

Local Public Health Institute of Massachusetts

Annual Service Delivery Report FY 2021



LOCAL PUBLIC HEALTH
INSTITUTE OF MASSACHUSETTS

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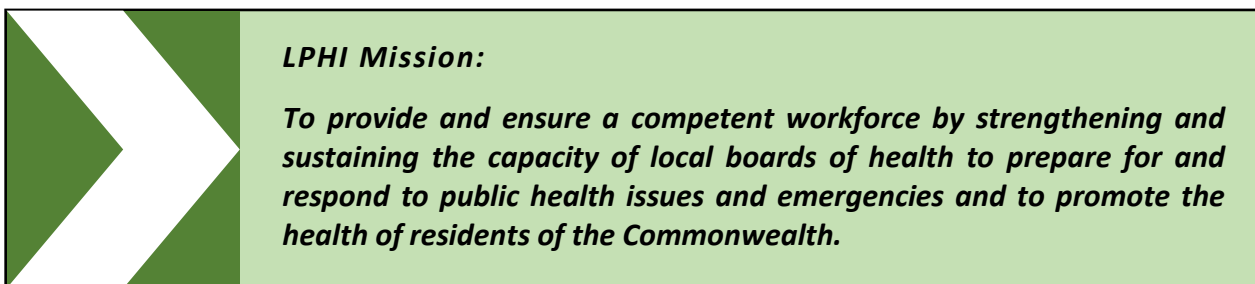
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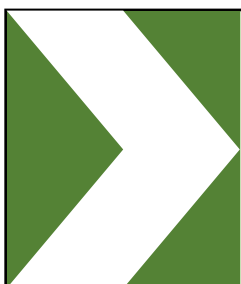
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Executive Summary

Introduction

Since January 2010, the Boston University School of Public Health (BUSPH) has held the contract for and managed the Local Public Health Institute (LPHI) of Massachusetts (MA). With funding and support from the Massachusetts Department of Public Health (MDPH), LPHI staff works with the Office of Local and Regional Health (OLRH), other MDPH bureaus and offices, the LPHI Advisory Committee, and other stakeholders to pursue the LPHI mission.

A graphic with a green background and a white chevron pointing right. To the right of the chevron, the text reads: ***LPHI Mission:***
To provide and ensure a competent workforce by strengthening and sustaining the capacity of local boards of health to prepare for and respond to public health issues and emergencies and to promote the health of residents of the Commonwealth.

| | |
|---|--|
|  | <i>LPHI Mission:</i> <i>To provide and ensure a competent workforce by strengthening and sustaining the capacity of local boards of health to prepare for and respond to public health issues and emergencies and to promote the health of residents of the Commonwealth.</i> |
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All LPHI activities are aimed at achieving the following objective:

To improve the pre- to post-training knowledge, skills, and workplace performance of local public health professionals and other health system partners in each of the six Health and Medical Coordinating Coalition (HMCC) regions of the Commonwealth related to established public health and emergency preparedness competencies and other identified emerging public health threats.

This report describes LPHI's progress during fiscal year 2021 (FY21), July 1, 2020 through June 30, 2021. Below is the description of LPHI's evaluation methodology used to inform the progress report, as well as a summary of LPHI's major accomplishments during the reporting period, and recommended next steps.

Methodology

The LPHI evaluator and LPHI management team have devised several data collection and tracking mechanisms to measure progress toward LPHI objectives and outcomes, including:

- standardized training evaluations in paper and web-based formats
- administrative tracking by the LPHI Program Manager
- web-based tracking of online course utilization
- online surveys of those who engaged in LPHI trainings

FY21 Accomplishments

LPHI had another productive year and was successful in advancing work on its program objectives through its partnerships, needs assessment, education and workforce development offerings, and marketing and communications. FY21 accomplishments include:

1

Meeting current issues/needs

Responding to the needs of the workforce for expanded access to key offerings and curtailment of in-person learning opportunities, LPHI staff worked with subject matter experts from MDPH and LPHI Advisory Committee members to update and convert two key course offerings (*Foundations for Local Public Health Practice* and *MA PHIT Housing*) to fully online. The goal was to increase accessibility and participation, since, in previous blended offerings, there had been a limited number of people who could be trained at a time. These two courses are now available as fully asynchronous extended learnings, enabling workforce members to access them more readily. Increased access to major training programs was a recommendation of the Special Commission on Local and Regional Public Health.

