

Public Health District Incentive Grant Program

Berkshire
County

Franklin
County

Central
Massachusetts

Montachusett

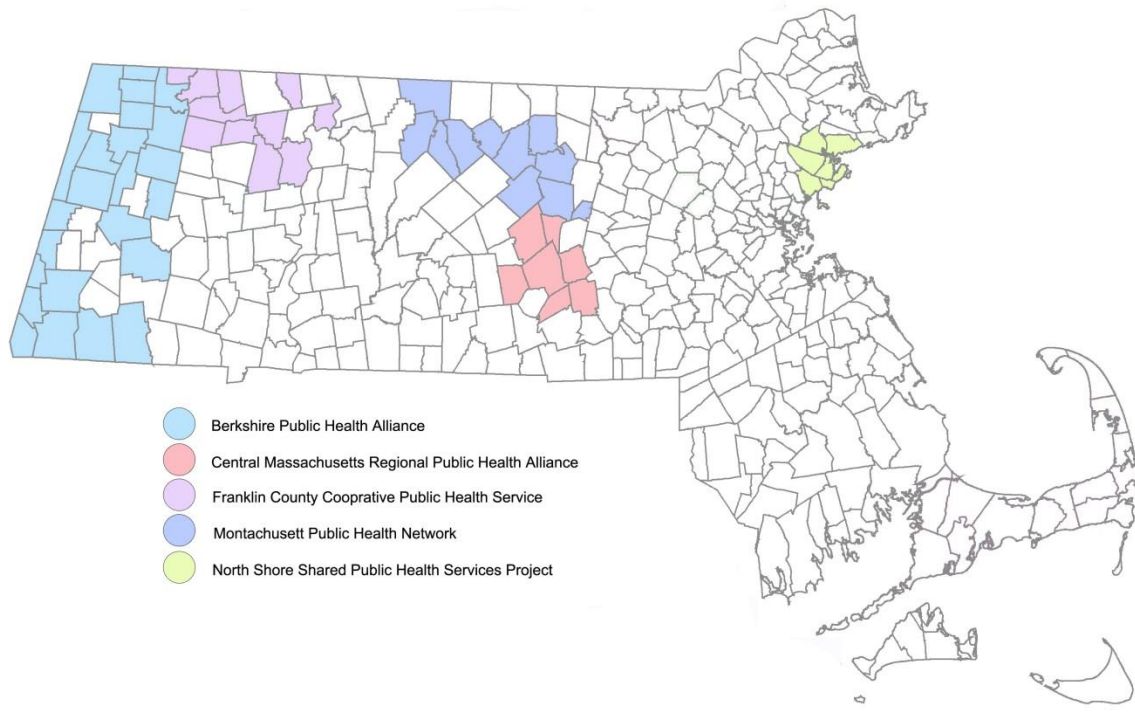
North Shore

Incentive-based Formation and Sustainability of
Local Public Health Districts in Massachusetts

2010-2015

Commonwealth of Massachusetts
Executive Office of Health and Human Services

Department of Public Health



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Acronyms

BOH	Board of Health
BPHA	Berkshire Public Health Alliance
CDC.....	U.S. Centers for Disease Control and Prevention
CMRPHA.....	Central Massachusetts Regional Public Health Alliance
CJS	Cross-jurisdictional Sharing
CSPHS	Center for Sharing Public Health Services
DoN	Massachusetts Determination of Need Program
DPH	Massachusetts Department of Public Health
FCCPHS	Franklin County Cooperative Public Health Service
ICH.....	Institute for Community Health
IMA.....	Inter-municipal Agreement
MAVEN	Massachusetts Virtual Epidemiological Network
MPHN	Montachusett Public Health Network
MPHRWG	Massachusetts Public Health Regionalization Working Group
NPHII	National Public Health Improvement Initiative
NSSPHSP	North Shore Shared Public Health Services Project
PHAB	Public Health Accreditation Board
PHDIG	Public Health District Incentive Grant

Executive Summary

Massachusetts public health authorities have had a longstanding interest in promoting the formation of public health districts or other inter-municipal arrangements to share public health services. With 351 cities and towns, each with its own board of health, and many of them with populations of less than 10,000 people, regionalization of public health services is considered an effective tool to create a more efficient and equitable system of local public health services. Efforts to promote regionalization of local public health services were catalyzed in the mid-2000s by the work of the Massachusetts Public Health Regionalization Working Group¹⁻³ and success of regional approaches to emergency preparedness⁴.

In 2010, the Massachusetts Department of Public Health (DPH) received funding from the U.S. Centers for Disease Control and Prevention (CDC) to strengthen the public health infrastructure in the Commonwealth through investments in state and local public health. A key component of this funding was the Public Health District Incentive Grant Program (PHDIG). The purpose of the program was to provide financial incentives to groups of municipalities to enter into formal, long-term agreements to share resources and coordinate activities. The program was expected to improve the scope, quality, and effectiveness of local public health services for the populations served by the groups of municipalities.

The program incorporated guiding principles and recommendations of the Massachusetts Public Health Regionalization Working Group (MPHRWG), a collaboration formed in 2005 among the state's five professional public health associations, Boston University School of Public Health, local public health officials, the Massachusetts Department of Public Health, and other government partners. The public health districts that emerged from the PHDIG process reflect a key principle of the MPHRWG: flexibility. In its 2009 status report, the MPHRWG recommended that municipalities utilize models of shared governance, staffing, management, financing, and enforcement that best met their needs (i.e., "one size doesn't fit all"). The five PHDIG districts did not ascribe to one standard model but rather were configured to best address the needs of the municipalities and region. In doing so, the districts were able to make the most effective use of the existing capacity while also being responsive to the readiness of municipalities in the district to engage in formal relationships.

Program Goals

The Public Health District Incentive Grant Program had six major goals:

- 1) Improve the scope and quality of local public health services in Massachusetts, consistent with the "Ten Essential Public Health Services" defined by the U.S. Centers for Disease Control.
- 2) Achieve optimal results with available resources for protecting and promoting health and preventing injury and disease.
- 3) Reduce geographic disparities in the capacities of local public health systems to carry out the responsibilities of boards of health under state laws and regulations.
- 4) Promote policy change to remediate persistent and emerging public health challenges.

- 5) Strengthen the qualifications of the state's local public health workforce.
- 6) Prepare for voluntary national accreditation of local public health systems.

Public Health District Grants

In the first phase of the program, DPH distributed \$276,400 through planning grants in April 2011 ranging from \$15,000 to \$30,000 to eleven groups of municipalities selected on the basis of a competitive application process. Eighteen groups of municipalities representing 141 municipalities and 2.3 million residents submitted applications for planning grant funding. Required planning activities included plans for sharing staff and establishing workforce qualifications, governance, fiscal and administrative processes, and preparation and application for implementation funding. In the second phase of the program, beginning in January 2012, DPH selected five districts to receive multi-year implementation grants through a competitive application process for which only the eleven PHDIG planning grantees were eligible to apply.

Implementation Districts

When federal grant funding ended in 2015, the five PHDIG-funded districts encompassed 58 cities and towns providing public health services to over 807,500 residents. The five districts, current population served (2010 U.S. Census), and number of municipalities are provided in the following table.

Table 1. Summary of PHDIG Implementation Districts

District	Population*	Municipalities
Berkshire Public Health Alliance*	109,243	24
Franklin County Cooperative Public Health Service	15,501	11
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
Total	870,756	61
*2010 U.S. Census		

*Updated - Berkshire Public Health Alliance added three communities after funding ended.

The Merrimack Valley Public Health Services District (Haverhill, Lawrence, Methuen) was funded in implementation year one only.

A list of municipalities in each district is in Appendix D. A map showing the location of the PHDIG districts is in Appendix E.

Accomplishments

The PHDIG program accomplishments include the following:

- More than doubled the number of Massachusetts municipalities in public health districts or shared services arrangements from 50 (14%) to 111 (32%).
- Nearly tripled the Massachusetts population served by shared public health services or public health districts from approximately 450,000 residents (7%) in 10 districts to approximately 1,250,000 residents (19.5%) in 15 districts.
- Every community in the five implementation districts signed an inter-municipal agreement (IMA) with the lead agency in its district.
- Each district:
 - made specific performance improvements in the delivery of public health services as documented in an evaluation of the program conducted by the Institute for Community Health (ICH) in areas such as retail food inspections, Massachusetts Virtual Epidemiological Network (MAVEN) participation, lead determination, beach inspection, and sharps disposal.
 - completed a comprehensive community health assessment.
 - established an effective governing structure.
 - mounted successful health improvement campaigns aligned with the CDC Winnable Battles Initiative.
 - continues to function nearly three years after the end of the grant program.
- The PHDIG program is recognized as a flexible model of regional collaboration at the state and national level^{5,6}.
- 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 achieve accreditation by the Public Health Accreditation Board (PHAB).

Recommendations from Stakeholders

After the end of the grant period, representatives of DPH and the Institute for Community Health (ICH) evaluation team surveyed and held discussions with the leadership of the five districts. The following recommendations are based on feedback from the districts, the ICH evaluation data, and discussion among PHDIG technical assistance providers and DPH staff. DPH, the Coalition for Local Public Health, the Massachusetts Public Health Regionalization Working Group, and other local public health stakeholders can use the lessons learned from the PHDIG project as they continue to explore cross-jurisdictional sharing as one approach to the address differences in capacity across municipalities and enhance the delivery of local public health services in Massachusetts. The recommendations are:

- Continue providing technical assistance and financial support to municipalities that are interested in cross-jurisdictional service sharing.

- Establish and enforce workforce qualifications for BOH staff including revisions, if needed, to licensing and certification.
- Allow regional/district reporting of data to DPH on inspectional services and communicable disease.
- Encourage all municipalities to have access to fully qualified and credentialed public health professionals.
- Promote and provide technical assistance to BOH for preparation for national accreditation.
- Provide financial support to BOH.

Recommendations for Local Public Health Leaders Involved in Cross-jurisdictional Service Sharing

Based on comments and discussion among local and regional public health and municipal officials who participated in the planning and implementation processes the following recommendations and lessons learned are relevant for local public health stakeholders involved in future regionalization efforts:

- Engage trusted sources within the organization and community.
- Involve key stakeholders.
- Strive for consensus in vision and goals.
- Design a realistic and responsive structure.
- Emphasize sustainability, management, and long term planning.
- Plan for accreditation.

Guidance for Future Investments in the Massachusetts Local Public Health System

The PHDIG program provided an important opportunity to apply guiding principles developed by the MPHRWG to groups of Massachusetts municipalities selected through a competitive application process. It sought to test whether incentive funding for the creation of regional arrangements for the delivery of local public health services would result in sustainable public health districts with the capacity to carry out statutory and regulatory duties and expand capability to deliver the Ten Essential Public Health Services.

Decisions about future state-level investments in cross-jurisdictional sharing of public health services should

- Review the criteria used for selection of PHDIG planning and implementation grant recipients to determine if they might be modified based on PHDIG experience.
- Explore the value in co-investment by member municipalities of proposed districts at the outset of funding.
- Draw from the growing national knowledge-base on cross-jurisdictional sharing.

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Massachusetts Public Health District Incentive Grant Program

**Incentive-based Formation and Sustainability of
Local Public Health Districts in Massachusetts 2011-2015**

Introduction

This report documents the planning, implementation, and sustainability of five pilot, incentive-based local public health districts in Massachusetts. The public health districts were funded from 2011 to 2015 through the 2010 National Public Health Improvement Initiative (NPHII) of the U.S. Centers for Disease Control and Prevention (CDC) and other funds provided by the Massachusetts Department of Public Health (DPH). The report is organized in two sections:

- Section One - DPH background and analysis of the program
- Section Two – PHDIG evaluation team report

The experience of the Public Health District Incentive Grant (PHDIG) program provides valuable lessons that will enable policymakers and other stakeholders to make informed decisions about future cross-jurisdictional public health sharing among local public health authorities in Massachusetts.

Section One: Background and Analysis

Local Public Health System Capacity in Massachusetts

The Massachusetts local public health system is deeply rooted in the New England tradition of home rule for cities and towns. In the state and local governance classification system of the Association of State and Territorial Health Officials⁷, Massachusetts is a decentralized system in which the 351 cities and towns operate autonomously from state government. Each city and town is required to have its own elected or appointed board of health (BOH) which is responsible for providing, or assuring access to, a comprehensive set of services defined by state law and regulation^{9,10}.

Unlike most states, Massachusetts does not have a county or regional system for the delivery of local public health services. Although it ranks 13th in the nation for population size and 44th in land area, Massachusetts has more local public health departments than any other state in the U.S. Nearly one-half (170) of Massachusetts towns have populations less than 10,000 people. Most of the 351 municipalities provide public health services as standalone entities. The result is inefficiencies or limited capacity to meet statutory and regulatory responsibilities in a large number of municipalities. The Massachusetts Public Health Regionalization Working Group (MPHRWG) and other authorities on local public health systems believe that there are more local public health jurisdictions in Massachusetts for the population size and land area than are needed for the effective and efficient delivery of public health services.

The PHDIG program was based upon earlier work in Massachusetts to establish a framework and broad-based support for developing public health districts. This effort (the Massachusetts Public Health Regionalization Project) was led by the Boston University School of Public Health in conjunction with DPH and the state's five public health trade associations: the Massachusetts Public Health Association, Massachusetts Health Officers Association, Massachusetts Environmental Health Association, Massachusetts Association of Public Health Nurses, and Massachusetts Association of Health Boards. In its 2009 Status Report, the Massachusetts Public Health Regionalization Working Group recommended that efforts aimed at regionalizing local public health services would "offer the most cost-effective means of providing equitable, high quality public health protection to the people of the Commonwealth"³.

The MPHRWG status report indicated that regionalization would address the inequitable delivery of local public health services and other limitations of the current local public health system. Regionalization was expected to create a more robust local public health system. The report cited examples of longstanding, successful public health districts in Massachusetts such as the Tri-Town Health Department (Lee, Lenox, and Stockbridge) and recent regionalization efforts by local municipalities such as Melrose and Wakefield. Recommendations of the MPHRWG were later endorsed by the Regionalization Advisory Commission¹⁰ - a statewide task force created by the legislature in 2009 to study opportunities to regionalize a wide range of municipal services including public health.

Massachusetts has also had success in delivering regional public health services through categorical grant funding. For example, the Massachusetts Tobacco Control Program (now known as the Massachusetts Tobacco Cessation and Prevention Program), established in the 1990s, has funded regional collaboratives that provide community education and enforce tobacco restriction laws. Since 2001, the DPH Office of Preparedness and Emergency Management has funded statewide regional preparedness coalitions that have worked to prepare municipalities to respond to natural and human-made disasters. In response to the opioid crisis and other substance use disorders, regional coalitions have received funding from the DPH Bureau of Substance Addiction Services. Each of these categorical funding approaches has reinforced the value of regional efforts to support local public health capacity.

Based on the above experience with regional approaches to local public health services, Massachusetts was well-positioned to respond to the funding opportunity offered by the federal National Public Health Improvement Initiative (NPHII). Created through the federal Patient Protection and Affordable Care Act in 2010, NPHII funded health departments across the country to enhance quality improvement and performance management methods. DPH was one of fourteen state health departments to receive a special category of funding to promote community-based health improvement initiatives. Massachusetts was funded for a cross-jurisdictional sharing initiative designed to address significant gaps in the state's local public health infrastructure.

Capacity to Carry Out Statutory Powers and Duties

Although many states have decentralized public health systems, the challenge that Massachusetts faces is that the unit of government is at the municipal rather than county level. Municipalities range in population size from less than one hundred persons (Gosnold) to more than 650,000 persons (Boston). Regardless of population size, all municipalities are expected to provide state-mandated public health services in addition to locally-mandated ones. Although larger municipalities may have the resources to meet most of their responsibilities, these municipalities are few in number. The majority of local public health authorities do not have the capacity to ensure that everyone in Massachusetts receives a basic level of public health protections as defined by the National Association of County and City Health Officials' *Operational Definition of a Functioning Local Health Department*¹¹ which includes standards aligned with the CDC 10 Essential Public Health Services.

Boards of health (BOH) in smaller towns are most likely to be volunteer-driven and unable to provide adequate services for their residents. A 2006 study by the Institute for Community Health (ICH) found that, of the smallest towns (less than 5,000 residents), 78% had no full time public health staff, 58% had no health inspector, and 90% had no public health nurse¹². The staffing of towns between 5,000 and 10,000 residents was not much more robust at the time of the ICH study. The result is that some municipalities are better protected than others, some critical services are simply not available in some jurisdictions, and some local public health boards and departments are unable to consistently meet their statutory responsibilities to protect the health of their populations.

Massachusetts cities and towns face many challenges in providing the CDC-defined 10 Essential Public Health Services at the local level:

- **Triaging Mandated Duties:** Some Massachusetts BOH reported inadequate staffing to fulfill basic regulatory and statutory responsibilities including retail food inspections, communicable disease surveillance, and community sanitation regulation enforcement (including septic and housing).
- **Capacity Gaps:** Many BOH are limited in their capacity to provide other public health services such as those that are designed to
 - prevent chronic disease, substance addiction, underage drinking, teen pregnancy, injuries, violence, and tobacco use
 - address disparities in health outcomes,
 - identify and address mental health problems (e.g., hoarding), and
 - support local needs assessment and public health policy development.
- **Inadequate Resources:** In addition to receiving no direct state funding for local public health services, BOH must compete with other municipal departments for limited funding. For example, public health is often a lower funding priority for cities and towns than support for public safety and education.

