for local public health officials and staff and expand access to professional development by:</p> <ul style="list-style-type: none"><li>● Implementing the local public health workforce credentialing standards adopted by the Commission,</li><li>● Making training available and accessible to local public health departments, and</li><li>● Developing a system to track and monitor workforce credentialing.</li></ul>
<b>ACTION STEPS</b>
<ul style="list-style-type: none"><li>● Develop the infrastructure for training and credentialing of the local public health workforce</li><li>● Expand, coordinate and track training opportunities for local public health to ensure the ability of local public health professionals to meet the recommended requirements</li><li>● Support the recommendation for annual reports that include data on the workforce and workforce development in order to track credentialing and progress on meeting workforce standards</li><li>● Work with stakeholder groups and schools of public health, state universities, community colleges, and other training entities to develop an infrastructure and pathway to a career in governmental public health, potentially including building on existing public health, public health management, informatics, epidemiology, and environmental health degree programs, promoting public health internships and practicums using LPH as teaching sites, and supporting academic health departments.</li><li>● Educate boards of health and municipalities on the required workforce standards and how they can meet them.</li><li>● Enhance the capacity of DPH to oversee the implementation of the workforce standards, including the waiver process and non-compliance.</li></ul>

## Resources to Meet System Needs

Unlike most other states, in Massachusetts, local public health departments rely almost exclusively on local property taxes and fees for funding. By all accounts, many or most are already straining to provide necessary services. System-wide changes such as grants programs, technology, training, and technical assistance will clearly benefit individual cities and towns, but while municipalities have some incentive to financially support such efforts, the reality is they cannot. These changes will also, however, improve state-level outcomes, reducing health costs overall and helping to create a healthy workforce, indirectly bolstering the economy—a significant public good. It is therefore appropriate that the Commonwealth consider providing funding to modernize the local public health system so it can meet its existing mandates and the expanded expectations of the 21<sup>st</sup> century.

Health knows no borders. Diseases spread. Disasters, both manmade and natural, happen anywhere and everywhere. A child's visit to the emergency room for asthma—triggered by substandard housing—is paid for by all of us. The 2014 *Healthy People/Health Economy: Annual Report Card*, a partnership between the Boston Foundation and the Network for Excellence in Health Innovation (NEHI), itemizes the human cost of failing to safeguard public health at the local level. For example, a 2013 analysis by NEHI found that most determinants of health, 59%, have *nothing* to do with healthcare access: 37% are contributed by healthy behaviors and 22% by socioeconomic and physical environments. These three factors fall squarely within the purview of the local board of health. Yet 90% of our \$2.6 trillion national health spending is still for medical services—with only 9% allocated for encouraging healthy behaviors. What would happen if more of this immense investment was made upstream? A relatively small increase in funding for local public health services seems likely to yield large savings later on—this is especially important at a time when healthcare costs are projected to balloon to \$2.9 trillion by 2028, almost 10% of the federal budget, according to the Congressional Budget Office, Office of Management and Budget.

Local public health budgets in Massachusetts vary wildly and are almost always subject to the many and competing demands of other municipal departments. Bigger and

wealthier municipalities may spend up to \$25 per capita annually. The half of all Massachusetts health departments that represent towns of less than 10,000 residents, Gateway cities, and municipalities with funding shortfalls face significant challenges with resources. As part of its charge, the Special Commission's Resource Subcommittee evaluated Massachusetts Department of Revenue (DOR) municipal expenditure data (Schedule A) from 2006-2016. But because there is no standard reporting for local public health department budgets, the value of this analysis is very limited. DPH and the federal government, directly or as a pass-through from DPH, offers local health departments categorical grants to achieve some specific goals such as smoking cessation or obesity prevention. However, not every local board of health benefits from external funding, in part due to differences in capacity to compete for limited funding. For example, the 2006 Coalition for Local Public Health Call to Action found that 40% of local public health authorities received state funding for special projects (often through collaborations of multiple jurisdictions) and an additional 15% also received federal funding in 2005.