2

Successful partnerships

New and established relationships resulted in productive collaborations to address the training needs of local public health professionals and create new ways to access and deliver trainings.

Partners this year include:

- BU staff from PHX and from the Office of Continuing Medical Education;
- MA Emergency Management Association (MEMA);
- MDPH's OLRH, Office of Preparedness and Emergency Response, and the Bureau of Substance Addiction Services (BSAS);
- Members of the Local State Advisory Committee (LSAC);
- New England Public Health Training Center (NEPHTC);
- School Health Institute for Education and Leadership (SHIELD); and
- Coalition for Local Public Health (CLPH).

3

Assessing training needs and tracking competencies LPHI trainings address

LPHI built upon previous work done with LSAC (LPHI's former Advisory Committee) and CLPH (LPHI's current Advisory Committee) to serve the training needs of local public health practitioners across the Commonwealth. Additionally, LPHI continued to track competencies to ensure its trainings address all of the 17 program area competencies and 10 cross-cutting competencies identified by LPHI's 2010 Competency Report and the Council on Linkages, as well as the four emergency preparedness competencies. Finally, LPHI collected information directly from trainees about their training needs.

4

Training

LPHI trained 2,089 unduplicated users in FY21 (up substantially from 1,727 in FY20). The audience that collectively completed the 56 On Your Time (OYT) trainings in FY21

accounted for 3,965 training instances (roughly 1.9 trainings per unduplicated user), and was exposed to all 17 program area, 10 cross-cutting, and four emergency preparedness competencies. There were 57,879 hits to the OYT trainings in FY21 (up from 39,642 in FY20). Although some of these hits include completed trainings, the remainder are instances in which users accessed the OYT trainings for reference purposes. In FY21, LPHI engaged practitioners from all of the Health and Medical Coordinating Coalition (HMCC) regions, with heaviest representation coming from Region 4C (41%), and all types of professionals within its target audience. For 53 of the 56 trainings, 75% or more of completers indicated that all four of the following were achieved:

- (1) the training information was presented in a way they could clearly understand,
- (2) they were satisfied with the training overall,
- (3) their understanding of the subject matter improved as a result of the training, and
- (4) they identified actions they could take to apply the information they learned in the training to their work.

Recommendations were made for quality improvement for the two trainings in which the 75% threshold was not met for all four measures (see below). The average and range of quiz findings improved from the pre-test to the post-test for all 56 trainings. In general, the evaluation findings indicate that LPHI's OYT trainings are successful at both Level 1 and Level 2 of the Kirkpatrick Training Evaluation Framework¹.

5

Communications and marketing

LPHI launched a new, streamlined website in FY21 that offers a clean and simple interface organized to make it easier for users to locate and access training information, calendars, and information about MA professional associations and training partners. LPHI created and disseminated nine newsletters focused on a range of LPHI training topics, to an average of 5,928 recipients. While Covid-19 prevented in-person conferences, LPHI, like most organizations, relied upon newsletters and training calendars to promote LPHI and the training opportunities available to the public health workforce. LPHI provided recommendations and cost estimates for a learning management system to support LPHI, and created budgets and a concept of operations for expanded sustainable operations.

Recommendations

Evaluation

Based on the FY21 evaluation findings, LPHI should consider:

1. Additional marketing of trainings to practitioners in HMCC regions other than 4C, and, as part of future needs assessment efforts, ensure that the constellation of trainings meets the needs of practitioners in those regions.

¹ Kirkpatrick Training Evaluation Model available at:
<http://www.kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx>

2. Once utilization of *Coaching Skills* and *Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores* reaches 50 or more completers, include them in a deep-dive review to assess opportunities for quality improvement. In the meantime, review those trainings to assess whether there are opportunities for improving the presentation of content and enhancing the training overall.
3. Include *Sanitary Surveys for Variance: A Special Bathing Beach Topic* in another deep-dive analysis (once an additional 50 or more users have completed the training), and compare the results to the FY20 deep-dive findings for that training to see if/how findings at Levels 1 and 2 (which were excellent in FY20) may have changed. Should any problems with that training be identified, quality improvement should be conducted.

Additionally, the LPHI Manager, Principal Investigator, and Evaluator should review the LPHI Logic Model annually to ensure that the model continues to reflect LPHI's work and the outputs and outcomes that work is designed to achieve. Doing so will also provide an annual opportunity for LPHI management and the LPHI Evaluator to ensure that the evaluation strategy addresses any new initiatives that are added in a given fiscal year.