Local Public Health Workforce Capacity

The local public health workforce is comprised of the staff (e.g., directors, nurses, agents, and inspectors) and appointed or elected members of the boards of health. These are the people who are charged with carrying out the wide range of duties and responsibilities that are expected of every local public health authority. There are two key challenges with regards to the workforce: 1) there are not enough staff to meet the need (particularly in small towns) and 2) training, education, and credentials standards for the Massachusetts workforce are lacking. In its 2009 status report, the MPHRWG reported the following findings of a Massachusetts survey:

- Many local public health departments in Massachusetts were stretched too thin to meet growing expectations in the wake of the September 11, 2001 terrorist attacks.
- Over 70 percent of local public health officials reported that they did not have enough staff to consistently fulfill their responsibilities to the public.
- Local public health budgets did not keep pace with inflation.
- Vast and striking differences existed between public health resources available to smaller and larger municipalities and between municipalities in western and eastern Massachusetts.
- Nearly one fifth of the public health workforce was eligible to retire within two years of the survey. Health inspectors and public health nurses were in short supply.
- Educational requirements and salaries for essential public health personnel varied dramatically, and many public health board members lacked the training or skills to make informed decisions about local public health issues.

Funding for Local Public Health Services

Funding for local public health activities comes primarily from local taxes and fees. Massachusetts does not directly contribute funds for mandated local public health enforcement activities. Local aid to cities and towns from the state is available but it more often supports municipal services such as public safety other services than public health. Local public health funding varies dramatically among municipalities. Size of municipal population is not a reliable predictor of overall or per capita funding levels. Municipal budgets historically are very sensitive to downturns in the economy. Budget cuts, increases in non-discretionary costs such as health insurance and pensions, and competition for the municipal dollar from other departments such as schools and public safety have served to significantly limit financial resources available to public health in many municipalities in Massachusetts.

Strengthening Capacity through Shared Services

“Collaboration allows communities to solve problems that cannot be solved — or easily solved — by single organizations or jurisdictions.”

- Center for Sharing Public Health Services.¹³

Massachusetts has long recognized that public health services shared among municipalities is an effective way to address the limited capacity of some municipalities to carry out statutory duties and responsibilities³. National research indicates that for local public health jurisdictions covering population sizes up to about 500,000 residents, the essential functions of a public health department are more efficiently and cost-effectively carried out by one larger department rather than several smaller ones¹⁴. Research and experience in other states suggests that:

- Public health districts may enable municipalities to expand the range of services available for their residents;
- Districts have the potential to allow municipalities to afford more qualified, professional staff by pooling resources and expertise; and
- Districts have greater capacity to apply for grants and are more competitive in grant applications which can bring additional resources to their municipalities.

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

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

The Center for Sharing Public Health Services (CSPHS) has identified four cross-jurisdictional sharing (CJS) arrangements: As- Needed Assistance, Service-related Arrangements, Shared Programs or Functions, and Regionalization/Consolidation¹⁵.

From this CJS perspective, it is not necessary for each city and town in Massachusetts to pay for management of its own health department. By sharing specific services and/or management and administrative costs, across municipal lines, Massachusetts municipalities are able

to reallocate resources to increase the overall availability of inspectional services, public health nursing, disease prevention and control programs, health education, tobacco control, underage drinking prevention initiatives, and other services currently in short supply.

Massachusetts has several municipalities organized within public health districts that involve agreements to share services and resources. These districts vary in the degree to which they share services or resources. For example, the Tri-Town Health Department (Lee, Lenox, Stockbridge) and Quabbin Public Health District (Belchertown, Pelham, Ware) in western Massachusetts and the Nashoba Associated Boards of Health serving sixteen municipalities in central Massachusetts have provided a range of shared services in their service areas for many decades. Please see Appendix D for a complete list of Massachusetts public health districts and other cross-jurisdictional sharing arrangements.

Public Health Cross-Jurisdictional Collaboration in Massachusetts

“Resources for local health departments have diminished at the same time that responsibilities of local health practitioners have increased significantly . . . These inverse trends have yielded a local public health workforce not always able to provide the basic, essential public health services to their residents, as well as significant inequities across the Commonwealth in residents’ ability to access these services.”

- Massachusetts Public Health Regionalization Project³

The Massachusetts Public Health Regionalization Project (MPHRP) is the product of the MPHRWG operating with leadership and staff support from the Boston University School of Public Health and the full participation of the Massachusetts Department of Public Health. Established in 2005, the project promoted cross-jurisdictional sharing and regional approaches to address the challenges of the local public health system in Massachusetts. The MPHRWG includes representatives from all five of the state’s public health professional associations, local public health officials, the state departments of public health and environmental protection, and legislators. Its efforts have been supported by national

organizations and foundations including the National Association of County and City Health Officials, the Kellogg Foundation, and the Robert Wood Johnson Foundation. Many MPHRWG recommendations were adopted by a Regionalization Advisory Commission created in 2009 by an act of the Massachusetts legislature.

The project found vast disparities in the scope and quality of public health services available depending on where people live. Regionalization of public health services has the potential to ensure more equitable protection for the state's entire population by facilitating the cross-jurisdictional sharing of public health services among groups of municipalities. In this context, references to "regionalization" and "cross-jurisdictional sharing" may be considered interchangeable in this report.

In addition to the longstanding statutory responsibilities, local public health authorities in Massachusetts have been further challenged in the early part of the 21st century by increased responsibilities including:

- Since the 9/11 terrorist attacks, boards of health have assumed new responsibilities for emergency preparedness.
- Public health scares such as the H1N1 influenza and Ebola outbreaks overwhelmed other work for long periods.
- Massachusetts Title V septic inspections and other environmental duties increased dramatically after new regulations were promulgated by the Massachusetts Department of Environmental Protection (DEP).
- Several vector-borne illnesses including West Nile Virus, Eastern Equine Encephalitis (EEE), and Lyme disease have all increased in incidence, taxing local BOH in the area of disease surveillance and prevention.
- New enforcement responsibilities were assigned to BOH for body art and medical waste (sharps disposal).

The MPHRWG emphasized that regionalization should not be undertaken primarily as a short term, cost-saving measure. Cost impacts may vary for the municipalities involved in a regionalization effort. Depending on when and how districts are formed, cost benefits may take several years to accrue. A 2008 Pioneer Institute report on regionalization noted¹⁶, "While the cost benefits from regionalization are clear, the ability to provide better services is equally important."

The Massachusetts Public Health Regionalization Working Group advanced the following principles for public health regionalization:

- Equity—the state's entire population deserves access to high quality services to protect public health and prevent injury and disease.
- Impact—regionalization should strengthen the capacity of Massachusetts cities and towns to deliver the essential services of public health defined by the U.S. Centers for Disease Control and Prevention.

- Respect—municipalities need incentives for voluntary participation and continued authority to establish and enforce local public health regulations.
- Flexibility— municipalities may utilize different models of shared governance, staffing, management, financing, and enforcement to meet their needs; one size doesn't fit all.
- Sustainability—successful regionalization requires adequate and sustained funding and technical assistance to support a qualified public health workforce at the state and local levels.

Consistent with the CSPHS Spectrum, the MPHRWG defined two major models for public health districts:

Comprehensive Services District—all local public health services for municipalities participating in the district are carried out by one set of employees. Governance and legal policy making authority are retained by the municipal boards of health or may be delegated to a regional health board. This model reflects the “regionalization/consolidation” model explained in the CSPSHS Spectrum.

Shared Services District—a limited number of local public health services—not all—are carried out in common for municipalities participating in the district. Shared services models may include agreements that *all* district members will share *certain* services (e.g., public health nursing, environmental inspections, clinic operations), or agreements that the district will provide a “cafeteria” style menu of services from which participating municipalities may choose whatever services they desire from the district. This model contains elements of both the “Service-related Arrangements” and “Shared Programs or Functions” models in the CSPSHS Spectrum.

The MPHRWG recognized that the principle of flexibility was crucial for success of the program in Massachusetts. The unique configuration of the local public health infrastructure based in the 351 cities and towns in the state, each with a history of local control of all municipal services, suggested that no one model of cross-jurisdictional services would be viable throughout the Commonwealth.

Local Public Health Workforce Competencies, Training, and Credentialing

To ensure more consistency across local public health authorities, the Local Public Health Institute of Massachusetts' Advisory Council, a group closely aligned with the MPHRWG, established a subcommittee to develop a competency model and set of competencies for the local public health workforce in March 2006. Additional support was provided by the Health Resources and Services Administration via the New England Alliance for Public Health Workforce Development (now known as the New England Public Health Training Center) and Boston University School of Public Health.

The subcommittee drafted a model for local public health competencies based on specific programs within local public health authorities as well as a set of cross-cutting competencies. These competencies pertain to the following positions¹⁷:

- Environmental Health Professionals
- Governing Bodies

- Heads of Local Public Health Authorities
- Public Health Nurses

The competencies emphasized the need to increase the awareness (knowledge base) and performance of public health staff in providing services. The MPHRWG and Local Public Health institute developed a set of recommended qualifications for these four positions which if realized across the state would greatly enhance the training and competency of the local public health workforce¹⁷.

The Local Public Health Institute of Massachusetts, administered by the Boston University School of Public Health under contract with DPH, developed competency-based trainings available both in person and online which greatly expanded the availability of training for public health staff. These programs addressed both “awareness level” and “performance level” training needs of the local public health workforce.

Public Health District Incentive Grant Proposal

As a result of a series of discussions with public health stakeholders in 2007, DPH identified strengthening the local public health infrastructure as one of its five priorities. DPH and the MPHRWG collaborated on approaches to increase the capacity of the local public health system in Massachusetts to provide essential public health services across the state.

DPH defined a strategy to increase local public health capacity through regional collaboration among local public health departments in a grant proposal to the Centers for Disease Control and Prevention (CDC) through the National Public Health Improvement Initiative (NPHII) in 2010. NPHII funding had two components. Component I awarded five-year funding to 73 state and territorial jurisdictions to address performance management improvement and prepare for public health accreditation from the Public Health Accreditation Board. Through Component II, CDC awarded additional funds to a smaller number of states for further enhancement of efforts to effect public health system changes that improve public health impact. This report describes the Public Health District Incentive Grant (PHDIG) Program funded by Component II.

DPH proposed the use of a portion of Component II funds for a cross-jurisdictional sharing initiative designed to address significant gaps in the state’s local public health infrastructure as previously described in this report. The overall goal of the proposed Massachusetts Component II project was to redevelop the public health infrastructure to significantly increase the capacity of local public health authorities to perform core functions in areas for which they have critical responsibilities including infectious disease, food-borne illness, tobacco control, and obesity¹⁸. In order to achieve this goal, DPH proposed a major expansion of public health districts in Massachusetts through the PHDIG.

As proposed, the PHDIG Program was designed to provide planning grants, followed by multi-year implementation grants, to enable at least seven sets of municipalities in at least three different

geographic regions to enter into formal agreements to share public health services and co-employ professional staff. Combined with supplemental funds from the DPH Determination of Need (DoN) program¹, the PHDIG Program was expected to lead to the creation at least ten new districts that would cover half of the state's population, including Boston as an independent district. Each district created with PHDIG Program funding was required to:

- meet population and land area thresholds designed to cover as much of the state's population and as many municipalities as possible;
- address the range of statutory responsibilities of boards of health in Massachusetts – including accurate reporting and monitoring of diseases (using the Massachusetts Virtual Epidemiologic Network - MAVEN);
- develop municipal-level policy change implementing CDC-sanctioned best practices to address winnable battles of public health, including tobacco control and food safety;
- employ a qualified workforce, according to standards to be developed by DPH in cooperation with public health professional associations;
- conduct community health assessments using a standard national tool including data made available by DPH; and
- cooperate with the project evaluation team.

Following the planning grants, the NPHII proposal called for the awarding of four-year implementation grants to enable municipalities to form public health districts that would meet performance standards outlined above. Funding of up to \$150,000 would be available for each district to expand capacity to meet critical needs such as hiring public health nurses, epidemiologists, or food and housing inspectors. Implementation grants would support health agents to direct new districts and provide professional public health services for the first time to municipalities that lacked staff. Full implementation funding would be provided for three years and, in order to assist districts to make the transition to local sustainability, reduced funding would be provided in the fourth and fifth years. Given the legal structure of public health authority in Massachusetts and the fact that there is no direct state operational funding for local public health authorities to provide leverage or a *de facto* mandate to regionalize, there was strong consensus among all stakeholders that incentive funding was the only way to transform the state's local public health infrastructure¹⁸.

In years 4 and 5, a major focus of the proposed regionalization strategy was sustainability planning: ongoing implementation funding for the current PHDIG districts and support for the formation of new districts. The project sought to demonstrate not only the ability of municipalities to come together in a district but to achieve measurable public health gains as a result. Evidence of such gains would be a strong argument for new state funding to support the regionalization work. In addition, by building

¹ The DPH Determination of Need (DoN) program requires health care organizations applying for approval of capital projects to set aside funding for community health initiatives.

local capacity, the districts would be able to compete more effectively for state categorical program funding and federal funding opportunities through the Prevention and Public Health Fund.

Create a system of regional public health districts. Through its NPHII proposal, DPH sought to transform the Massachusetts local public health infrastructure and improve population health outcomes by covering a significant portion of the state's population in public health districts through which groups of municipalities would share staff and cooperate to provide core public health services for residents. The new districts would be created

- with the goal of ensuring that all of the state's municipalities are served by qualified public health professionals;
- to help prepare member municipalities for voluntary national accreditation by conducting formal community health assessments using standard protocols;
- to enable municipalities to address the mandated responsibilities of Massachusetts boards of health; and
- to build capacity to address infectious disease, food-borne illness, tobacco control, and obesity prevention at the local and regional level.

National Public Health Improvement Initiative Funding

Massachusetts was one of only 14 states that received competitive federal funding for public health infrastructure development through NPHII Component II. The original award was \$9.8 million over five years beginning in September 2010.

Annual funding of \$1.96 million in the first year was reduced in subsequent grant years to \$993,662 due to Congressional budget cuts. The funding cut resulted in a less ambitious Massachusetts plan to support fewer public health districts than had been proposed. In order to fully fund five public health districts, DPH supplemented the reduced funds from CDC with funds from the Determination of Need Program (DoN).

DPH learned of the budget cut early enough in the PHDIG planning process to make the following revisions to its plans:

- Extended the planning period by 45 days to allow applicants more time to prepare their implementation applications;
- Reduced the number of public health districts to be funded by the NPHII grant from "at least seven" to three;
- Reduced the number of years of implementation funding from four to three;
- Changed funding from three years of full funding followed by two years of step-down funding to two years of full funding followed by two years of step-down funding; and
- Re-allocated funds from the DoN program that were planned to fund a fifth implementation year to support at least one additional district.

Impact of CDC Budget Reductions

In 2011, one year after receiving the CDC grant award, DPH learned that the annual grant funding would be reduced by 49.3% from \$1.96 million to \$993,662. DPH planned to use Determination of Need (DoN) funding to supplement the CDC award to enable DPH to add an additional year to the implementation grant program, allowing grantees to continue operations through FY 2016. As a result of the reduced funding, DPH was only able to support the implementation process through FY 2015.

A second budget reduction was implemented by CDC when the fifth year of NPHII funding was eliminated due to another round of Congressional budget cuts but CDC offered a No-Cost Extension of the grant. As a result, DPH was able to continue the PHDIG program through the end of the original five year grant term supported by CDC carry over funds and supplemented by funds from the DoN program.

This report provides the background for the PHDIG program and documents evaluation findings, accomplishments, lessons learned, and recommendations to further advance the local public health system in Massachusetts.

Planning Grants. DPH awarded planning grants to eleven groups of municipalities selected on the basis of responses to a competitive Request for Responses (RFR) application process. Planning grant recipients were eligible to apply in 2011 for multi-year implementation grants to fund district start-up and operating costs. Only groups of municipalities that received planning grants were eligible to apply for implementation grants.

When DPH announced the availability of funding to support the formation of new public health districts or the expansion of existing districts, over twenty groups of municipalities expressed interest. While a few of those groups were unable to mobilize in a way to respond to the planning grant RFR, eighteen groups of municipalities representing 141 municipalities and over 2.3 million residents submitted applications.. Eleven groups received planning grants in March 2011. These prospective districts encompassed 114 cities and towns with over 1.7 million residents. Planning grants ranged from \$15,000 to \$30,000 for about 7 months. The total cost of the planning grants was \$260,000 (about 15 cents per capita).

Planning grants enabled the nine districts that applied for implementation funds to establish their readiness to move rapidly to implement key provisions including early signing of inter-municipal agreements (IMA), hire staff, establish a governing structure, and determine the services that would be provided to member municipalities. For example, the Franklin County Cooperative Public Health Service (FCCPHS) was not originally funded as an implementation district but the district successfully used the planning funds to build an infrastructure during the planning year and extended the effort during the unfunded year (year 1 of implementation for the other PHDIG districts). When the opportunity arose for

FCCPHS to receive implementation funding through the program, the district was ready to immediately participate.

Implementation Grants. DPH awarded implementation grants to five selected districts for a period of four years. The first year of implementation funding for each district was intended to define that district's "full funding" level of \$100,000 which was maintained through the second year of implementation funding. In the third year, each district was awarded \$75,000. The final year of implementation funding was originally budgeted at \$50,000. Due to the elimination of the final year of NPHII funding, districts received only \$20,000 in DoN funds but were able to maintain full operations with NPHII carryover funds. Districts were expected to develop and implement plans to sustain their operations without additional DPH support at the end of the program.