Most other states provide direct aid to local health departments. Massachusetts does not, making any funding comparisons difficult. The Commonwealth does, however, offer more than \$1 billion in Unrestricted General Government Aid (UGAA) to city and town governments,<sup>14</sup> a revenue source that can be used for any local purpose. While helpful, unrestricted local aid is not a reliable way to finance boards of health, since municipalities allocate funds according to current priorities and the health budget may be increased or decreased to reflect these, affecting the agency's functioning. Many other local government departments in Massachusetts, such as schools, libraries, and councils on aging, have dedicated state funding, which allows them to consistently provide high-quality services to residents and to plan and carry out long-term projects. This type of stable resource should be considered for the local public health system.

It is also difficult to compare resources in Massachusetts to those of other states because not all states organize local public health the same way. Some states run local health departments themselves (centralized model), others share responsibilities with the municipalities, and others have a mixed model. Even when, as in the Commonwealth, these functions are all locally delivered, no other state has hundreds of municipalities and

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<sup>14</sup> The state also provides approx. \$5B for education via Chapter 70 funding.

many have an overlay of strong county governments. However, there are some lessons to be learned by examining their different structures, financing mechanisms, state-local relationships, and standards.

Two states, Connecticut and Ohio, deserve a closer look. Connecticut is somewhat similar to Massachusetts in that it has a mixture of standalone departments and health districts, but they are further along the evolutionary path to a district-based system. Connecticut's funding strategy offers a model that encourages municipalities to form regions but allows for autonomous cities and towns as well. Per the 2016 Connecticut Legislative Research Report on Connecticut Local Health Departments, Connecticut's per capita rate of reimbursement for a functioning district serving a population of 50,000 or more (or three or more municipalities) is \$1.85 or, for large, standalone entities that are capable of providing the necessary protections and serve a population of 50,000 or more such as Hartford or New Haven, \$1.18 per capita. As of 2009, Connecticut does not fund part-time health departments. To be eligible for state funding, the district or municipality must provide a public health program that includes public health statistics, health education, nutritional services, maternal and child health, communicable and chronic disease control, environmental services, community nursing services, and emergency medical services and spend at least \$1 per capita on its program. Ohio provides local health department and district subsidies contingent on transparency, compliance with local public health council rules, and municipal matching funds of at least three dollars per capita. Other factors that could be considered in funding formulas are socioeconomic and health status factors.

All states that have made a decision to modernize their local public health systems have invested enough resources in the process to ensure their success and longevity, but there is also a case for simply using existing resources more efficiently. One of the most impactful strategies is described earlier in this report, the formation of multi-municipal districts or other CJS arrangements. This pools budgets, staff, and functions and can lower per capita costs as compared to standalone boards of health. The Commonwealth explicitly promotes this approach through the Community Compact Cabinet that includes seed money for efficiency and regionalization projects across municipal government.

The Public Health Leadership Forum found that \$32 per person was needed in 2018 to support a FPHS local health department. In Massachusetts, once boards of health are meeting existing standards, an additional investment, estimated at between \$15 and \$20 per capita per year, will be needed to help lift their performance to allow them to achieve the foundational public health services (FPHS). DPH calculates that local health departments currently only fulfill three or four of 10 essential public health services, although these are somewhat different from FPHS. At some point in the future, the federal government, most likely through the U.S. Department of Health and Human Services, may provide grants directly to local health departments, or through state health departments to local health departments, to upgrade their standards and improve their capacity to protect residents.

Massachusetts is a health leader. In addition to the many public health, medical, and healthcare firsts that have taken place here, it was the first state in the nation to find a financial model to insure all residents, one that was emulated in the Affordable Care Act. This ensured good healthcare to all, reflected in the fact that the Commonwealth routinely places as one of the healthiest states in the nation according to America's Health Rankings and one of the top states for emergency preparedness by the Trust for America's Health. Local public health infrastructure, which affects food, homes, schools, workplaces, and the environment, is the foundation for this wellbeing. Yet while the Commonwealth has committed the public and private financial resources to excellent healthcare—its expenditure ranks 2<sup>nd</sup> among the 50 states, with over \$10,000 per person, its boards of health are chronically underfunded. It's now time to address that.