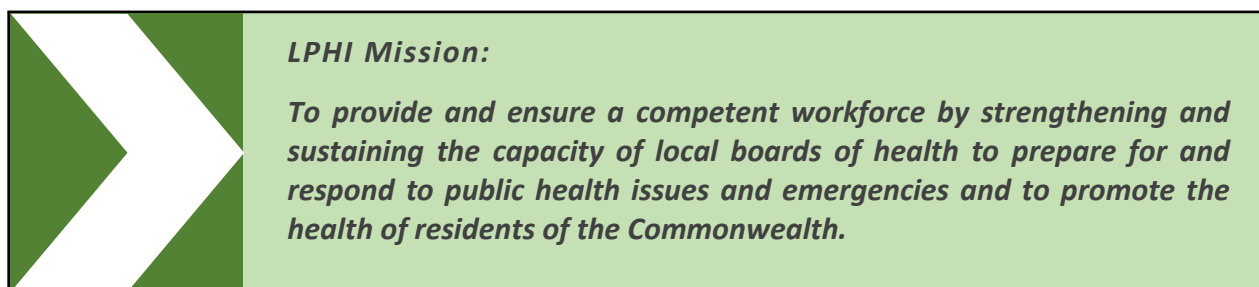
Growth and Operations

Moving forward, LPHI should:

1. Continue search for funding of acquisition of a learning management system (LMS) to replace the dated and limited database system currently used.
2. Obtain endorsement of the Growth and Sustainability strategy developed in FY21.
3. Participate in national discussions about changing public health competencies.

Introduction

Since January 2010, the Boston University School of Public Health (BUSPH) has held the contract for and managed the Local Public Health Institute (LPHI) of Massachusetts (MA). With funding and support from the MA Department of Public Health (MDPH), LPHI staff works with the Office of Local and Regional Health (OLRH), other MDPH bureaus and offices, the LPHI Advisory Committee, and other stakeholders to pursue the LPHI mission.



In order to achieve the program objective and outcomes (see Appendix A), LPHI carries out work in four areas:

- (1) partnerships,
- (2) needs assessment,
- (3) education and workforce development, and
- (4) communications and marketing.

To streamline the reporting process and increase utility for quality improvement, this report is organized around those four areas of work. It covers fiscal year 2021 (FY21), July 1, 2020 through June 30, 2021. For more information about any of LPHI's educational offerings or the documents referenced in this report, contact the LPHI Project Manager at lphi@bu.edu or 617-358-3899.

Who We Serve

LPHI was formed to serve the local public health workforce in Massachusetts. This includes the staff and governing bodies of the 351 local boards of health, staff who work in Tribal health² or emergency preparedness services, and the various regional entities that are charged with providing the ten essential public health services and meeting the state's statutory requirements. Since 2010, the reach of LPHI has expanded to involve staff at the state level with online trainings on topics that require state/local partnerships (e.g., disease surveillance vaccine management, food protection, and emergency preparedness). In addition, LPHI trainings are also accessed by students who are interested in pursuing local public health careers (filling a pipeline need),

² While federally recognized Tribes are sovereign nations, MDPH funding for LPHI extends access to Tribes as well as the 351 local boards of health.

members of the regulated community (e.g., food establishment and tanning facility operators), consultants who work with local and regional boards of health, and others interested in learning more about the public health field or particular public health subjects.

As our primary audience is local and regional boards of health, of significance is the 2019 Report of the Special Commission on Local and Regional Public Health - Blueprint for Public Health Excellence: Recommendations for Improved Effectiveness and Efficiency of Local Public Health Protections (Special Commission report).

“Massachusetts has more local public health jurisdictions than any other state - 351, one for each city and town, in comparison to most other states which have county or regional systems that allow them to share resources and responsibilities, and collaborate to meet local community goals, statutory requirements, and rigorous national public health standards.

The scope of local public health has expanded exponentially in the 21st century – now including protecting the environment, planning for natural and manmade disasters, preventing new insect and tick-borne diseases, reducing substance addiction, reducing the prevalence of chronic diseases, and improving mental health. Prevention efforts (e.g., educating the public, providing opportunities to eat right and exercise, steering those at risk for chronic diseases to healthier paths, etc.), which are critical to improving population health, reducing health disparities, building a stronger state, and reducing health care costs, also fall under the purview of local public health departments.”