Technical Assistance. DPH provided several forms of technical assistance to the planning and implementation grantees over the course of the five year program:

- Legal assistance to municipalities was provided by the Massachusetts Association of Health Boards (MAHB) which assisted districts in drafting and implementing IMAs and setting fee structures;
- Community health assessment training and consultation was provided by Health Resources in Action (HRIA);
- Workforce qualification consultation and regular training seminars were organized and provided by the Boston University School of Public Health; and
- Evaluation and data analysis were provided by the Institute for Community Health (ICH)

The cost for technical assistance and training was approximately \$1.3 million over the five years of the program (planning and implementation phases).

Total funding for the five-year program (planning, implementation, technical assistance, and evaluation) was approximately \$2.9 million (about \$3.60 per capita).

PHDIG Purpose and Objectives

In 2010, the Massachusetts Department of Public Health used NPHII II and DoN funds to support the establishment of a cross-jurisdictional public health services sharing initiative, the Public Health District Incentive Grant Program (PHDIG). The purpose of PHDIG was to provide financial support for groups of municipalities to enter into formal, long-term agreements to share resources and coordinate activities in order to improve the scope, quality, and effectiveness of local public health services for their combined populations. The program had six major goals:

- 1) Improve the scope and quality of local public health services in Massachusetts, consistent with the “Ten Essential Public Health Services” defined by CDC.
- 2) Achieve optimal results with available resources for protecting and promoting health and preventing injury and disease.
- 3) Reduce geographic disparities in the capacities of local public health systems to carry out the responsibilities of boards of health under state laws and regulations.
- 4) Promote policy change to remediate persistent and emerging public health challenges.
- 5) Strengthen the qualifications of the state’s local public health workforce and the capacities of boards of health to perform their legal responsibilities.
- 6) Prepare for voluntary national accreditation of local public health systems.

PHDIG Program Implementation

Planning Grants

The eleven planning grant recipients were expected to

- 1) Engage municipal officials and boards of health in collaborative planning to form districts.
- 2) Enable applicant municipalities (or existing districts) to recruit additional municipalities to form or expand proposed districts.
- 3) Assess and document needs and opportunities and develop plans for sharing staff, services, and functions among partner municipalities.
- 4) Develop plans for cooperative governance, financial management, and administration of programs, personnel, and policy development among district members.
- 5) Negotiate arrangements with fiscal and administrative agents for districts, where appropriate.
- 6) Develop plans to meet district workforce qualifications, specified in the RFR.
- 7) Develop plans to meet performance requirements of districts, specified in the RFR.
- 8) Develop proposed budgets for district start-up and operations.
- 9) Prepare and submit applications for implementation grants under the PHDIG program.

Implementation Grants

As described elsewhere, due to the federal budget reduction in 2011, DPH scaled back the original vision of funding as many as seven public health districts. The remaining federal funds, supplemented by DoN funds, allowed for the funding of five implementation districts.

District Performance Requirements

PHDIG districts were required to meet several performance standards as a condition of funding.

Governance. Districts were required to establish governance structures involving representatives of all participating municipalities. District governance boards were required to meet regularly under established rules of procedure to make democratic decisions about district policies, personnel, operations, and finances.

Board of Health Legal Responsibilities. In order to meet the responsibilities of boards of health to respond to reportable diseases, each district was required to ensure that every municipality in the district joined and utilized the Massachusetts Virtual Epidemiological Network (MAVEN) system by August 31, 2012. In addition, each district was required to document that it met the responsibilities of boards of health to address food safety, childhood lead poisoning, beach, camp, and indoor ice skating rink safety with qualified personnel for its combined population within one year of its implementation grant award. Each district was required to submit to DPH a performance improvement plan for addressing additional responsibilities of boards of health for its combined population over the course of the PHDIG program.

Planning and Health Promotion. Each district was required to complete and publicize findings of a community health assessment (CHA) for the district's combined population within 18 months of its implementation grant award. Districts were also required to conduct a sustained, district-wide initiative to promote healthy weight and/or prevent and reduce tobacco use in the district's combined population, consistent with CDC's Winnable Battles (CDC, 2016). Collaborations with existing Massachusetts Tobacco Control Program local initiatives and Mass in Motion local physical activity promotion activities were specifically encouraged.

Collaboration. Districts were required to develop active partnerships with hospitals, higher education institutions, community health centers, other health and human service providers, and other businesses and organizations.

Workforce Qualifications. Staff paid in whole or in part with PHDIG funds to work as head of a health agency, public health nurse, or environmental health professional were required to meet workforce qualifications specified by the department unless they were hired prior to PHDIG program funding.

Board of Health Training. Districts were expected to ensure that their board of health members received training according to standards defined by DPH .

Profiles of PHDIG Public Health Districts

The five PHDIG-funded districts currently encompass sixty-one cities and towns and serve over 870,000 residents. The following is an overview of each PHDIG district.

Table 1. Summary of PHDIG Implementation Districts

District	Population*	Municipalities
Berkshire Public Health Alliance*	109,243	24
Franklin County Cooperative Public Health Service	15,501	11
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
Total	870,756	61
*2010 U.S. Census		

*Berkshire Public Health Alliance added two municipalities after funding ended.

A list of municipalities in each district is provided in Appendix D. A map showing PHDIG districts is in Appendix E.

Berkshire Public Health Alliance

The Berkshire Public Health Alliance (BPHA) is a shared services public health delivery model formed across twenty-one municipalities, all of which have signed an Inter-municipal Agreement. The Berkshire Regional Planning Commission is the lead fiduciary agent. The area served is largely rural, comprised of small municipalities with limited capacity and access to public health professionals. Their regional model was designed to expand and improve inspectional services and public health nursing services, including communicable disease control. Given the historic lack of investment in local public health services and strong home rule culture in the Berkshires, the group opted to design a shared service model that allowed municipalities to voluntarily purchase one or more services from the BPHA. Municipalities could also opt to be a part of BPHA for networking and coordination purposes only. BPHA is governed by a representative board comprised of at least one individual per municipality.

BPHA completed a Community Health Assessment in 2012 and continues to collaborate with a regional steering committee on projects to improve community health in the areas of substance addiction, mental health, healthy weight and exercise, motor vehicle accidents, teen pregnancy, and tobacco use.

BPHA approached sustainability through charging fees for services that cover costs. BPHA now consists of twenty-four member municipalities with no cost to join. Ten municipalities purchase nursing services and six purchase comprehensive inspectional services. Other municipalities are able to contract for specific services on the cafeteria model. BPHA has been able to successfully compete to receive outside funding from the DPH Bureau of Substance Addiction Services and the Federal Food and Drug Administration (FDA), among others.

Franklin County Cooperative Public Health Service

The Franklin County Cooperative Public Health Service (CPHS) region is comprised of the Franklin Regional Council of Governments (FRCOG) and eleven municipalities. These eleven municipalities have entered into a formal inter-municipal agreement with FRCOG for shared public health services in the region. The regional services offered are a comprehensive set of public health services, including housing, food, septic, camp, pool and other inspections, as well as public health nursing and grant writing. FRCOG is responsible for hiring and supervising staff to perform these services. Eight of the

eleven municipalities receive comprehensive services and three have opted for shared public health nursing services.

CPHS has developed a robust governance structure that includes representative board members from each municipality, most of whom are local board of health members. The Board provides input and oversight, by developing goals and priorities, assessing staffing, establishing a membership fee formula, reviewing financial documents, drafting budgets, and reviewing and act on reports from staff. Member municipalities are able to receive the following services: sanitation and food inspection, public health nursing and surveillance, lead paint, and housing.

Central Massachusetts Regional Public Health Alliance

The Central Massachusetts Regional Public Health Alliance (CMRPHA) district consists of seven municipalities, with the Worcester Division of Public Health as the lead agency. The CMRPHA designed and implemented a municipally-managed comprehensive health district with a single set of employees that offer both community and environmental health services throughout the district. By partnering with local hospitals, health centers, a health insurer, the regional Community Health Network (CHNA) and community-based organizations they have strengthened the public health system in order to deliver the CDC-defined Ten Essential Public Health Services. These partnerships have enhanced their current level of public health service delivery through expanded programming provided by partners and collaborative grant-writing to fund community health services across municipalities. The CMRPHA has an advisory board comprised of board of health members and/or elected officials in each participating municipality. Senior members of the health department also attend monthly local board of health meetings in each municipality.

Regional services offered include sanitation/food inspection, public health nursing, surveillance, emergency preparedness and response, and health assessment and planning.

The Central Massachusetts Regional Public Health Alliance was chosen to participate in a national cross-jurisdictional services demonstration project. Funded by the Robert Wood Johnson Foundation and administered by CSPHS, the program goal was to strengthen the ability of public health agencies to improve the health of the municipalities they serve by supporting efforts to explore, inform, and track the implementation of innovative regional or shared approaches to delivering public health services. CMRPHA was one of 16 sites selected for the demonstration project.

Montachusett Public Health Network

The Montachusett Public Health Network (MPHN) is comprised of eleven municipalities with the City of Fitchburg as the lead administrative and fiscal agent for the district. Their scope of service includes addressing disparate rates of obesity, while enhancing and providing public health nursing and environmental health services to support the equitable delivery of public health services across participating municipalities. The MPHN has a strong and growing partnership with local hospitals and

community based organizations, which has allowed for cross collaboration and enhancement of public health services and education across in their region.

MPHN developed a multi-year opioid abuse prevention program with funding from DPH Bureau of Substance Addiction Services. The Network has developed a regional cost center that sustains the program through an annual retainer fee and fees for service for individual inspections and investigations.

North Shore Shared Public Health Services Program

The North Shore Shared Public Health Services Program (NSSPHSP) was formed among eight northeastern Massachusetts municipalities which signed an inter-municipal agreement with the City of Salem as the planning and fiduciary agent. The NSSPHSP is governed by local public health directors who meet monthly to network and collaborate on the development of smoke-free public housing initiatives and other shared activities.

Regional services offered include sanitation and food inspection, public health nursing, and housing inspections. A major focus of the project is to improve current trends in chronic diseases, specifically pediatric asthma rates across the region by working with local housing authorities to reduce asthma by creating smoke-free housing and integrated pest management strategies.

Merrimack Valley Health District (Funded only in implementation year one)

The Merrimack Valley Health District consisted of three cities, with the City of Methuen as the lead planning and fiduciary agent. Planning activities resulted in the formation of a shared service public health delivery model aimed at enhancing public health nursing follow-up and communicable disease reporting, and strengthening environmental health inspectional services. They sought to collaborate with local hospitals to facilitate a culturally appropriate obesity reduction campaign and provide expanded health education resources across the region. DPH ended the contract when the lead health director from Methuen was laid off and the group did not develop an alternative plan for implementing the shared service model they proposed.

Evaluation and Technical Assistance

DPH contracted with several partners to provide technical assistance to the five PHDIG districts.

Evaluation. All districts participated in an evaluation conducted by the Institute for Community Health (ICH). ICH staff met regularly with each district and compiled data over the course of the four year grant period on all of the deliverables in the original grant including inspectional services conducted, communicable disease surveillance conducted by public health nurses, training of board of health members, and workforce qualifications. A full evaluation of the implementation phase of the PHDIG program prepared by ICH appears in Section Two of this report.

Legal and Financial Planning Assistance. The Massachusetts Association of Health Boards (MAHB) provided legal and financial planning assistance to the districts. MAHB was instrumental in assisting the districts in drafting inter-municipal agreements and winning approval of the agreements from the individual municipalities' governing bodies. Additional assistance was provided to the districts in planning for sustainability beyond the life of the grant, particularly regarding assessing fees for inspectional and nursing services provided to member municipalities by the public health districts. DPH continues to provide the districts with legal assistance with funds from the Preventive Health and Health Services Block Grant.

Community Health Assessment. Health Resources in Action (HRIA) provided training and guidance to districts in conducting comprehensive assessments of the health of the residents in their respective districts. Each of the five districts completed a Community Health Assessment during the grant period, assisted by HRIA.

Workforce Training and Resources. The Boston University School of Public Health (BUSPH) Public Health Practice Program provided a range of services to the PHDIG districts. BUSPH staff provided technical assistance on workforce development and public health management. They coordinated a Learning Collaborative (LC) open to all PHDIG districts and other public health regional initiatives. LC sessions were held quarterly to provide the districts with opportunities for sharing of experience and best practices, resources and planning for financial stability, and linkage to the National Center for Sharing Public Health Services. The National Center participated directly in several of the LC sessions and material from the center was regularly distributed to the districts by staff at BUSPH. DPH also provided information to grantees about voluntary accreditation through the national Public Health Accreditation Board.

Sustainability Planning

Each PHDIG grantee submitted required sustainability plans. Although the detail and content of those plans varied across the grantees, each plan provided insight on the challenges and opportunities associated with sustaining PHDIG districts after grant funding. Several recommendations for fostering sustainability also emerged from the discussions with PHDIG leadership.

Challenges. Conversations with leadership of the PHDIG grantees identified the following challenges:

- Sustainability plans were limited in their attention to long-term financial planning.
- Concerns were expressed about full cost accounting, fee structures, and break-even analysis.
- Obtaining and sustaining buy-in from municipal leadership (town administrators and boards of health) was a commonly cited concern.

- In reference to concerns about workforce standards, feasibility planning, and capacity building, one PHDIG leader stated “Making us bigger does not necessarily make us better.”

Opportunities. By collaborating with other municipalities, PHDIG leaders reported that municipalities were better positioned to compete for grants that enhanced their ability to offer community health programs. As one PHDIG leader stated “we would have never been able to provide some of these programs had it not been for this collaboration”. Other funding (federal and private foundation grants) that aligned with needs identified in community health assessments and CDC “Winnable Battles” contributed to a sense of stability and sustainability for PHDIG grantees.

Recommendations to Achieve Sustainable Districts

PHDIG leaders offered several suggestions for sustainability of public health districts:

- Inter-municipal agreements that are longer than three years contribute to an understanding among the municipalities that district formation takes time.
- Invest human and political capital in developing financial sustainability plans at the outset.
- If state public health district incentive funds are provided, require a co-investment of local resources that increases as the public health district matures.
- Set minimum training and education standards for the local public health workforce.
- Create a local public health “report card” that tracks and documents progress.

DPH Support for Public Health Districts

Office of Local and Regional Health Follow-up. In October 2013, DPH created the Office of Local and Regional Health (OLRH) to 1) provide a coordinated system to support local public health officials, 2) connect local public health with DPH programs, services, and resources, and 3) enhance public health capacity at the local and state levels. After PHDIG funding ended, OLRH staff met with lead staff for each of the PHDIG districts to review sustainability and to identify opportunities for additional technical support from DPH. In doing so, DPH signaled its commitment to an ongoing relationship with the PHDIG districts as important, sustainable elements of the local public health system. A summary of the findings from the structured interviews with PHDIG leaders follows.

An important part of the conversation with the PHDIG leaders was to determine the kinds of ongoing support that the PHDIGs need to sustain and grow their districts:

- Leaders overwhelmingly indicated that DPH support for setting standards for the local public health workforce and establishing minimum local public health staffing levels is critical to success of public health districts.
- The position of local boards of health in municipal budget debates would be enhanced by the existence of workforce standards and minimum staffing. Without that support, local public health

will continue to unsuccessfully compete with schools, fire departments, and police departments for local funding.

- Community health assessment (CHA) and community health improvement planning (CHIP) were seen as important tools for local public health officials. Technical assistance in planning and conducting CHA was invaluable to the PHDIG grantees. Translation of CHA priorities and needs into actionable items in a CHIP was also seen as an important form of support for the PHDIG districts.
- Legal and financial technical assistance contributed to success and performance of the PHDIG districts.

Recommendations for Ongoing DPH Support. PHDIG leaders offered the following recommendations for the kinds of support that DPH can provide to PHDIG grantees:

- Provide funding to support Community Health Improvement Plan development.
- Support Registered Sanitarian and Certified Health Officer credentialing by offering test preparation courses through the Local Public Health Institute.
- Provide business planning technical assistance.
- Include accreditation planning as part of sustainability planning.
- Create a public health district readiness self-assessment tool.
- Develop a public health districts sustainability toolkit that includes standard content and format.

Findings

Impact of the PHDIG Planning Grants

Eleven regions were funded in 2011 for an approximately seven month planning period to engage municipal officials and boards of health in collaborative planning to form regional public health districts. During the planning period the districts were expected to assemble a sustainable infrastructure to support regional delivery of local public health services. Specific planning activities might include plans for sharing staff and establishing workforce qualifications, governance, fiscal and administrative processes, and preparation and application for implementation funding.

Most of the funded regions utilized outside consultants to facilitate a strategic planning process. Frequent meetings were held among local public health officials, board of health members, and other elected and appointed municipal officials such as boards of selectmen and town managers. They conducted visioning activities, examined most appropriate service delivery models, and planned for staffing and governance as they prepared to apply for implementation funding.

ICH conducted an evaluation of the planning process which included interviews with leaders from each of the funded regions. The participants were motivated to participate in the PHDIG program for a number of reasons including:

- Recognized lack of capacity to provide state mandated services.
- Desire to expand public health services offered to public.
- Opportunity to expand existing regional partnerships.
- Increase efficiencies in service delivery/staffing.
- Lower costs of public health service delivery.
- Perceived strength in numbers.
- Fiscal responsibility.

Participants in the ICH evaluation reported that the planning process was aided when existing relationships between municipalities were in place, the planning process was well-structured and facilitated, and legal and other forms of technical assistance were provided. The planning process was challenged by issues regarding local control of participating municipalities, as well as trust issues, limited time for the planning process, and differences in opinion about the purpose of cross-jurisdictional service sharing. That is, some municipal leaders viewed cross-jurisdictional services as a way to save money while others saw it as a means to enhance public health services.