## **RESOURCES TO MEET SYSTEM NEEDS**

### **KEY FINDINGS**

- Funding for local public health is inconsistent and inequitable in its ability to meet the current mandates and the needs of a 21<sup>st</sup> century local public health system.
- The nationally recognized Foundational Public Health Services framework provides a means for costing out local public health services.
- Massachusetts and many other states face the challenge of limited investment of resources to ensure local capacity to provide 21<sup>st</sup>-century public health protections.

### **RECOMMENDATIONS**

To ensure optimal health protections and wellness opportunities for all Massachusetts residents, the Commonwealth should commit appropriate resources for the local public health system changes proposed by the Commission.

### **ACTION STEPS**

- Provide incentives for public health district formation and expansion and other cross-jurisdictional sharing arrangements.
- Implement the recommended credentials and training/continuing education requirements for the LPH workforce.
- Explore the recommendations of the Massachusetts Public Health Regionalization Working Group with regards to resources that will support shared services such as:
  - Provide transparent cost breakdown to highlight service areas where cross-jurisdictional sharing can yield the greatest cost savings.
  - Provide targeted feasibility study grants.
  - Provide a variety of cross-jurisdictional sharing opportunities for cities and towns.
- Expand the capacity of DPH and DEP to a) provide technical assistance on shared services, b) support workforce credentialing, and c) share and collect data.

## **Continuity and Sustainability**

The health of Massachusetts depends on the complex interplay and strong partnerships among state agencies, the local public health system, and the healthcare system. Boards of health are the “boots on the ground” for each town and city and a beacon that often acts as the first alert to a public health problem or crisis. Yet many local health departments in Massachusetts are in a perpetual bind: stagnant or diminished resources and ever-increasing state and federal mandates. They may try to do more with less, but it’s an unsustainable solution. To push them to upgrade to Foundational Public Health Services (FPHS) – without first ensuring that they have a strong foundational capacity - will just intensify the crisis for these struggling cities and towns—and widen the gap between them and the small number of well-funded and supported health departments that will be able to implement the new standards.

Modernizing Massachusetts’ local public health system is a monumental but necessary task—and the longer we wait, the harder it will be. Like any project of this magnitude, it has progressed slowly but steadily toward the goal. The Special Commission on Local and Regional Public Health’s work and the recommendations in

this report are founded on extensive earlier efforts. These can be traced back decades, but the Local Health 2000 Commission is a good starting point. Below is a timeline of important milestones; each has been a building block for the 21<sup>st</sup>-century system that the Commission envisions in this report.

This report describes the obstacles to modernizing Massachusetts' local public health system and then provides recommendations and detailed action steps to address them. Following this road map will move the Commonwealth closer to the goal of a well-functioning local public health system for all. It won't be easy. There is no single entity that can guide the process. DPH and DEP, while they are responsible for the health of the state as a whole, do not have oversight authority over local health departments and cannot enforce lapses in statutory or regulatory requirements, such as regular and timely submission of reports. Because the boards of health are the critical actors in modernizing the system, the Commission recommends considering the voluntary adoption of a minimum package of public health services (FPHS). This would help each local health department advance towards accreditation, encourage regionalization, raise data standards, and better prepare the workforce. It was beyond the scope of this phase of the project, however, to assess the feasibility of doing so and to estimate the resources needed to get the system to meet the national benchmark.

Thus, to keep the state moving forward on its journey to modernization, it is critical that there be an oversight body to monitor progress, that the relevant state entities have appropriate authority, and that stakeholders continue to be partners in the process. As learned from the work of the Public Health District Incentive Grant (PHDIG) program cited earlier in this report, stakeholder buy-in is critical not only for short-term goals but to sustained improvement.