-- Special Commission report

One of the findings detailed in the Special Commission report is that the lack of uniform standards for experience, training, credentialing, and staffing for board of health members and local health departments has resulted in differences in local public health capacity across the state. For example, rural areas and small towns (which typically have smaller budgets, geographic isolation issues, and a lack of infrastructure) offer lower salaries and part-time versus full-time opportunities, making it challenging to recruit and retain employees with cutting-edge public health training. LPHI strives to be a resource for all areas of the state, cities, mid-size towns, and communities using shared services arrangements. LPHI offers a continually expanding library of trainings that are free, available online, can be done on a flexible time schedule, and satisfy certain credential continuing education credit requirements. To ensure accuracy, currency and utility, LPHI has built a comprehensive system of reviewing and evaluating the effectiveness and impact of its offerings.

What We Do/How We Do Our Work

The overall scope of LPHI is to work with OLRH to develop and implement a workforce development plan that meets the need of the 21st century local public health workforce across the 351 local boards of health (board members and staff). LPHI, in collaboration with MDPH and other stakeholders, develops and hosts educational and workforce development activities. These offerings strengthen the competency and capacity of the workforce to prevent, prepare for, respond to, and recover from emerging public health issues and emergency events that threaten the health of residents of the Commonwealth.

LPHI oversees a virtual training institute that provides access to, and a registration system for, trainings specific to local public health. Pre-COVID, trainings were a mix of in-person and online, with most online. During COVID, LPHI shifted to entirely online trainings. LPHI will work with OLRH and the LPHI Advisory Committee to determine post-COVID delivery methods, which might include job shadowing and networking.

LPHI maintains a website and a learning management system where local public health professionals, municipal staff, Tribal health staff, health district or shared services staff, and local board of health members, can:

- register for competency-based courses;
- obtain continuing education credits for certain credentials;
- view a calendar of upcoming training and leadership opportunities;
- download training materials relevant to their scope and mission of addressing local public health;
- learn how to get started as a new member of the local public health workforce;
- view curated lists of trainings and reports; and
- connect with professional associations devoted to the local public health workforce.

LPHI initially developed its training catalog using the 2010 MA Competency Report with a focus on program area competencies. LPHI also considers other competency sets (e.g., Council on Linkages, Emergency Preparedness) and emerging public health problems (e.g., vaping) to expand its catalog.

LPHI develops, markets, maintains, and evaluates all of the trainings in its catalog. Development involves collaboration with subject matter experts (at the state and local level) to identify what the user will learn and be able to do differently as a result of the training. Digital learning design principles that support adult learner preferences and priorities are used to create content that is grounded in these principles.

Marketing materials, such as newsletters and electronic flyers direct learners to the LPHI website for more information. Newsletters are issued at least quarterly to highlight available trainings pertinent to the local public health workforce needs. For example, spring newsletters include information about trainings related to camps and inspections of pools and bathing beaches in

anticipation of the summer season. LPHI also features pertinent workshops and conferences offered by professional public health associations in MA and nationally. The LPHI website is the primary path for exploration of content and registration for trainings. The website was updated during FY21 to organize trainings by content area, and make the user navigation experience easy and informative.

The LPHI training catalog is hosted on a custom learning management system. LPHI staff responds to learner support requests via email. LPHI is committed to providing excellence to their learners, and staff continually maintains the currency, accuracy, and functionality of all of its trainings through continuous quality improvement processes, including an annual review of all trainings. The annual review process may include the addition of new functionality, revision of language, and implementation of software updates, to name a few. As an example, after the de Beaumont Foundation, Public Health National Center for Innovations, and a task force of public health experts released a revised version of the 10 Essential Public Health Services in September 2020, LPHI staff revised and updated the existing LPHI training *The Ten Essential Public Health Services in Action* to ensure that it was current and accurate.

All trainings are evaluated using results from learners' pre-tests, post-tests, and satisfaction surveys. Results are reviewed and analyzed to identify satisfaction, knowledge gain, and the need for revised content/format to make a lesson clearer. LPHI strives to conduct in-depth reviews of content and evaluation results every three to five years using both date of creation and evaluation results.