Nine of the eleven funded planning regions were able to put an infrastructure in place and apply for implementation funding. Planning groups in Greater Lowell and Metrowest opted out of the implementation application process.

Impact of the PHDIG Implementation Grants

Based on the findings of the evaluation team and later follow-up interviews with leadership of each PHDIG district, the PHDIG program featured several significant accomplishments over the course of the five year duration of the planning and implementation phases:

- The number of Massachusetts municipalities in public health districts or shared services arrangements more than doubled from 50 (14%) to 111 (32%).
- The Massachusetts population served by shared public health services or public health districts nearly tripled from approximately 450,000 residents (7%) in 10 districts to approximately 1,250,000 residents (19.5%) in 15 districts.

A map of all Massachusetts public health districts and shared services municipalities is provided in Appendix E.

- Every community in the final group of five districts participating in the program signed an inter-municipal agreement with the lead agency in its district.
- As documented in an evaluation of the program conducted by the Institute for Community Health (ICH), each district made specific performance improvements in the delivery of public health services (See Section Two of this report.)
- Each district completed a comprehensive Community Health Assessment.

- Each district established an effective governing structure
- All of the districts mounted successful health improvement campaigns aligned with the CDC Winnable Battles Initiative.

PHDIG Program Success in Meeting Goals

The following is a discussion of the success of the PHDIG program in meeting the six original goals of the program.

Improve the scope and quality of local public health services in Massachusetts, consistent with the “Ten Essential Public Health Services”.

As documented in the ICH evaluation of the five year program, every district made specific performance improvements in the delivery of public health services. Among the key findings:

- PHDIG districts substantially increased the number of required food inspections conducted each year from baseline in 2011 to 2014. In 2011 only 43% of all PHDIG municipalities met the state mandate of 2 inspections per establishment per year. In 2014 that figure increased to 73%.
- In 2010, prior to the launch of the PHDIG program, 55% (31/56) of participating municipalities were trained and using MAVEN, the state’s electronic epidemiological surveillance and reporting database. By the end of the grant period, 96% (54/56) of municipalities were receiving and responding to local communicable disease reports using MAVEN.
- At baseline in 2012, only 74% (n=42) of participating municipalities had the capacity to conduct their own lead determination (without relying on DPH inspectors). By 2015, 97% of participating municipalities (n=56) had lead determination capabilities.
- PHDIG municipalities’ compliance in submitting beach inspection reports and meeting the Massachusetts state mandate for weekly water sampling rose from 91% in 2011 to 96% in 2014.
- In 2011 67% (n=36) of 33 PHDIG member towns met the Massachusetts Sanitary Code’s stipulation regarding sharps disposal. In Year 4 of the grant, this figure had risen to 98% (n=57).

Achieve optimal results with available resources for protecting and promoting health and preventing injury and disease.

Every district completed a comprehensive Community Health Assessment (CHA) and used the results of the assessment to identify and implement a community health improvement campaign aligned with CDC’s “Winnable Battles” initiative. Measureable results from the various health improvement campaigns will only be forthcoming in future years. Involvement in a CHA process and community health improvement campaign provided opportunities to the districts and participating health departments for community engagement with other local public health stakeholders. These activities are required for PHAB accreditation.

Reduce geographic disparities in the capacities of local public health systems to carry out the responsibilities of boards of health under state laws and regulations.

The PHDIG program served a total of 58 municipalities with over 800,000 residents. Taken as a whole, the geographic configuration of the five districts served to reduce regional disparities. The Berkshire, Franklin county, and Montachusett districts all served historically underserved rural areas which benefited from the expanded delivery of services. The Central Massachusetts district extended the resources of the Worcester Division of Public Health in support of six surrounding rural/suburban underserved towns. On the North Shore, the eight participating municipalities – four mid-sized cities and four smaller towns – utilized the PHDIG funding to leverage existing and other grant resources to approach parity in the delivery of public health services across the region.

Promote policy change to remediate persistent and emerging public health challenges.

Each district was able to successfully negotiate Inter-municipal Agreements among all participating municipalities, which established an infrastructure for decision-making and support for the districts' activities. The involvement of the districts in other policy change efforts was disparate. The North Shore Shared Public Health Services Program was successful in supporting smoke-free housing policies in the Housing Authorities in some of their municipalities. The Franklin County Cooperative Public Health Services district was able to implement region-wide public health environmental health policies governing private well permitting, food inspection, title 5 inspections, communicable disease, and optional family burial checklists. Several districts established a fee schedule for environmental inspections. Several districts remain active in response to the opioid epidemic and are working collaboratively with local and regional partners on policy changes to prevent and expand treatment of substance use disorder.

Strengthen the qualifications of the state's local public health workforce and the capacities of boards of health to perform their legal responsibilities.

All health inspectors and public health nurses supported with PHDIG grant funds to serve municipalities districtwide met the minimum workforce qualifications for their positions and continue to be provided by staff who meet workforce requirements of the PHDIG program. However, the PHDIG program did not result in the establishment of minimum workforce qualifications for other staff employed by the BOH who serve only the community in which they are employed (that is, staff not employed by the district).

PHDIG was successful in increasing the number of BOH members who participated in training. In many cases, the BOH members received awareness level training with regards to their duties and responsibilities rather than a more comprehensive training.

Prepare for voluntary national accreditation of local public health systems.

National public health accreditation provides a framework to improve the delivery of public health services consistent with the Ten Essential Services. Local and regional health departments that have participated in the accreditation process report substantial benefits in service delivery and performance¹⁹. PHAB accreditation presents a challenge for many health departments in Massachusetts due to the decentralized nature of the public health system. PHDIG participants and other health jurisdictions report concerns about the extensive time commitment required to apply and assemble necessary documentation as well as the cost of the application process, which are beyond the capacity of many municipal health departments.

PHAB includes the opportunity for multijurisdictional arrangements to apply for accreditation. Applicants that meet the PHAB definition of a Tribal or local public health department may apply jointly for PHAB accreditation if some essential services are provided by formally sharing resources and the sharing of resources can be clearly demonstrated.

Recommendations

After the end of the grant funding period, representatives of DPH and the evaluation team at ICH surveyed and held discussions with the five grantees. The following recommendations are based on feedback from the grantees, the data compiled by ICH in the evaluation, and further discussion among technical assistance providers and DPH staff. DPH, the Coalition for Local Public Health, the Massachusetts Public Health Regionalization Working Group, and other local public health stakeholders can use the lessons learned from the PHDIG project as they continue to explore cross-jurisdictional sharing as one approach to elimination of disparities and overall enhancement in the delivery of local public health services.

Continue providing technical assistance and financial support to local municipalities who are interested in cross-jurisdictional service sharing.

- Maintain a role for the Office of Local and Regional Health in supporting cross-jurisdictional sharing.
- Continue to support legal technical assistance to local boards of health. Almost every participant indicated that the legal assistance provided by the Massachusetts Association of Health Boards during development of inter-municipal agreements was invaluable. The legal counsel in most municipalities is unfamiliar with public health laws and regulations and some are more risk averse than others.
- Assist with evaluation and performance monitoring and analysis of data and assessment is also a critical need for many BOH.
- Provide technical assistance related to financial and business planning and governance structure design to ensure sustainability newly forming and established public health districts and collaborations.

Establish and enforce workforce qualifications for local public health staff

The lack of workforce qualifications and legal or financial penalty for not assuring quality public health services provides a great challenge for local public health leaders. Without consequences, these services are more easily placed on the chopping block than others. The requirements of the PHDIG program, which included minimum workforce qualifications, performance expectations, and monitoring, helped lead agencies articulate what professional public health services look like, demonstrate not only what they truly cost, but also the benefits they can provide to municipalities. Many participants noted that if you want to improve the equitable delivery of quality public health services in Massachusetts, you must create a clear vision, provide support to achieve the vision, and hold municipalities accountable.

Allow regional reporting

Regional districts' compilation and analysis of inspectional service and communicable disease data might be made easier and improve compliance with reporting requirements if DPH were to allow for regional reporting of local public health data.

Revise and support BOH staff licensing and certification

Efforts to strengthen the qualifications of the local public health workforce should be complemented and supported through revisions to licensing and certifications for local public health staff administered by the Division of Professional Licensure. The qualifications for Certified Health Officer (CHO) should be broadened from its current focus on environmental health to also incorporate management and community health knowledge and skills. Preparation for both the CHO and Registered Sanitarian (RS) licensure examination should be incorporated into the curriculum of the Local Public Health Institute. DPH and the Coalition for Local Public Health should promote existing opportunities for training local board of health members available through the Local Public Health Institute and the Massachusetts Association of Health Boards.

Workforce credentialing

All municipalities should have access to fully qualified and credentialed public health professionals.

Promote and provide technical assistance to BOH for preparation for national accreditation

Accreditation provides a framework for a health department to identify performance improvement opportunities, to improve management, develop leadership, and improve relationships with the community. The accreditation process would enable BOH to address some of the challenges identified in this report. The delivery of public health services in Massachusetts would be enhanced through increased participation among BOH in the accreditation process. DPH should promote PHAB accreditation and support regional and local health departments in the application process. The DPH Accreditation Team is available to provide technical assistance to districts or individual health departments interested in applying for PHAB accreditation.

Provide financial support to boards of health

Public health stakeholders groups such as the Coalition for Local Public Health and the Regionalization Working Group should advocate for additional financial support through incentive grant programs to support targeted efforts to enhance local public health. These efforts could include support for compiling comprehensive community needs assessments and health improvement plans, workforce development, public health management, and preparation for national public health accreditation.

Recommendations for local public health leaders involved in cross-jurisdictional service sharing

Based on comments and discussion among local and regional public health and municipal officials who participated in the planning and implementation processes the following recommendations and lessons learned are relevant for local public health stakeholders involved in future regionalization efforts:

- Engage trusted sources within the organization and community.
- Involve key stakeholders.
- Understand early on who all the key stakeholders are in each partnering municipality. Invest time and resources upfront in engaging them in program conception, design, and implementation. This helps to cultivate “local champions” for shared service delivery, and helps ensure that the approach selected will have support.

Strive for consensus in vision and goals

Conduct open and honest conversations during the initial phases of implementation to ensure that the key stakeholders in each municipality have a real understanding of what it takes to do the work. Before settling on a structure and service plan reach consensus on what the regional public health system should strive to achieve.

Design a realistic and responsive structure

Develop consistent channels of communication and transparency in decision-making and have realistic expectations based on achievable goals and objectives. Choose a lead/fiscal agent that is respected across the region.

Emphasize sustainability, management, and long-term planning

Newly forming public health districts and sharing arrangements benefit from long term planning to ensure sustainability. Specific steps might include negotiation of longer term Inter-municipal agreements, inspectional and nursing service fee structures, provisions for conducting community needs assessments and health improvement plans, workforce development plans, and quality improvement approaches.

Plan for accreditation

Public health accreditation provides a framework for success in the delivery of quality public health services. Regional districts and sharing arrangements will be enhanced if plans to apply for national accreditation are incorporated into the planning process at their outset.

Guidance for Future Investments in the Massachusetts Local Public Health System

The PHDIG project provided an important opportunity to apply guiding principles developed by the MPHRWG to groups of Massachusetts municipalities selected through a competitive application process. It sought to test whether incentive funding for the creation of regional arrangements for the delivery of local public health services would result in sustainable public health districts.

Decisions about future state-level investments in the creation of regional arrangements should:

- Review the criteria used for selection of PHDIG planning and implementation grant recipients to determine if they might be modified based on PHDIG experience.
- Explore the value in initial co-investment by member municipalities of proposed districts.
- Draw from the growing national knowledge-base on cross-jurisdictional sharing.

Ongoing Support and Opportunities for System Growth

Sustainability, Technical Assistance, and Monitoring

When the program ended DPH planned to continue to provide limited technical support for the five districts funded under the PHDIG program. Although not able to provide as robust a set of technical assistance services as was available during the grant period, DPH is able to provide limited legal technical assistance from the Massachusetts Association of Health Boards, support for community health assessment and community health improvement planning through the DPH Office of Community Health Planning and Engagement and the DPH-funded Community Health Training Institute, training through the Local Public Health Institute at the Boston University School of Public Health, and assistance with national accreditation preparation. The Office of Local and Regional Health configured its leadership and technical assistance for local public health authorities by deploying staff who focus on a) large cities (populations over 70,000), b) rural municipalities (generally, populations less than 10,000 people), c) workforce development, and d) accreditation.

Conclusion

The PHDIG program provided financial incentives, training, and technical assistance to establish flexible regional public health districts. The districts provide enhanced public health services beyond those available at the beginning of the program. Each of the five PHDIG districts demonstrated the capacity to function beyond the life of the grant. The Central Massachusetts Regional Public Health Alliance and Franklin County Cooperative Public Health Services districts approach the “comprehensive services”

model as described by the Massachusetts Public Health Regionalization Working Group. The other districts continue to function on the “shared services” model.

The intent of the PHDIG program was to provide options and flexibility to applicants interested in taking advantage of the incentives in the grant to create regional collaborations that reflect the reality of local health departments in their region. The disparate nature of the districts reflects the reality of the decentralized structure of public health in Massachusetts which is based on strong home rule across the 351 municipalities.

Ongoing monitoring of the PHDIG districts will contribute to our knowledge of factors that contribute to their sustainability. The experience of the five districts have added to the body of knowledge about the potential for cross-jurisdictional services as an effective means of addressing the inequities in the Massachusetts local public health system. The experience in Massachusetts and other states demonstrates that shared services arrangements among jurisdictions result in more public health services and community health programs.

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Section Two: PHDIG Evaluation Team Report

The Institute for Community Health (Justeen Hyde, PhD and Nazmim Bhuiya, MPH) prepared an evaluation report under contract with the Massachusetts Department of Public Health (DPH). The following report incorporates edits by DPH staff to the evaluation report submitted by ICH.

Grantee Requirements

DPH outlined a number of requirements that grantees were expected to meet or work towards through their cross-jurisdictional service arrangements. These requirements are outlined in Table 1. They formed the basis of the cross-site evaluation that was conducted in collaboration with grantees.

Table 2: PHDIG Requirements

District Composition	To be eligible for funding, grantee groups were required to meet minimum size requirements: (a) a combined population of at least 50,000 (not including summer-only residents) and/or (b) a land mass of at least 150 square miles, and/or (c) at least five municipalities, and/or (d) a single county.
Retail Food Inspection	105 CMR 590.000 (Minimum Sanitation Standards For Food Establishments - "Food Code" - State Sanitary Code Chapter X) requires each municipality to submit a food inspection report to DPH annually. According to section 8-401.10(A) of the Food Code, each municipality must complete a minimum of two food inspections per licensed food establishment per year .
Beach Inspection	105 CMR 445.000 (Minimum Standards for Bathing Beaches - State Sanitary Code, Chapter VII) requires that all beaches (except for Tier 3 beaches) be sampled at least weekly during the beach season (defined as late May/early June through late August/early September). Municipalities are listed as having met DPH beach sampling requirements if all beaches were sampled at least weekly in the DPH database.
Communicable Disease Reporting	All PHDIG participating municipalities are required to have a staff person trained and use the Massachusetts Virtual Epidemiologic Network (MAVEN) , a web-based disease surveillance and case management system. Additionally, communicable disease surveillance requires local boards of health (BOH), state public health officials, and healthcare providers to work collectively to monitor the occurrence of notifiable diseases as required by Massachusetts law.
Lead Determination	Local public health officials play an important role in reducing the incidence of lead exposures for workers and the general public. Under this grant initiative each municipality was expected to assure access to a qualified lead determinator for residents and businesses.

Sharps Disposal	The Massachusetts State Sanitary Code (105 CMR 480) outlines the proper disposal of infectious or physically dangerous medical or biological waste. The State Sanitary Code stipulates that each municipality has access to a sharps disposal site. A municipality is considered to have met this requirement if they have access to a sharps disposal site within the municipality, access to a regional sharps facility, or if a municipality holds a hazardous waste day that accepts sharps each year.
Board of Health Member Training	DPH required all BOH members of PHDIG municipalities to receive formal training at least once during the course of their BOH position. Training must be obtained through an approved curriculum. Trainings were available through the Massachusetts Association of Health Boards (MAHB), the Local Public Health Institute of Massachusetts, the Berkshire County Boards of Health Association, or any other approved entity.
Workforce Qualifications	Each PHDIG municipality was required to have written qualifications for its staff and contractors including, but not limited to, the positions of health director/agent, public health nurse, and environmental health official. Any person paid in whole or in part with PHDIG funds was required to meet professional standards for that position unless special approval was obtained from the DPH project officer.
Community Health Assessment (CHA)	DPH required each PHDIG district to complete a community health assessment (CHA) which included multiple sources and types of data, diverse stakeholder representation, analysis of assets and needs, and dissemination/sharing of results back to municipalities. A Community Health Improvement Plan (CHIP) derived from the CHA was optional but encouraged.
District Health Initiative	Each grantee was required to develop and implement a sustained, district-wide initiative to promote healthy weight and/or prevent and reduce tobacco use. The initiative(s) were required to incorporate municipal policy change and use evidence-based strategies identified by CDC.
District Governance	DPH required PHDIG grantees to have an established governance structure with 1) by-laws or other formal documentation of governance, 2) a governance board that meets regularly and 3) appropriate inter-municipal agreements (IMA). Governance boards were required to establish rules of procedure to make democratic decisions about district policies, personnel, operations, and finances.
Sustainability Planning	In Years 4 and 5, a major focus of the regionalization strategy will be sustainability planning – both in terms of ongoing implementation funding for the current districts and support for more regions in forming new districts.