<b>TWENTY-FIVE YEARS OF EFFORTS TO ADDRESS THE NEEDS OF MASSACHUSETTS LOCAL PUBLIC HEALTH SYSTEM TIMELINE 1994-2019</b>	
<b>Year</b>	<b>Event</b>
1994-1996	Local Health 2000 Commission
1998	Coalition for Local Public Health formed – comprised of 5 public health trade associations for boards of health, environmental health, health officers, public health nurses, and public health advocacy

2003	A Case for Improving Local Public Health Infrastructure -Coalition for Local Public Health (CLPH)
2005	Local Public Health Institute (LPHI) formed to strengthen training for workforce; Policy Studies, Inc. awarded contract
2006	Strengthening Local Public Health In Massachusetts: A Call to Action – CLPH
2006-2009	Massachusetts Public Health Regionalization Working Group (RWG) convened and issues reports and recommendations
2010	LPHI competency report identifies competency-based training needs for local public health workforce
2010	Massachusetts Regionalization Advisory Commission report includes recommendations for public health regionalization
2010-2015	Federally-funded Public Health District Incentive Grant Program planning and implementation
2017 to present	Special Commission on Local and Regional Public Health reviews local public health system and makes recommendations based on findings

## CONTINUITY AND SUSTAINABILITY

The Massachusetts local public health system depends on the continuing engagement of the stakeholders who have laid out an actionable path to effectiveness and efficiency.

## RECOMMENDATIONS

- Continue to engage a wide range of stakeholders to provide ongoing support for the recommendations for local public health systems improvement.
- Give DPH and DEP the infrastructure and authority to support the recommendations for local public health system improvement.
- Identify and address administrative actions at DEP and DPH that can support the recommendations of the Commission.

## ACTION STEPS

- 1 Formalize the continuation of the Commission through the creation of an advisory board or similar entity with resources necessary for monitoring the progress of the Commission's recommendations which would include an annual progress report to the Legislature and Governor.
- 2 Identify and address administrative actions at DEP and DPH that can support the recommendations of the Commission, such as:
  - a. Explore providing incentives in grant-making process that support recommendations
  - b. Work with universities and colleges to strengthened the local public health workforce pipeline
  - c. Improve access to trainings for local public health workforce
  - d. Evaluate and consider changes to existing local public health reporting systems
  - e. Explore ways to enhance data sharing between DPH/DEP and municipalities

## **Conclusion**

To ensure a well-functioning local public health system for all residents, no matter where they live, the Special Commission on Local and Regional Public Health made six recommendations, described in detail in this report. The recommendations covered the four areas key to ensuring health protections and improving the delivery of services to residents and two areas to support this far-reaching plan.

### **SUMMARY OF THE COMMISSION'S RECOMMENDATIONS**

1. Elevate the standards for and improve the performance of local public health departments.
2. Increase cross-jurisdictional sharing of public health services to strengthen the service delivery capabilities of local public health departments.
3. Explore improvements to the current platforms to report, analyze, and interpret data.
4. Set education and training standards for local public health officials and staff and expand access to professional development.
5. Commit appropriate resources for the local public health system changes proposed by the commission.
6. Ensure continuity of stakeholder engagement in the implementation of the Commission's recommendations.

Every day about 200 lives begin in Massachusetts. Another 150 end.<sup>15</sup> Between those two bookmarks, there is no other entity more important to ensuring the health and wellbeing of residents than their local boards of health. While each of the individual measures recommended in this report is beneficial by itself, they are intended to be adopted as an interlocking set, reinforcing and magnifying each other. Only this type of systemic change will help make Massachusetts a leader in the local public health modernization process and give all the Commonwealth's inhabitants the services and protections they need to lead healthy, productive lives.

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<sup>15</sup> Massachusetts Department of Public Health. "Massachusetts Births 2016" (May 2018) and "Massachusetts Deaths 2016." (December 2018)

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Appendices – see separate file