FY21 Accomplishments

Training Development

The COVID-19 pandemic made in-person training for the public health workforce impossible in FY21. Further, many public health staff were redeployed and working long hours focused on COVID-19 response. LPHI was able to use this time to convert two key courses from a blended style (which consists of a combination of in-person days and self-paced trainings) to a fully online format. This change required a complete review of curriculum, development of new sections, and extensive recording of subject matter expert presentations for two courses, *Foundations in Local Public Health Practice (Foundations)* and *MA Public Health Inspector Training – Housing (MA PHIT Housing)*. By making these significant extended learning courses available online, LPHI was able to expand the local public health workforce's access to them. Local public health workers across the Commonwealth, who may not have been able to enroll in a multi-day in-person training because of scheduling challenges or travel restrictions, can now complete the courses as their schedules allow. As Massachusetts begins to implement the Special Commission report's recommendations for workforce training and minimum standards, online access will become an important factor for success.

In addition to the complete redesign of these two major courses, LPHI developed three new offerings – two OYT trainings and one extended studies course.

1. *Mutual Aid for Public Health in MA* is an OYT training that was developed for the Office of Preparedness and Emergency Management (OPEM) and is the result of collaboration with subject matter experts from MEMA and local health departments.
2. *What is Public Health?* is an OYT training requested by the CLPH sub-committee working with LPHI on the redesign of the *Foundations* course. It was created to answer fundamental questions about the relationship between health, health equity, and public health. It also helps clarify what produces health and what has contributed to the increase in life expectancy in the US, and includes extensive remarks from Sandro Galea, Dean of Boston University School of Public Health (BUSPH).
3. *Mini-MPH* is a non-credit master course that includes sections on Quantitative Methods, Leadership and Management, Health Systems, Law and Policy, and Individual, Community, and Population Health. It was developed as an extended learning opportunity for the public health workforce. All sections are taught by BUSPH faculty and leaders in their fields. *Mini-MPH* is scheduled to go live during the summer of 2021.

Learner Engagement/Marketing

During FY21, LPHI staff focused on improving learner engagement directly and indirectly by:

- creating custom electronic flyers for professional associations to share with their members;
- updating and segmenting email lists to allow for targeted messaging for the specific needs of different geographic sections of the Commonwealth;
- updating data collection to better capture changes in title and or workplace;
- redesigning the existing website to streamline content and make it easier for learners to navigate and find the trainings they need;
- updating the marketing and branding plan to include fully online trainings; and
- establishing a LPHI presence on the LinkedIn app, acknowledging the increasing usage of LinkedIn by training partners and current workforce, as well as the emphasis on LinkedIn for upcoming workforce members in college and graduate school.

Planning for a Sustainable Future

LPHI engaged in thoughtful discussions to develop plans for expansion and sustainability of the Institute, and made multiple presentations of those plans to stakeholders from MDPH and LPHI Advisory Committee members during the year. The plans included potential course development schedules, based upon needs assessment and stakeholder requests, identification of staffing needs to support the increased development and maintenance of multiple trainings and extended learnings courses, and technical needs for a supported learning management system with increased functionality and reliability.

Other Successes

LPHI worked with the LPHI Evaluator to update the LPHI Logic Model. This update was needed because many of the objectives established in 2010 had been achieved.

LPHI's OYT training *Dealing with Stress in Disasters* was featured in the Centers for Disease Control and Prevention (CDC) Learning Connection to a national audience in April 2021 as a useful resource for public health workforce members across the country who had been working in uncertain conditions for more than a year, due to the COVID-19 pandemic.

LPHI was funded by BSAS to:

- develop two trainings on the opioid epidemic specific to the local public health workforce (which went live in September 2020),
- update the Massachusetts Health Officers Association (MHOA) Opioid Toolkit, and
- design a conference experience to launch the new MHOA Opioid Toolkit in September 2021.

Methodology

The LPHI Evaluator and LPHI management team devised several data collection and tracking mechanisms to measure progress toward the LPHI objective and desired outcomes. Below are descriptions of those utilized to inform this report.

Standardized training evaluation forms

All LPHI-supported trainings must include an evaluation component. Whenever possible, such evaluations include pre/post quiz questions to assess the extent to which students acquired knowledge as a result of training. The evaluations also assess trainee satisfaction with several aspects of training. Evaluations are self-administered with trainees either completing them on paper or online.

Administrative tracking

The project manager routinely tracks data related to the size and composition of the Advisory Committee and its meetings, the number and types of trainings and demographics of training participants, the number and types of collaborating partners, the number of trainings with a distance education component, and the status of the communications and marketing plan, including the number of newsletters.