Evaluation

Each grantee was required to participate in an evaluation of the PHDIG program conducted by the Institute for Community Health (ICH) and funded by DPH. The evaluation was designed to meet the following goals as specified in the DPH contract:

- Assess the progress that municipalities engaged in the PHDIG program made in meeting the grantee requirements (specified above);
- Document program, policy, and financial impacts of the PHDIG program overall and for each district that receives an implementation grant;
- Identify successes and challenges with the implementation of shared service agreements;
- Increase capacity of the local public health system to address the CDC's *10 Essential Services of Public Health* through the collection and use of evaluation data;
- Develop an instrument to systematically assess the 1) understanding of the purpose of evaluation and evaluation methods; 2) experience implementing evaluation plans; and 3) experience using evaluation information to inform policy and practice; and
- Provide training and technical assistance to local public health officials on principles of evaluation and how to use existing data sources (e.g., MAVEN, internal records, MassCHIP) to assess performance, identify needs, and develop corrective action plans.

Evaluation methods included qualitative and quantitative data collected at least annually. Quantitative data focused primarily on legal responsibilities of local boards of health and the changing capacity to fulfill these responsibilities. Data were gathered from reports submitted to DPH when possible. For example, assessment of responsibilities related to retail food inspections, communicable disease surveillance, and beach water quality testing was performed by requesting data from reports that are submitted to DPH by municipality or district. Other requirements, such as board of health member training, access to safe sharps disposal, and availability of lead determination services required data collection via emails and phone calls to each participating municipality on an annual basis.

Qualitative data was gathered annually through phone calls with a representative from the lead agency of each district. These phone calls provided an opportunity to obtain updates on other grant requirements such as the conduct of a CHA, the development and implementation of health promotion programming, workforce qualifications, and other joint activities. During the final months of the grant program, the ICH evaluation team also conducted one-on-one interviews with a sample of representatives from each district. The purpose of these interviews was to document perceived successes, challenges, and lessons learned from the PHDIG program from the perspective of grantees.

On an annual basis, each district was provided with a “dashboard” that highlighted their progress towards meeting grant requirements as well as other accomplishments made during the course of a given year. For each performance requirement, districts were rated as a) meeting, b) partially meeting, or c) not meeting the requirement. The dashboards were presented at governance meetings which provided representatives an opportunity to ask questions, make corrections, and, in some cases,

complete missing information. Final dashboards for each grantee were submitted to DPH for evaluation reporting and program management.

Following is a summary evaluation of the performance of the PHDIG districts in meeting the program requirements.

Key Evaluation Findings

A brief summary of the major evaluation findings based on the assessment of performance indicators from baseline in 2011 to 2014 is presented below. The intent of this report is to provide a high level overview of key changes or improvements.

Retail Food Inspection. Across the five PHDIG districts, a consistently high proportion of participating municipalities submitted annual food inspection reports to DPH. At baseline, 75% (n=42 out of 56) of PHDIG municipalities submitted a food inspection report to DPH. This figure remained high in 2014 with 72% (n=42 out of 58) of municipalities completing the required reporting.

PHDIG districts that met the reporting requirement substantially increased the number of required food inspections conducted each year from baseline in 2011 to 2014. In 2011, only 43% (n=18 out of 42) of all PHDIG municipalities that reported met the state mandate of 2 inspections per licensed food establishment. In 2014, this figure increased to 73% (n=32 out of 44) of all participating municipalities. The graph below shows food inspection figures by PHDIG district.

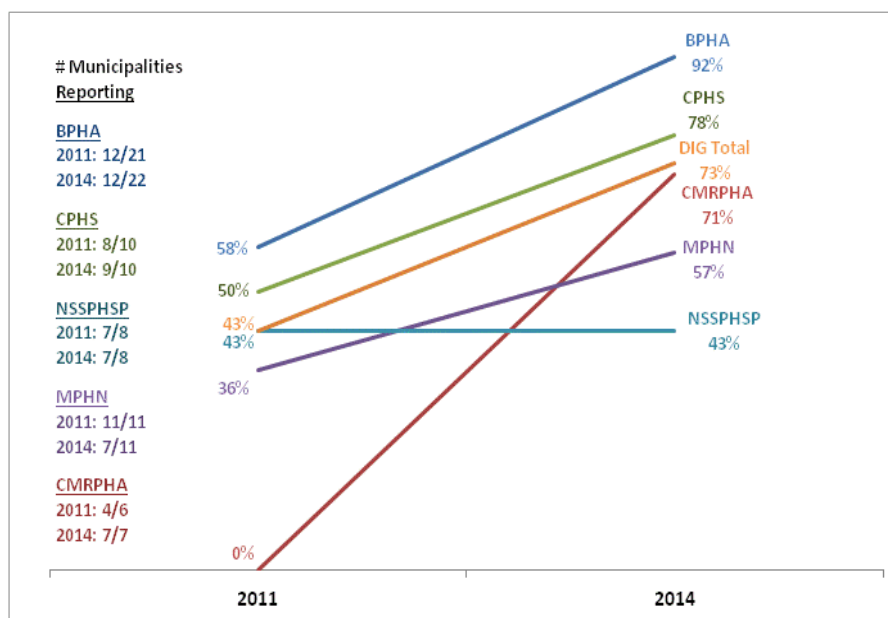


Figure 3. Percent of PHDIG Municipalities Submitting Reports and Meeting State Inspection Mandates

Natural Bathing Water Quality Testing. In 2014, all PHDIG districts had at least one town owned or operated beach. While baseline data showed that most PHDIG towns were already submitting beach inspection reports and meeting the Massachusetts state mandate for weekly water sampling, these figures rose from 91% in 2011 to 96% in 2014. In addition, 99% submitted reports of weekly water testing results, an increase of 8% between 2011 and 2014. Please note that, because Franklin County

CPHS did not have any town operated beaches in 2011 or 2012, trend data is not available for that district.

Communicable Disease Control and Investigation. Some of the most significant improvements in the provision of public health services were found in the area of communicable disease control and investigation. In 2010, prior to the launch of the PHDIG program, 55% (31/56) of participating municipalities were trained and using MAVEN, the state's electronic epidemiological surveillance and reporting database. By the end of the grant period, 96% (54/56) of municipalities had the capacity to receive and respond to local communicable disease reports using MAVEN. In addition, the capacity to receive reports on local cases of tuberculosis also increased. While only two of the districts had any municipalities with this capacity in 2010, every district and nearly every participating municipality had the capacity in 2015.

The graphs below highlight these changes in capacity - immediate and routine diseases on the left and tuberculosis cases on the right.

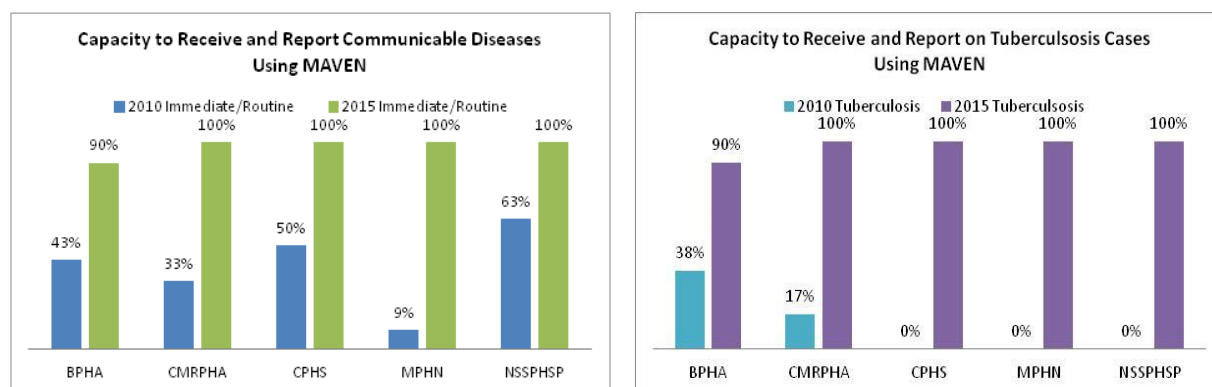


Figure 4. Capacity to Receive and Report Communicable Disease and Tuberculosis Cases Using MAVEN

In addition to increasing capacity to more efficiently receive reports of communicable diseases and report on the progress towards investigating these diseases, each of the PHDIG groups also saw changes in their response to confirmed communicable diseases within participating municipalities. For the most part, there were improvements in the acknowledgement of a confirmed report, initiation of investigations, and a reduction in the number of cases lost to follow-up. There were mixed results with respect to completion of case investigations. This finding is likely due largely to a change in the criteria DPH used to define a completed case. At the beginning of this project, case completion was determined at the municipal level with the indicator being a submission of a case report. Over the course of the project, DPH recognized that cases considered complete had important missing data. They began a process of establishing more defined criteria for case closure for each type of communicable disease.

Berkshire Public Health Alliance

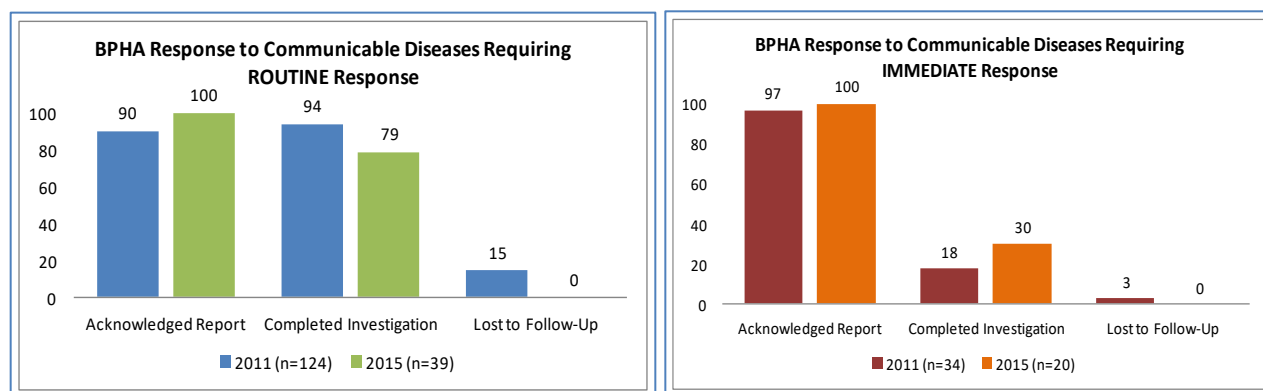


Figure 5. BPHA Routine and Immediate Response to Communicable Diseases

Several, but not all, municipalities involved in the BPHA jointly purchased public health nursing services that could be offered to local residents. Over the course of the grant, there was an increase in the percentage of diseases requiring immediate response that were investigated and closed.

There was a slight decrease in case completion rates for routine diseases. For both types, there was also a decrease in the percentage of cases lost to follow-up.

Central Massachusetts Regional Public Health Alliance

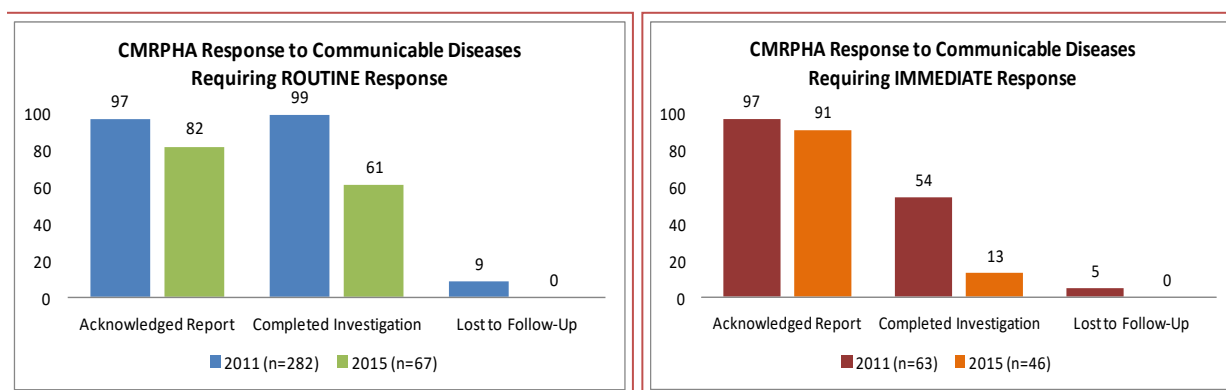


Figure 4. CMRPHA Routine and Immediate Response to Communicable Diseases

Response to communicable diseases did not improve among municipalities involved with the CMRPHA. The evaluation was not able to determine the reason for the decrease in case investigations completed, which was found for both immediate and routine cases.

One highlight among these groups, however, is that reported rates of routine communicable diseases dropped significantly between 2011 and 2015. This could be an indicator of improved prevention and control strategies but the evaluation design did not provide data to explain the reasons for the decline.

Franklin County Cooperative Public Health Services

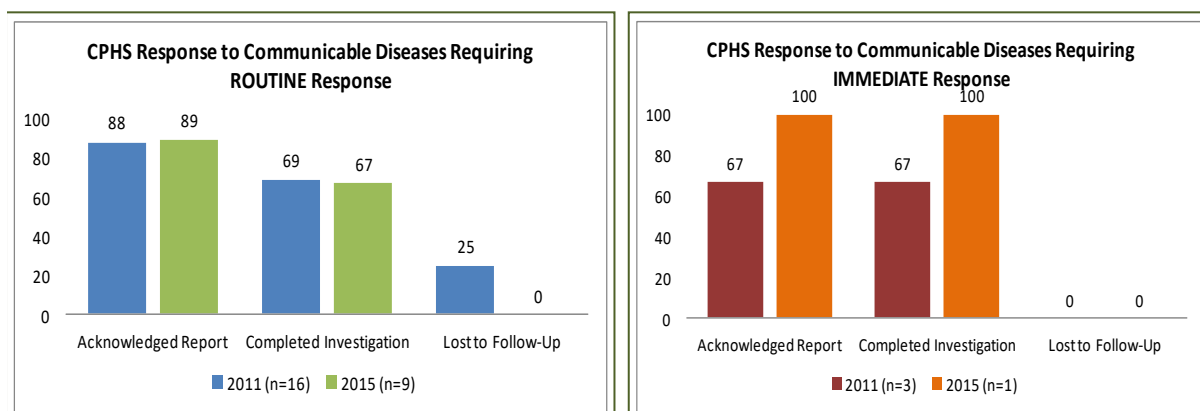


Figure 5. Franklin County CPHS Routine and Immediate Response to Communicable Diseases

Among all grantees, the Franklin County CPHS group demonstrated the greatest improvements in responding to reportable communicable diseases that require an immediate response. There were modest improvements for investigations requiring routine response but it is important to note that there was a significant reduction in the number of cases lost to follow up.

As a whole, the municipalities in this group had a small number of reported cases for both immediate and routine diseases.

Montachusett Public Health Network

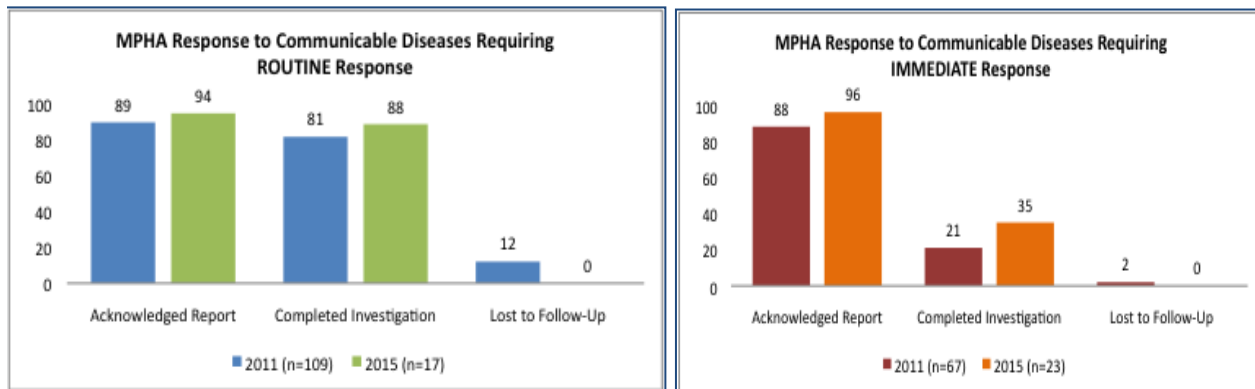
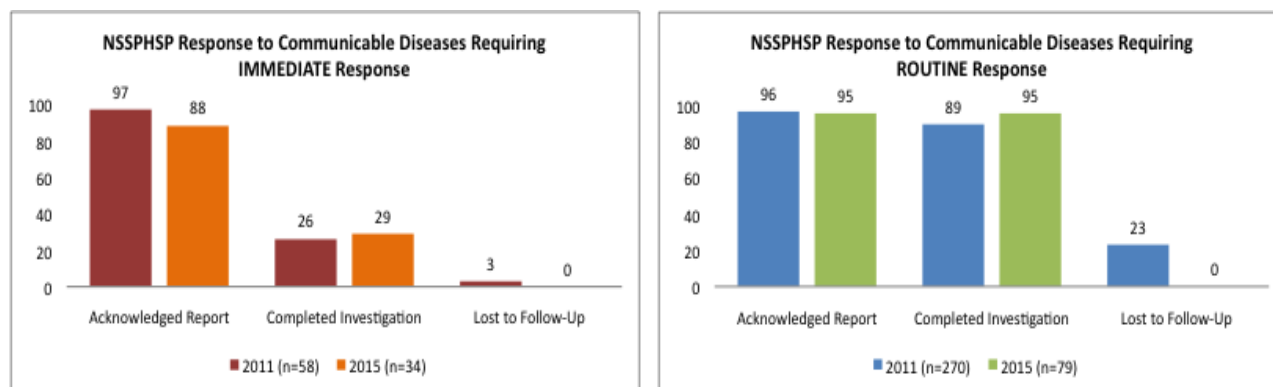


Figure 6. MPHNN Routine and Immediate Response to Communicable Diseases

MPHN had an explicit focus on expanding access to public health nursing services as part of their cross-jurisdictional service sharing initiative. Across all participating municipalities, there was an increase in completion of case investigations requiring immediate and routine response. This increase was greater for response to immediate diseases. Like many other groups, the MPHNN also saw a large decline in reportable diseases between 2011 and 2015.

North Shore Shared Public Health Services Program



The NSSPHSP group did not have a focus on improving public health nursing services and did not share staff to perform communicable disease investigations. This likely underlies the relatively consistent outcomes for response across the grant period.

One notable improvement, however, is a decrease in the number of routine cases lost to follow up.

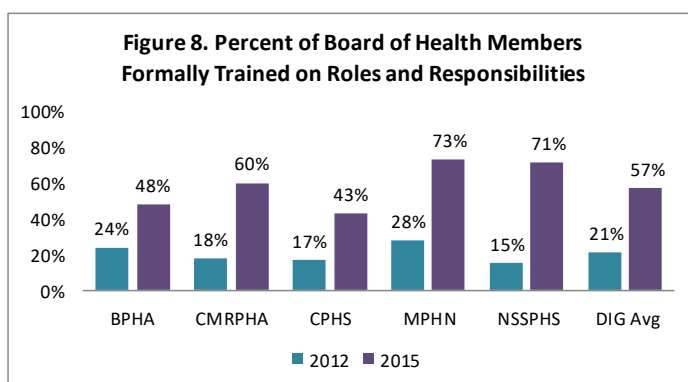
Lead Determination. Many PHDIG municipalities were not capable of conducting lead determination at the beginning of the PHDIG initiative. At baseline in 2012, only 74% (n=42) of participating municipalities had the capacity to conduct their own lead determination (without relying on DPH inspectors). By 2015, 97% of participating municipalities (n=56) had lead determination capabilities. In four districts, 100% of participating municipalities are able to conduct their own lead determinations thanks to the funding they received as part of the PHDIG.

Sharps Disposal. PHDIG municipalities showed significant improvement in providing residents with access to sharps disposal sites. At baseline, 67% (n=36) of PHDIG municipalities met the Massachusetts State Sanitary Code requirements for sharps disposal. In the final year, this figure had risen to 98% (n=57); only one participating municipality did not have regular access to a sharps disposal site or hold a hazardous waste day in 2015.

Board of Health Training. One area in which PHDIG grantees saw marked improvement was in the training of BOH members in participating municipalities. At baseline (2012), only 21% (n=35) of the 167 BOH members in PHDIG municipalities had reported that they received formal training after being elected or appointed to their position. This figure increased to 55% of 181 BOH members (n=100) in 2013, and remained relatively steady at 58% in 2014 (n=106 out of 184) and 57% in 2015 (n=111 out of 190). Between 2014 and 2015, there was the addition of one new municipality in the CMRPHA as well as a new board of health for the City of Worcester. The slight decline in overall training is associated with these new additions given limited time between data collection points for board members to become trained. Many BOH members who received training during the PHDIG program did so through the Local Public Health Institute/Boston University School of Public Health online BOH training module.

As the graph below illustrates, there was an increase in the percentage of board of health members who received any formal training to fulfill their roles and responsibilities between baseline and follow-up. It

should be noted that data was not received from every municipality in the final year of the grant. If no training updates were provided, we assumed that no additional members were trained.



Workforce Qualifications. Each of the PHDIG districts was able to hire qualified public health staff through the funding they received as part of the PHDIG program. Across the five districts, 11 new full or part-time public health staff were either fully or partially-funded by the PHDIG program. These new staff included public health nurses and regional inspectors as well as leadership positions such as District Coordinators and Alliance Directors. Additionally, seven existing public health staff had their salaries either fully or partially-funded by PHDIG. Existing positions that were funded by PHDIG included health agents, public health nurses, and program directors.

Of the 18 (11 new and 7 existing) positions funded by PHDIG, 13 were required to meet minimal workforce requirements. 100% (n=13) of individuals hired or supported by PHDIG funds met the qualifications set forth by DPH. The other 5 positions did not have minimal workforce qualifications established (e.g., community health educator).

Community Health Assessment. All PHDIG districts completed the three steps of the Community Health Assessment (CHA) established by DPH: data collection and analysis, interpretation and prioritization, and development of a CHA report. Each district collected both qualitative and quantitative data from a variety of sources in order to inform the priorities of their newly formed public health district.

A wide array of community stakeholders were engaged in CHAs across the districts. In one district, Franklin County Cooperative Public Health Services, a total of 15 collaborating partners were brought to the table in order to assess the health needs of surrounding municipalities. These partners included hospitals, health clinics, community-based organizations, and food banks. In the Montachusett Public Health Network, the leaders noted in our interview that:

We were really proud of our community health assessment. It was a document that, forget about any of us individually, if we just tried to put it together ourselves we never would have gotten anything that well done, that professional, that comprehensive. In fact, it was so widely regarded that the hospitals just did theirs and they actually invited us to participate and I actually was involved in creating the hospital ones because they were so impressed with ours.

In four out of five PHDIG districts, this was the first time that local public health directors and board of health members had played an active role in a CHA.

District Health Initiative. The PHDIG districts chose to focus on either tobacco (3 districts) or obesity (2 districts) for their district health initiatives. Four districts were implementing their health initiatives while one district was in the early planning stages near the end of the funding period.

Districts utilized a variety of strategies in order to meet the policy change component of the health initiative. One district focused on joint use agreements with local public school districts in order to ban sugar-sweetened beverages in early childhood care settings. Another district made serious efforts to update the tobacco regulations in each member town to meet the latest recommended standard from the Massachusetts Tobacco Control Program (MTCP). In 2013, these regulations included bans on individual cigar sales (e.g., blunt wraps) and a ban on smoking in parks.

District Governance. Each of the PHDIG districts established a governance structure informed by logistical factors (distance between towns, availability of town representatives, and number and unique needs of member municipalities). A brief explanation of the governing structure of the PHDIG districts is provided below.

Berkshire Public Health Alliance (BPHA)

BPHA established a Governing Board, consisting of 2 members (1 voting, 1 alternate) from each member town. The Governing Board meets quarterly.

Central Massachusetts Regional Public Health Alliance (CMRPHA)

CMRPHA towns meet as a district quarterly. For the most part, representatives from CMRPHA attend board of health meetings in member towns rather than asking member towns to send representatives to CMRPHA governing meetings.

Franklin County Cooperative Public Health Services (Franklin County CPHS)

CPHS established an Oversight Board which consists of 1 board of health member from each member town and an alternate for each town. The Oversight Board meets monthly.

Montachusett Public Health Network (MPHN)

MPHN established a Steering Committee which meets monthly and a Governing Board which meets quarterly.

North Shore Shared Public Health Services Program (NSSPHSP)

NSSPHSP established a Steering Committee which meets monthly and an Executive Committee which meets as needed.

Perceived Impact of the PHDIG Program: Perspectives from Leaders

In the final year of the grant program, ICH interviewed thirteen (13) individuals across the grantee groups to gather feedback on the perceived strengths and challenges of implementing their shared

service model, the impact of working collaboratively to deliver public health services, and recommendations at the local and state level for future incentive-based initiatives.

Successes in Developing and Implementing Cross-Jurisdictional Service Sharing Models

There were a number of successes in each of the five grantee groups. Although each group had different approaches to cross-jurisdictional service sharing, a number of common themes emerged regarding the impact of working in collaboration to provide public health services. These impacts included:

- increased capacity to meet state mandates among those who shared professionally trained inspectors;
- improvements in the quality of public health services, especially in small municipalities;
- increased capacity to provide community health programs and services to local residents;
- efficiencies in developing and implementing public health services; and
- recognized value of the role of local public health departments in creating healthy communities.

A brief summary of each of these key themes is provided below.

Capacity to meet state mandates. The data presented in this report highlights the increase in the number of municipalities that have achieved improvements in meeting certain state mandates, particularly retail food inspections, communicable disease investigations and reporting, natural bathing water testing, and access to lead inspections and safe sharps disposal. Given that some grantee groups chose to offer a la carte versus comprehensive shared service models, these findings are most relevant to smaller municipalities who opted to share professional public health staff. Larger municipalities, such as Salem, Peabody, Fitchburg, Gardner, and Worcester were already meeting most state mandates prior to the grant initiative. Thus, the improvements were not as great as they were for smaller municipalities.

Quality of Public Health Services. Participants highlighted not only the improvements they were able to make in meeting state mandates but also the quality of the public health services offered to local residents. In many of the smaller jurisdictions involved in the PHDIG partnerships, access to professionally trained public health staff was often considered unattainable; smaller towns simply cannot afford to pay for a full-time public health professional and the pool of professionals is often limited in rural areas. By working together, grantees were able to jointly hire and manage public health professionals. For some municipalities, it was the first time they had had access to such staff. Participants noted not only an improvement in the quality and consistence of services, especially retail food inspections but also the ability to provide services above and beyond state mandates. As one person from the Cooperative Public Health Services group in Franklin County noted:

Our health agent, he's incredible! He works tirelessly on behalf of these towns. He just got the Attorney General's Office to come out here and do a little training on

receivership. And he's helping his towns set up these abandoned and neglected property taskforces. You know, nobody's paying him extra for that... he isn't working by the hour. You know, he's a salaried professional, who is charged with improving the health in these towns. They're doing stuff that they never dreamed they'd be able to do, tackling these really difficult properties and getting them actually moving.

Having the capacity and vision to work beyond individual municipalities was also noted as being important for many grantee groups. Many smaller towns contract with visiting nurse associations to perform minimal public health nursing services. Although communicable disease may be handled appropriately, the work is often done in isolation of neighboring municipalities. An important advantage of working collaboratively across municipalities to perform certain services, particularly public health nursing, is that it affords an opportunity to identify and explore trends in public health issues. This larger perspective provided grantees with data to inform strategic decision-making for joint programming and services. As one participant from the Berkshire Public Health Alliance noted:

Our public health nurse is able to see communicable disease reports that come through MAVEN for 25 towns in Berkshire County. This has been really fabulous because we've put together a regular report saying, "Did you know, in Berkshire County, this is what's happening in the disease realm?" ... And what we found is Hepatitis C is the second most reported disease in Berkshire County right after Lyme Disease... It's a huge, growing problem. It's because of the heroin use and stuff that it's growing. But now we started looking for information to push out on Hepatitis C. For example, we brought in -- again, through the Public Health Nursing Program -- we brought in a speaker on Hepatitis C, which I heard was very good.

This is one of several examples of the advantages of working collaboratively across municipalities to provide services. A multi-jurisdictional approach allowed for professional staff to be hired which then increased capacity to delivery high quality regulatory and community health programming.

Capacity to provide community health programs and services to local residents. One of the most significant impacts of cross-jurisdictional service sharing arrangements was the increase in capacity to provide community health programs and services. This held true regardless of shared service model. In a state like Massachusetts where local public health services are largely funded through local tax appropriations, the vast majority of municipalities struggle to adequately fund enough staff to meet state mandated services. These services are largely regulatory in nature. This results in a state with disparate agencies providing community health and public health prevention programming if they are provided at all. Such programming is predominately funded through competitive grants provided by the state or federal governments. As a result, community health programs are often not provided in smaller municipalities because there is neither the staffing to prepare and administer grants nor the competitive edge needed to be attractive to funders.

If you don't get the grants, you're not going to get the services, because who's going to pay for them? And you can't organize an effective service for a little town. I mean, it just, you know, somebody uses it once a month. You just can't organize one. But if you've got 32 towns doing it, you know, it means somebody in some town is using it every day.

Every PHDIG partnership was successful in working together to secure grant funding to provide and expand community health programming. Some examples of extramural funding include

- 1) Montachusett Public Health Network worked collaboratively to obtain a number of grants to support community health including a \$3.5 million grant from the Department of Housing and Urban Development (HUD) focusing on lead poisoning and healthy homes and a \$1.4 million grant to support opioid overdose prevention and intervention efforts.
- 2) Berkshire Public Health Alliance secured several large grants alone or in partnership with other healthcare entities, including the Prevention and Wellness Trust Fund, led by Berkshire Medical Center and focused on diabetes, hypertension, falls among elders, and tobacco, and Berkshire Opioid Abuse Prevention Collaborative.
- 3) As the second largest city in the Commonwealth, Worcester had a successful track record of securing grants for community health programming prior to the formation of the Central Massachusetts Public Health Alliance. However, the formation of their partnership not only strengthened their competitiveness for grants but also allowed them to provide the programs and services that had once only been provided in Worcester.

Participants directly attributed their success in grant writing to the relationships they have developed with a variety of stakeholders across jurisdictions and the formal agreements they had established to work together. As one participant from the Montachusett Public Health Network noted:

The work that I'm doing now, the state is expecting everything to be done regionally. So we wouldn't qualify for the grants if we didn't have relationships with the communities. And some communities are just starting those relationships. And you see it's a lot harder for them to write those grants, to try and get things done, to try and get the agreements in place.

Success in securing grant funding to support regional community health services is a key driver for municipalities to continue working together beyond grant funding. It is a tangible benefit that participants recognized could not be achieved alone.

Efficiencies in developing and implementing public health services. Most participants also noted that working together created efficiencies in the delivery of public health services within their municipality and across the system as a whole. Many cited the development of prevention messages and materials that could be shared across municipalities rather than each creating their own or not creating them at

all. Public health campaigns focusing on Lyme disease prevention, opioid use and overdose prevention, and sun safety were commonly cited examples of collaborative work beyond PHDIG requirements.

Another example of increased efficiencies created by cross-jurisdictional work was found in narratives that participants provided about the value of networking and collaboration across jurisdictions. In addition to relationship-building that occurred during governance meetings, the forums provided an opportunity for people responsible for ensuring the protection of the public's health to learn about their roles and responsibilities, upcoming opportunities, and anticipated or real challenges. As one participant from the Berkshire Public Health Alliance noted:

I think the strength of the Alliance model is that it provides a centralized place to go for resources, information, networking - a consistent, a venue to kind of learn about regulations and a place to discuss them so we're applying them consistently. I think those are all the strengths, you know, to have each little town, well, you know the structure of Massachusetts is kind of bizarre and so to be implementing or not implementing as devil may care, it doesn't work, it just doesn't work.

Recognized value of local public health in creating healthy communities. Despite the short length of time that the PHDIG partnerships had been in place, participants noted that they were beginning to see a change in the understanding and valuing of local public health.

I think that we are changing the environment. Whether or not you can actually see a change in the data yet, because it's not a long enough time frame, but I think we are raising awareness. We are changing people's attitudes about it. We are changing the culture about it. And I think that -- and we're actually improving services... We have more programs to reduce opioid abuse. We have more programs around healthy eating, and active living. We are looking at ways to consider health in all our policies, and -- so it's a slow curve, but I think it's definitely there.

This change was evident for many in the financial support that municipalities were beginning to make to support regional services. The Franklin County Cooperative Public Health Services program was perhaps the most successful in developing a sustainability plan for the partnership that required most participating towns to contribute more money to local public health services than they had in the past. The willingness to do this would not likely occur without elected officials and residents perceiving the value of the regional services.

Challenges of Cross-Jurisdictional Service Sharing

As with most changes in the organization and delivery of governmental services, the road was not always smooth or clearly defined. In fact, although participants reported many successes in their collaborative work during the grant period, most grantees reported feeling that had just started to figure out how to work together. Some of the early challenges (e.g., developing inter-municipal

agreements that formalized cross-jurisdictional relationships) have given way to other challenges such as sustaining the partnerships. There were some commonly identified challenges that participants cited across the continuum of developing and implementing their models:

- Legal concerns surrounding cross-jurisdictional service sharing;
- Variation across municipalities with respect to support for and funding of local public health;
- Managing change in how services are organized and delivered;
- Understanding and planning for the true costs of regional public health service delivery; and
- Sustainability.

A brief summary of what participants noted with respect to these challenges is provided below.

Legal concerns surrounding cross-jurisdictional service sharing. Although we conducted the qualitative interviews a few years after grantees had been funded to implement their shared service models, some groups identified a number of challenges with formalizing their partnership through inter-municipal agreements. There were some common challenges that had to be addressed, such as who would assume liability for injury to or damage caused by a jointly shared or employed public health professional. There were also a number of concerns with what municipalities were obligated to provide or support if the agreements were signed. Some municipalities were very reluctant to sign a formal agreement without explicit language stating that participation was entirely voluntary, that they were not obligated to pay for services unless agreed upon by the select board or other governing body, and that they may leave the agreement at any time. The legal technical assistance supported by DPH was widely recognized as being among the most important assistance they received during the grant period. Some even noted that without it, their plans would not have been able to move forward.

The challenges of developing the inter-municipal agreements did not end once they were signed. Many initially opted for one-year agreements, which required annual reviews and signatures. This was considered to be very difficult and labor intensive for a couple of grantees. As one participant explained,

I'm telling you, local politicians change really often, and they are so, you know, town-centric. If you can't explain why they should sign this agreement, -- it took us an enormous amount of time to get the towns to sign this thing But we were just -- when you ask them to sign any legal document they go berserk, even though it says in there, "You are not obligated to anything." They come back and say things like, "You're going to charge me money." And we'll say, "In the agreement it says we can't do that." "Well, you're going to do it anyway." And then you go to three meetings before they'll sign the darn thing. It's just so labor intensive.