Online training evaluations

Google Analytics is used to track unique and returning hits to the *On Your Time Training* webpage. Trainees who wish to obtain a certificate of completion and contact hours for use of the online trainings may do so online as well.

Online surveys and telephone

As resources allow, brief telephone interviews and/or surveys are conducted with completers of LPHI trainings and extended courses to assess the impact of the training on workplace/job performance or for other purposes as needed.

The LPHI (and NEPHTC) evaluation strategies are based upon the Kirkpatrick Training Evaluation Model,³ which suggests that training should be evaluated on four levels:

| Level | What is Assessed | How LPHI Measures |
|-------|--|---|
| 1 | Trainee satisfaction with and engagement in training, and perceived relevance of training to the trainee's job | Evaluated based on three Likert scale ratings related trainee agreement with statements that assess their satisfaction with and the relevance of training to their jobs (1=strongly disagree to 5=strongly agree) |
| 2 | Trainee acquisition of intended knowledge, skills, and attitudes, as well as confidence about and commitment to use training content | Evaluated based on results of paired samples t-test comparing mean pre-test and mean post-test scores for training completers* and one statement to assess perceived knowledge gains as rated by a 5-point Likert scale (1=strongly disagree to 5=strongly agree) |
| 3 | Trainee application of what was learned in training when trainee is back on the job | Evaluated via a follow up survey** using a series of Likert scale ratings that allow training completers to express agreement with statements that assess the impact of training on their job performance (1=strongly disagree to 5=strongly agree) |
| 4 | The degree to which targeted outcomes or desired impact occur as a result of critical on the job behaviors that result from training | Methodology for assessing Level 4 impact has not yet been developed |

* Whenever possible, a pre/post-test is administered to assess Level 2 results, however, for brief (e.g., one-hour) webinars or trainings proven effective on Level 2 over time, a pre/post-test may not be administered.

** The time period for the follow-up survey differs by training and depends on how long LPHI management and instructors believe trainees need to apply the material learned in the training. Follow-up surveys are generally completed within six months of the end of a given training.

Quantitative analyses are conducted using SPSS or Excel, and thematic analysis is conducted with qualitative data. For more detail on any of the data sources described above or related evaluation documents, contact the LPHI Evaluator at hopewk@comcast.net.

³ Kirkpatrick Training Evaluation Model available at:

<http://www.kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx>

Findings

Partnerships

Partnerships with public health stakeholders are essential to achieving two important LPHI outcomes:

- (1) Ensuring that the LPHI trainings and programs are aligned with the learning priorities of the local public health workforce and are of high quality, and
- (2) Increasing educational offerings and collaborative projects to enhance professional development of the local workforce.

In FY21, partnerships with several organizations helped LPHI achieve these outcomes.

LPHI has a productive partnership with its funders, OLRH and OPEM at MDPH. In FY21, the LPHI Program Manager participated in monthly meetings (and other calls as needed) with OLRH and provided written progress reports to OLRH quarterly. There were multiple meetings with OPEM staff throughout FY21.

LPHI and OLRH worked closely with other partners at MDPH in FY21 to fill identified training needs. These included:

- Through meetings and online communication, the LPHI Program Manager and Principal Investigator worked with subject matter experts at BSAS to plan the development of an Opioid Toolkit for local public health. This project will culminate in a conference, updated website, and new materials for the workforce, which will be available in September 2021.
- LPHI worked with the Bureau of Environmental Health (BEH) Community Sanitation Program and Boston Inspectional Services staff to convert the existing three-day blended curriculum for the *MA PHIT Housing* course to a fully online extended learning offering. Although some of the important in-person aspects of the blended course (e.g., virtual inspection, supervised field inspections) were lost, this change in delivery method increases the availability of this training to the workforce.
- LPHI staff worked with BEH staff to outline two new OYT trainings related to harmful algal blooms and surface water sampling.

LPHI staff participated in conference and workshop planning for MHOA and Massachusetts Environmental Health Association (MEHA), and contributed to MEHA communications and materials including letters about COVID-19 response, bylaws updates, and social media strategy.

LPHI partnered with other organizations to:

- market LPHI,
- plan and deliver training,
- engage participants and instructors, and
- provide resources (subject matter expertise) for training.

These partners are described below, including how the partnership contributed to LPHI's progress in FY21.