The decision to have one-year agreements was considered an important move to cultivate buy-in and support for the shared service agreements. However, given the turnover in local government officials and the effort it took to obtain renewals, many PHDIG leads were opting to change the terms of

agreements to be signed every three to five years with options to leave the partnership with advanced notice. This approach may alleviate some of the administrative burden for which PHDIG groups will not be supported after PHDIG funding ended.

Variation across municipalities with respect to support for and funding of local public health. One of the biggest challenges that PHDIG leaders encountered when developing and implementing their plans was the variation in support for, investment in, and resources available to support local public health services. The most commonly reported challenge was the huge variation in local contributions to local public health. This was found among groups with homogeneous and heterogeneous population sizes, although the differences were greater among the latter. Initial grant funding allowed those municipalities who had not historically invested much in local public health services to enter into the partnership without a great financial risk. However, as the grant funding decreased each year, municipalities were expected to contribute an increasing amount of money to sustain services or lose them all together. These conversations were challenging in most municipalities; some grantee groups decided to not request additional municipal contributions at all.

Another related challenge stemmed from having a mix of larger and smaller municipalities included in the partnership which was the case for three of the grantee groups. This mix had some advantages including the availability of resources and community-based partnerships in larger municipalities. It also had some distinct challenges. One of the disadvantages was that there were often not existing relationships or resources to tap into or build upon to support community health programming. Building health coalitions or advocacy groups requires a lot of time and investment. When that was needed in multiple communities, PHDIG leads often found themselves making hard decisions about the kinds of unexpected investments they would need in order to implement community health programs equitably. A related challenge was in managing the development of new community health programs in partnering municipalities. Without the existence of community coalitions or advocacy groups to plan for or coordinate services, local stakeholders had different needs and interests.

Some towns are more open to different things. Honestly I feel like every town wants something completely different from us. When I talk with the schools or the police or the - whoever it is that I'm talking with- they have like a completely different idea of what it is that we should provide to them and how we should work with them. It's very interesting... I think each community is its own beast and I don't necessarily mean that in a bad way. And then you have different personalities with different agendas driving all that. And then I think part of it in terms of regionalization, what's been challenging is we had no idea what the hell we were doing early on. So we just said, "Oh yeah, we can do that. Oh, you want that? We can do that." And then we started realizing that it really shouldn't be a la carte. It's too complicated. It should -- I think we started to realize that we could go to the towns and say, "All right. We've got three, four years under our belt now. This is what we can do. And this is how it's going to work." So it's been a learning experience to say the least.

A different type of challenge stemmed from differences in socio-cultural norms and beliefs, often between smaller and larger municipalities. These differences were most acutely felt in efforts to develop substance use prevention programming, including tobacco. Some participants noted that they faced resistance from smaller towns where stakeholders felt that substance abuse was a problem of big cities, and not one in their town.

But really I think it's a holistic issue around getting communities to think about the problem of tobacco, alcohol, opioids, whatever it is, marijuana, and think about it number one that admit that it happens and that it could be a problem in their community... And then number two, say, "We can do something about it." And then figure out what it is that they can do. I think that my biggest challenge with working with the communities outside of [city] is the first step, is the admitting that it's a problem in their community. In [city] like there's no way to say, "It's not a problem here." Because it's so obvious and out there that nobody can really deny it...But what I found is the biggest issue in the smaller communities is that we go in and we talk with them and they say, "That's not a problem here."

Many participants suggested that they were still learning how to manage some of the differences that were found between partnering municipalities. For those larger groups, such as the Berkshire Public Health Alliance, there are simply too many municipalities to jointly plan for the same community health services. Many have opted to start with those municipalities who are interested and invested in programs and services, hoping that the success in a few will generate interest among the others.

Managing change in how services are organized and delivered. Participants described a range of challenges that they faced as they began working together to provide a regional service delivery model. One theme that emerged for the two grantee groups who selected comprehensive service delivery models was that changing the way that services are provided – whether it be the organization of services, standardization of services, or coming to consensus on common fee schedules – is challenging and requires on-going attention. It was particularly hard for towns that were used to having a health agent or inspector regularly available and physically present in the board of health office. Although the “one person does it all” model has many limitations, it had an important relational aspect. As one individual explained:

We have had a lot of towns who, they really like their health agent and their health agent is no longer working either directly in their town or no longer part of the [partnership] and that makes them angry. And they, not even meaning to, but will, will occasionally undermine or sort of overburden our staff, basically as retaliation. Even if they're not even realizing that they're doing it. And so that has been the challenge is trying to get everyone to have a team mentality is really hard. And from the same token, some of our staff who worked in those towns have a loyalty to those towns and they don't like to be sent to other

towns to cover when the workload is higher in a town or someone's behind. They don't like to move around, they like to stay in their towns, their people and their relationships and sort of just pretend that they don't get paid by the city. I think that has been hard.

While those grantees that had more comprehensive service delivery models struggled with managing change with respect to who and how public health services would be provided, those who opted for more “a la carte” options had different challenges associated with change. One of the most common was the turnover in board of health members. Because every board of health involved in the PHDIG grants decided to retain their local authority, they were important actors in keeping their municipalities at the partnership table. As one representative from a large partnership explained:

...it seems like there's a lot of turnover. The boards of health, you know, they lose the election, the new town manager comes in. It seems like a lot of change, but maybe it's because I'm looking at so many towns... Whether it's three or four at once, and -- like, you know, last night, I'd say at our meeting last night, there were at least five new faces at the table. People I've never seen in a meeting before because they lost the election, they won the election, new appointments.

The constant turnover in board of health members and elected officials in some municipalities meant that a lot of time and energy had to be put into on-boarding these new members and ensuring they have the understanding and information they need to take part in the partnership. In addition to the time and energy, participants also noted that it made their partnership vulnerable to some extent as some newly elected or appointed board of health members have not been in support of cross-jurisdictional service sharing.

Another challenge faced in smaller municipalities came with the shift in responsibility for delivering local public health services. In smaller municipalities, local board of health members often perform some, if not all, public health services. With the introduction of regional staff, these responsibilities began to change. One health agent explained:

One of the challenges is getting the boards of health to accept the fact that they're actually letting go of some of the day to day reins that they've known for in some cases 10, 15 years. So it's not just the district that has created a new structure, but it's the connection that the boards have with that district and the connection requires them to let go of some things. That has been a big challenge and it's still a challenge in some towns. It's a challenge for them to let go of the tradition. I say it's been 85% successful probably, but there are still some people that they just can't let go for whatever reason. It's not that they're doing a good job, it's what they're comfortable doing and they're not comfortable letting go because that's all they know.

As this health agent went on to note, however, is that some boards of health are beginning to recognize the value of letting go of day-to-day responsibilities. Having regional staff has freed up their time to talk about higher level public health issues and planning, including policy development.

Understanding and planning for the true costs of regional public health service delivery. Every grantee group except one discussed the challenges of understanding the true costs of providing public health services at a regional level. During the initial phases of developing and implementing shared services, most grantee leads indicated that they agreed to do just about anything a partnering municipality wanted them to do in order build trust and demonstrate the value of working collaboratively. However, as the work started, the costs of providing services were often much more than anticipated. In places like the Berkshires, for example, the mileage alone cost more than what they were originally charging towns to perform an inspection. This was on top of the administrative time it took to bill towns for single inspections. When asked what she would do differently if she were to start planning for cross-jurisdictional service sharing again, one PHDIG lead said,

I think I would have sat down ahead of time and figured out -- tried to figure out a better business model. Better financial model. We were very, very stuck on making it politically palatable to the towns. And possible not practical enough.

The challenge, however, is that many municipalities invest very little in local public health services, particularly in small and rural towns where tax revenue is limited. Funding for local public health services competes with other government funded services, such as fire, police, and public schools. Given the lack of state imposed legal or monetary penalties for not assuring the provision of public health services by qualified staff, some participants indicated that sustaining their regional services would be difficult.

Many boards of health don't have that kind of budget, and so to get our services they need to convince other elected officials like select boards. Or if they're the select board, convince themselves that that should take priority over other things. And this leads to one of the biggest challenges we've run into, which is that there's nothing that says that people have to be certified or trained or anything else. So when recessions hit hard out here, and they hit small rural towns very and some bigger towns very hard, it's been really hard to convince them that this is money well spent.

As the quote above highlights, the challenge is not only that municipalities have limited funds to support government services but also there are not minimal workforce qualifications that require professionally trained staff to perform public health services. These staff are often more expensive but as noted above in the section on PHDIG successes, they can greatly enhance community health.

Sustainability. Two of the districts had very careful planning for sustaining regional public health services beyond the gran:

- 1) Central Massachusetts Regional Public Health Alliance performed a time-motion study early in their implementation of regional services to gain a better understanding of the time it took to perform the mandated services in each municipality. As a result of this study, they were able to develop a budget formula that had a base per capita rate plus a variable rate depending on volume of work.
- 2) Franklin County Cooperative Public Health Services also worked collaboratively to understand the cost of service delivery and identify options for sustainability. One step they took was to review all the fees that each town charged for inspectional services. They worked together to create a common fee structure, maximizing the amount of money that could come in to the region through fees. They then determined the remaining amount needed and used a per capita and volume formula to determine the contributions that each municipality would need to make.

These two districts were also the most mature districts in terms of history of regional service delivery. This maturity may have allowed them to move towards sustainability planning earlier than those who spent the first few years trying to figure out the basics of their shared service delivery models.

Recommendations

As grantees and members of the evaluation team reflect on the key lessons learned from the PHDIG program, a number of recommendations emerge that may be useful for future public health district incentive programs. There are two sets of recommendations. The first is meant for the Massachusetts Department of Public Health or other granting body that seeks to develop and oversee such a program. The second is for potential grantees who seek to create cross-jurisdictional service sharing agreements.

State Level Recommendations

Make the Case for Local Public Health Services. Although recognizing the limited authority that the state department of public health has over local boards of health, one of the strongest recommendations made by grantees was for DPH to make a stronger case for the importance of providing high quality public health services to every resident of the Commonwealth. The DPH Office of Local and Regional Health could partner with the grantees and others at the local level to make the case. As one grantee lead noted:

It's not about regionalization per se. It's about good public health. And if you need to regionalize to get there, then you do. But it's not about, you know, "Oh, regionalization, it's like vanilla ice cream. You either want it or you don't." Do you know what I mean? Like you have an obligation to protect people. And if you're not doing it alone, you must do it together.

Establish Workforce Qualifications and Accountability. As noted in the challenges section, the lack of workforce qualifications and legal or financial penalty for not assuring quality public health services provides a great challenge for local public health leaders. Without consequences, these services are more easily placed on the chopping block than others. The requirements of the PHDIG program, which

included minimum workforce qualifications, performance expectations, and monitoring, helped lead agencies articulate what professional public health services look like, demonstrate not only what they truly cost, but also the benefits they can provide to municipalities. Many participants noted that if you want to improve the equitable delivery of quality public health services in Massachusetts, you must create a clear vision, provide support to achieve the vision, and hold municipalities accountable.

Continue Legal Technical Assistance. Another recommendation is to continue providing technical assistance to municipalities that are interested in cross-jurisdictional service sharing. Almost every participant indicated that the legal technical assistance provided by the Massachusetts Association of Health Boards during development of inter-municipal agreements was invaluable. The legal counsel in most municipalities is unfamiliar with public health laws and regulations and some are more risk averse than others. Having a strong and experienced legal advisor can help facilitate conversations about service sharing and resolve issues as they arise.

Continue Support for Evaluation/Performance Data. A few participants also noted that the evaluation technical assistance was useful to their groups. Having access to performance data on an annual basis helped to keep them focused on grant expectations and inform strategic priorities for improvement. Most participants noted that they did not have the bandwidth to collect, synthesize, and disseminate such information. They also suggested that having an outside team collect the data helped to elevate the importance of the performance data to other local stakeholders.

Support Financial and Business Planning. Finally, a commonly recommended form of technical assistance that was not provided in this grant round was for financial and business planning. As indicated in the challenges section of the report, many grantees were still trying to understand the true cost of cross-jurisdictional service sharing near the end of the grant program. Many recognized the need to start building a business plan earlier in the process, but had a hard time prioritizing these efforts while getting the services up and running properly. Having a dedicated person or team to help with business planning may help with creating a viable service sharing model.

Local Level Recommendations

With respect to recommendations for local public health leaders who want to strengthen their capacity to provide high quality services to their residents through cross-jurisdictional service sharing, participants offered a number of recommendations.

Partner with Municipalities with Shared Values. The first was to seek out partnering municipalities who share similar values for public health. Although disparate investments in local public health services is also important to be mindful of, differences in the perception of the value and importance of public health services was much more difficult to overcome.

Identify and Engage Key Stakeholders Early. A second recommendation was to understand early on who all the key stakeholders are in each partnering municipality and invest time and resources upfront in engaging them in program conception, design, and implementation. This upfront investment helps to cultivate “local champions” for shared service delivery, and helps ensure that the approach selected will have support. This is critical as change is often difficult to experience and manage. Having local champions in strategic positions can make the transitions in how services are provided easier.

Develop and Communicate Realistic Expectations. Finally, grantees cautioned against “promising everything to everyone” in the beginning phases of developing shared services. Although it can help bring people to the table, it may not pay off over time as the costs of such approaches can often be more than anticipated and the services or approach may not be sustainable over time. Participants recommended having open and honest conversations during the initial phases of implementation to ensure that the key stakeholders in each municipality have a real understanding of what it takes to do the work. Related to this recommendation is the need for consistent channels of communication and transparency in decision-making.

PHDIG Evaluation Team Conclusions

The other thing, which I really like, is that working collaboratively gives us the opportunity to be visionary. As directors, we each ran offices in such a way that basically we were doing what were the mandates of the original sanitary code that had been around for 150 years and we weren't going to get another nickel from our municipalities to do one thing beyond because they're having trouble keeping the lights on. This is not a wealthy section of the state and these aren't even wealthy communities for this section of the state. But it gives us the opportunity to both be visionary and say what if and also we have a chance to be more proactive...

The above quote provides a nice summary of the value of the PHDIG program and the move towards cross-jurisdictional service sharing for many participants. Working collaboratively to provide professional public health services has increased the capacity of local boards of health to move beyond regulatory functions to include community health programs. It has also allowed local public health leaders to become “community health strategists,” using regional data to understand and inform priorities and then working collectively to secure funding to address those priorities. While there were many bumps in the road and challenges along the way, the movement towards shared services has demonstrated marked improvements in public health services in municipalities of all sizes. As a pilot program, the investment in this type of infrastructure change has paid off for participating municipalities and is worth considering as a viable strategy for improving the equitable delivery of quality public health services across the Commonwealth of Massachusetts.

Appendices

- A. Glossary of Terms
- B. Planning and Implementation Grant Proposal Applicants Summary
- C. Map of PHDIG Districts
- D. Massachusetts Public Health Districts
- E. Map of Massachusetts Districts and Shared Services Municipalities

Appendix A: Glossary of Terms

Accreditation

The Public Health Accreditation Board (PHAB) defines accreditation for public health departments as:

1. The development and acceptance of a set of national public health department accreditation standards;
2. The development and acceptance of a standardized process to measure health department performance against those standards;
3. The periodic issuance of recognition for health departments that meet a specified set of national accreditation standards; and
4. The periodic review, refining, and updating of the national public health department accreditation standards and the process for measuring and awarding accreditation recognition.

Board of Health

In Massachusetts, a board of health is a legally designated governing entity whose members are appointed or elected to provide advisory functions and/or governing oversight of public health activities, including assessment, assurance, and policy development, for the protection and promotion of health in their community. Each of the 351 municipalities in Massachusetts has a board of health.

Decentralized State

A decentralized health department is a state public health organizational structure that emphasizes local control of local public health departments. Independent local public health departments and regional health districts, hire their own staff, independently from the state health department.

CDC “Winnable Battles Initiative”

The CDC “Winnable Battles Initiative” (2010-2016) was an effort to make the biggest health impact for the most Americans in the shortest time and was able to document progress in improving a number of national health indicators. <https://www.cdc.gov/winnablebattles/>

Coalition

A coalition is an organized group of people in a community working toward a common goal. The coalition can have individual, group, institutional, community, and/or public policy goals.

Collaboration

Collaboration is a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards.

Community Health Improvement Plan

A community health improvement plan is a long-term, systematic effort to address public health problems on the basis of the results of community health assessment activities and the community health improvement process. This plan is used by health and other governmental education and human service agencies, in collaboration with community partners, to set priorities and coordinate and target resources.

Community Health Assessment

A community health assessment (CHA) is an analysis of the health status of the community served by an organization. A CHA general includes

- A description of the community served
- A description of the process and methods used to conduct the assessment
- A description of methods used to include input from people representing the broad interests of the community served
- A prioritized description of all community health needs identified in the CHNA, as well as a description of the process and criteria used in prioritizing such needs
- A description of existing health care facilities and other resources in the community available to meet the needs identified in the CHNA.

Cross-Jurisdictional Sharing

The means by which jurisdictions may collaborate regionally around the provision of public health services as a way to help them more efficiently and effectively deliver public health services.

Local public health Department

A local public health department is defined as the governmental body serving a jurisdiction or group of jurisdictions geographically smaller than a state and recognized as having the primary statutory authority to promote and protect the public's health and prevent disease in humans. This authority is defined by the state's constitution, statute, or regulations or established by local ordinance or through formal local cooperative agreement or mutual aid. The entity may be a locally governed health department, a local entity of a centralized state health department, or a city, city-county, county, district, or regional health department.

Massachusetts Public Health Regionalization Working Group (MPHRWG)

A collaboration formed in 2005 among the state's five professional public health associations, Boston University School of Public Health, local public health officials, the Massachusetts Department of Public Health, and other government partners that drafted a set of principles and critical elements to apply to regionalization and cross-jurisdictional sharing of service efforts in Massachusetts.

National Public Health Improvement Initiative (NPHII)

This initiative, managed by the Office for State, Tribal, Local and Territorial Support (OSTLTS) at CDC, is intended to strengthen public health infrastructure and systematically increase performance

management capacity so that public health goals are effectively and efficiently met. NPHII is part of the Prevention and Public Health Fund of the Affordable Care Act of 2010.

Public Health Accreditation Board (PHAB)

PHAB is the national accrediting organization for public health departments. A nonprofit organization, PHAB is dedicated to advancing the continuous quality improvement of Tribal, state, local, and territorial public health departments. PHAB is working to promote and protect the health of the public by advancing the quality and performance of all public health departments in the United States through national public health department accreditation. (Public Health Accreditation Board.

Public Health District Incentive Grant Program (PHDIG)

Grant program (2010-2015) offered by the Massachusetts Department of Public Health (DPH) with funding from the CDC to strengthen local public health infrastructure through the creation of regional public health districts. DPH awarded planning grants to eleven districts in 2010 and five implementation grants to regions that ran for the duration of the program.

Public Health Workforce

The public health workforce includes those individuals who are employed either full-time or part-time by governmental public health departments for the purpose of supporting the provision of public health services.

Appendix B: PHDIG Planning and Implementation Grant Applicants

Funded for Planning and Implementation

Montachusett Regional Planning District

Lead Agency: Montachusett Regional Planning Commission

Planning Grant Amount Requested: \$40,000

Population: 112,314 **Land Area:** 161 square miles

Proposed Planning Grant Municipalities (5): Fitchburg, Gardner, Leominster, Westminster, Hubbardston

North Shore Shared Health Services Program

Lead Agency: Metropolitan Area Planning Council

Planning Grant Amount Requested: \$40,000

Population: 212,375 **Land Area:** 42 square miles

Proposed Planning Grant Municipalities (5): Lynn, Marblehead, Peabody, Salem, Swampscott

Central Massachusetts Regional Health District

Lead Agency: City of Worcester, Division of Public Health

Planning Grant Amount Requested: \$15,123

Population: 320,744 **Land Area:** 202 square miles

Proposed Planning Grant Municipalities (10): Auburn, Grafton, Boylston, Holden, Leicester, Millbury, Northborough, Shrewsbury, West Boylston, Worcester

Berkshire Public Health Partnership

Lead Agency: Berkshire Regional Planning Commission

Planning Grant Amount Requested: \$31,955

Population: 61,076 **Land Area:** 506 square miles

Proposed Planning Grant Municipalities (17): Adams, Alford, Becket, Dalton, Egremont, Great Barrington, Hancock, Lanesborough, New Marlborough, North Adams, Peru, Savoy, Sheffield, Washington, West Stockbridge, Williamstown, Windsor

Franklin County Cooperative Health Services (Implementation Grant – starting year 2)

Lead Agency: Franklin Regional Council of Governments

Planning Grant Amount Requested: \$29,550

Population: 64,543 **Land Area:** 498 square miles

Proposed Planning Grant Municipalities (19): Ashfield, Bernardston, Buckland, Charlemont, Colrain, Conway, Deerfield, Gill, Greenfield, Hawley, Leverett, Leyden, Monroe, Montague, Northfield, Orange, Shelburne, Sunderland, Whately

Upper Merrimack Valley Health District (Implementation Grant – first year only)

Lead Agency: Methuen Health Department

Planning Grant Amount Requested: \$32,032

Population: 176,551 **Land Area:** 66 square miles

Proposed Planning Grant Municipalities (3): Methuen, Lawrence, Haverhill

Funded for Planning | Not Awarded Implementation Grant

Hampshire Health District

Lead Agency: City of Northampton

Planning Grant Amount Requested: \$27,403

Population: 158,944 **Land Area:** 614 square miles

Proposed Planning Grant Municipalities (22): Amherst, Belchertown, Chester, Goshen, Granby, Hatfield, Huntington, Middlefield, Northampton, Pelham, Plainfield, South Hadley, Southampton, Ware, Westhampton, Whately, Williamsburg, Chesterfield, Cummington, Easthampton, Hadley, Worthington

Tri-Town

Lead Agency: Lowell Health Department

Planning Grant Amount Requested: \$20,000

Population: 143,601 **Land Area:** 54 square miles

Proposed Planning Grant Municipalities (3): Lowell, Dracut, Tyngsboro

Southeast Regional Health District

Lead Agency: Middleborough Health Department

Planning Grant Amount Requested: \$38,000

Population: 171,000 **Land Area:** 322 square miles

Proposed Planning Grant Municipalities (13): Middleborough, Abington, Bridgewater, Lakeville, Mattapoisett, Raynham, Plympton, Wareham, Halifax, Marion, Rochester, Rockland, Duxbury

Funded for Planning | Did Not Submit Implementation Grant Proposal

Integrated Public Health Network

Lead Agency: Cambridge Public Health Department

Planning Grant Amount Requested: \$30,067

Population: 252,427 **Land Area:** 18 square miles

Proposed Planning Grant Municipalities (4): Cambridge, Everett, Somerville, Watertown

MetroWest Public Health and Nursing District

Lead Agency: Acton Board of Health

Planning Grant Amount Requested: \$40,000

Population: 148,489 **Land Area:** 135 square miles

Proposed Planning Grant Municipalities (13): Acton, Concord, Framingham, Hudson, Southborough, Weston, Lincoln, Holliston, Carlisle, Marlborough, Stow, Maynard, Westborough

Submitted Planning Proposal | Not Funded

Southcoast Boards of Health Alliance

Lead Agency: New Bedford Health Department/New Bedford Board of Health

Planning Grant Amount Requested: \$38,240

Population: 161,096 **Land Area:** 149 square miles

Proposed Planning Grant Municipalities (5): New Bedford, Dartmouth, Fairhaven, Acushnet, Freetown

Old Colony Regional Public Health District

Lead Agency: Old Colony Planning Council
Planning Grant Amount Requested: \$40,000
Population: 57,379 **Land Area:** 56 square miles
Proposed Planning Grant Municipalities (4): Avon, Bridgewater, Hanson, Whitman

Dukes County Health Boards

Lead Agency: County of Dukes County
Planning Grant Amount Requested: \$28,000
Population: 13,800 **Land Area:** 95 square miles
Proposed Planning Grant Municipalities (4): Edgartown, Tisbury, Oak Bluffs, West Tisbury

MetroWest

Lead Agency: Metropolitan Area Planning Council
Planning Grant Amount Requested: \$12,500
Population: 54,269 **Land Area:** 69 square miles
Proposed Planning Grant Municipalities (4): Ashland, Holliston, Hopkinton, Medway

Beverly, Ipswich, Topsfield

Lead Agency: Metropolitan Area Planning Council
Planning Grant Amount Requested: \$40,000
Population: 58,990 **Land Area:** 60 square miles
Proposed Planning Grant Municipalities (3): Beverly, Ipswich, Topsfield

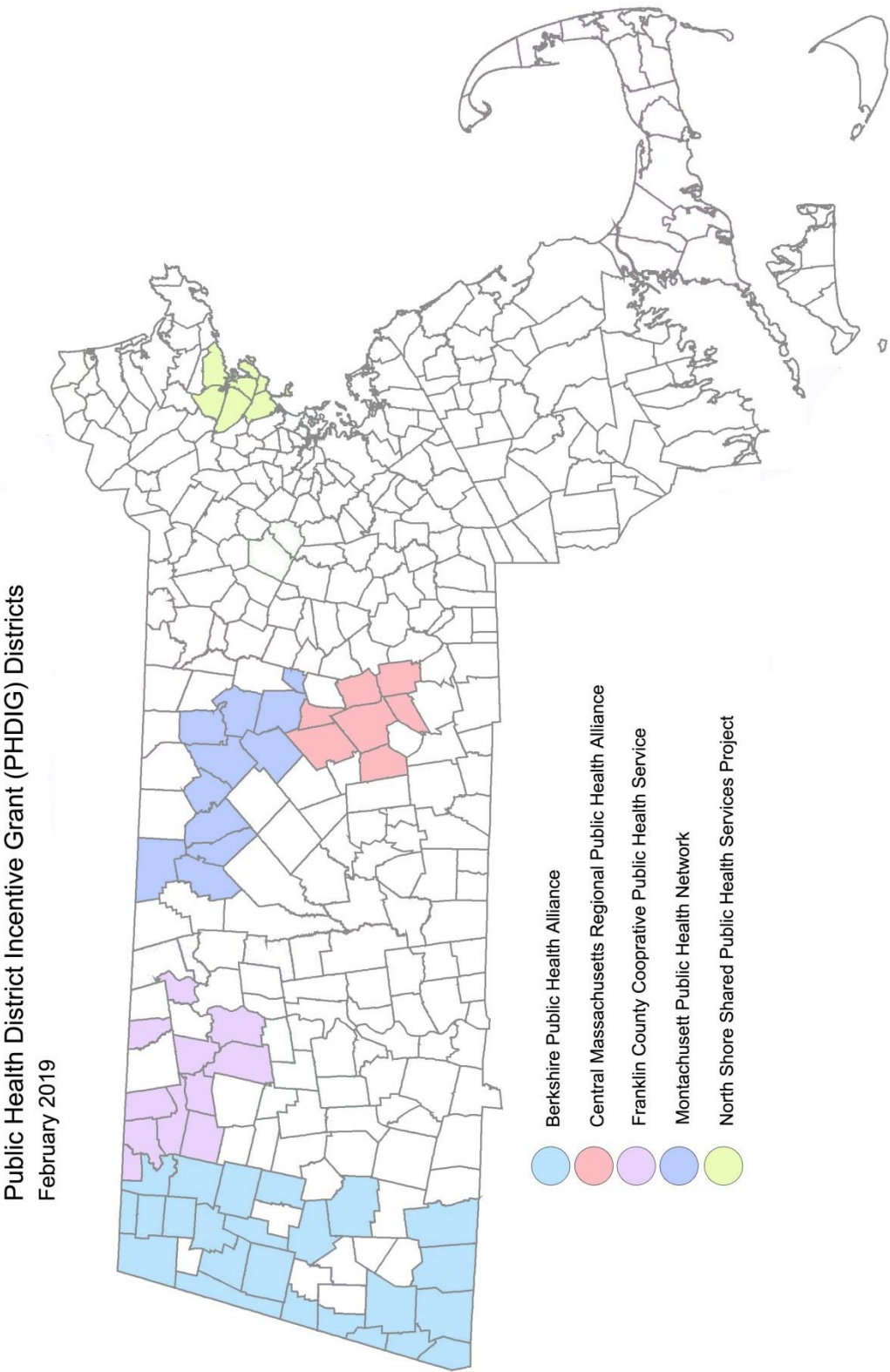
Noirith Suffolk

Lead Agency: Metropolitan Area Planning Council
Planning Grant Amount Requested: \$40,000
Population: 100,430 **Land Area:** 9 square miles
Proposed Planning Grant Municipalities (3): Chelsea, Revere, Winthrop

WFFM (Walpole, Foxborough, Franklin, and Millis)

Lead Agency: Walpole Board of Health
Planning Grant Amount Requested: \$40,000
Population: 83,002 **Land Area:** 80 square miles
Proposed Planning Grant Municipalities (4): Foxborough, Franklin, Millis, Walpole

Appendix C: PHDIG Districts Map



Appendix D: Massachusetts Public Health Districts

Public Health District Incentive Grant Districts

Berkshire Public Health Alliance

Adams, Alford, Becket, Cheshire, Clarksburg, Dalton, Egremont, Florida, Great Barrington, Hancock, Lanesborough, Mount Washington, New Marlborough, North Adams, Peru, Pittsfield, Richmond, Sandisfield, Savoy, Sheffield, Washington, West Stockbridge, Williamstown, Windsor

Central Massachusetts Regional Public Health Alliance

Grafton, Holden, Leicester, Millbury, Shrewsbury, West Boylston, Worcester

Franklin Cooperative Health Service

Buckland, Charlemont, Conway, Deerfield, Gill, Hawley, Heath, Leyden, Monroe, Rowe, Shelburne

Montachusett Public Health Network

Athol, Clinton, Fitchburg, Gardner, Leominster, Phillipston, Princeton, Royalston, Sterling, Templeton, Westminster

North Shore Shared Public Health Services Program

Beverly, Danvers, Lynn, Marblehead, Nahant, Peabody, Salem, Swampscott

Other Districts

Amesbury Salisbury Public Health District

Amesbury, Salisbury

Barnstable County

Barnstable, Bourne, Brewster, Chatham, Dennis, Eastham, Falmouth, Harwich, Mashpee, Orleans, Provincetown, Sandwich, Truro, Wellfleet, Yarmouth

Eastern Franklin Public Health District

Erving, Northfield, Shutesbury

Foothills Public Health District

Goshen, Westhampton, Whately, Williamsburg

Melrose Wakefield Reading Public Health District

Melrose, Wakefield, Reading

Marion Rochester Public Health District

Marion, Rochester

Nashoba Associated Boards of Health

Ashburnham, Ashby, Ayer, Berlin, Bolton, Boxborough, Dunstable, Groton, Harvard, Lancaster, Littleton, Lunenburg, Pepperell, Shirley, Stow, Townsend

North Suffolk Public Health Collaborative

Chelsea, Revere, Winthrop

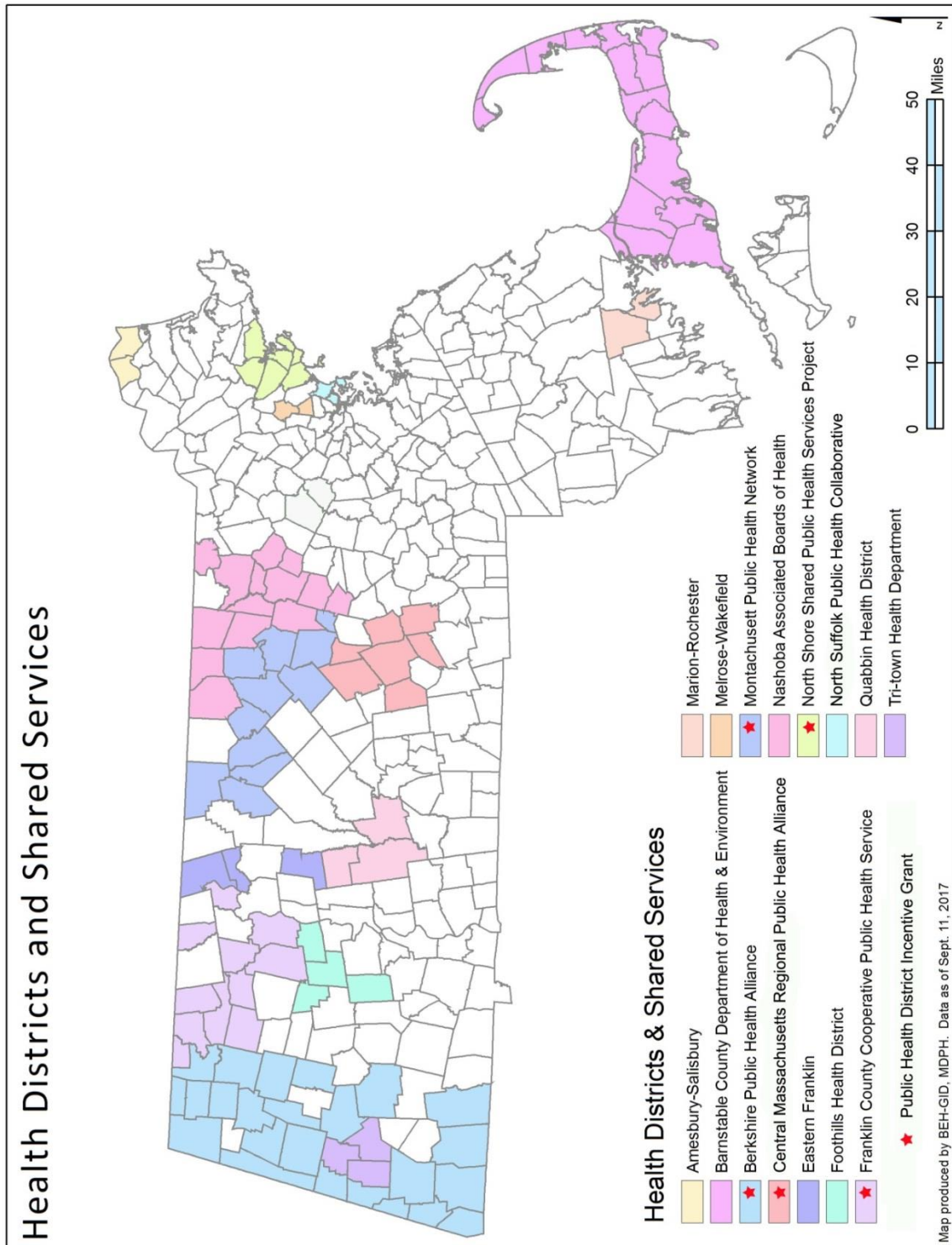
Quabbin Public Health District

Belchertown, Pelham, Ware

Tri-town Public Health District

Lee, Lenox, Stockbridge

Appendix E: Massachusetts Public Health Districts and Shared Services Map



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