Coalition for Local Public Health (CLPH)

CLPH is the stakeholder advisory body for MDPH on local public health initiatives working with OLRH. It is comprised of six public health organizations:

- MA Association of Health Boards (MAHB)
- MA Association of Public Health Nurses (MAPHN)
- MA Environmental Health Association (MEHA)
- MA Health Officers Association (MHOA)
- MA Public Health Association (MPHA)
- Western MA Public Health Association (WMPHA)

These organizations are dedicated to advocating for the resources needed to promote healthy communities in Massachusetts. Collectively, the CLPH organizations represent over 4,900 citizens and professionals interested in supporting the Commonwealth's local health infrastructure.

In January 2020, CLPH agreed to become LPHI's Advisory Committee, providing information about the training needs and priorities for the local public health workforce across Massachusetts. LPHI staff presented at three CLPH meetings in FY21 about workplans, current capabilities, and expansion and sustainability plans for LPHI. CLPH also convened a sub-committee to work with LPHI on the redesign of the *Foundations* course. As part of that work, the sub-committee reviewed the BUSPH *Mini-MPH* and gave recommendations that resulted in a stand-alone LPHI *Mini-MPH* master course and a new *What is Public Health?* OYT training.



Local State Advisory Committee (LSAC)

LSAC is the stakeholder advisory body to the MDPH on public health emergency preparedness working with OPEM. From 2013 through January 2020, the 30-member LSAC served as the Advisory Committee for LPHI. While LPHI transitioned to another set of advisors (see above), LPHI continues its relationship with LSAC, and attends regular meetings to provide information about training availability and gather information on training needs. In FY21, LPHI staff met with LSAC three times to provide training updates.

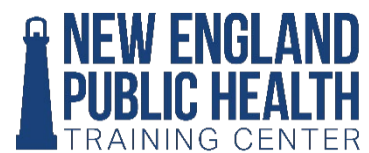
DelValle Institute for Emergency Preparedness

Founded in 2003, the DelValle Institute for Emergency Preparedness is a training institute with a mission to enhance community resilience in order to prepare for, respond to, and recover from emergencies that impact health and access to healthcare. The DelValle Institute links the latest research and guidance with best practices in the field to deliver high-quality, skills-based preparedness and response education for healthcare and public health practitioners and their public safety partners. Prior to the pandemic, LPHI met with DelValle staff at least annually to discuss cross-cutting workforce education. While on hold during the pandemic, this important partnership and planning will resume later in 2021.



New England Public Health Training Center (NEPHTC)

NEPHTC is funded by the Health Resources and Services Administration and has a mission to strengthen the technical, scientific, managerial, and leadership competencies of the current and future public health workforce in New England to ensure regional capacity to deliver high-quality essential public health services. Like LPHI, NEPHTC is managed by BUSPH. With both public health training centers located under one roof, LPHI and NEPHTC are able to leverage resources to meet the training needs of the local public health workforce and conduct joint education and marketing efforts. NEPHTC is one of ten trainings centers that make up the Public Health Learning Network (PHLN). By partnering with NEPHTC, LPHI's partnerships and the training opportunities available to the Commonwealth's local public health workforce are expanded nationwide. Likewise, LPHI and NEPHTC training content is made available to practitioners in other states across the country. In FY21, NEPHTC supported the development of the *Mini-MPH* for LPHI.



School Health Institute for Education and Leadership Development (SHIELD)



SHIELD provides training that fulfills the Department of Elementary and Secondary Education (DESE) certification requirements, discusses emerging trends, shares best practices, and addresses the complex physical, behavioral, and psycho-social health issues facing school-aged children. SHIELD offers continuing nursing education (CNE) and continuing medical education (CME) credits, curated resources, and leader development for comprehensive school health programs. In FY21, the LPHI Principal Investigator worked with SHIELD to develop a year-long leadership development program that could serve as a model for LPHI, if funding permits.

LPHI staff also offer their expertise to external organizations focused on the needs of local public health, including serving on the Executive Committee of MHOA and the Executive Committee of MEHA.

Needs Assessment

LPHI trainings are designed to improve the 17 program area competencies and the 10 cross-cutting competencies identified by the 2010 LPHI Competency Report and the Council on Linkages as critical for public health practice. Additionally, LPHI trainings address the four emergency preparedness competencies. A first full draft of an LPHI competency report was completed in February 2010, and an inventory of existing trainings and a gap analysis were completed in July 2010. Since then, LPHI staff have been cross-walking LPHI offerings with the competencies to ensure that LPHI resources are being used to address the competencies needed by the LPHI workforce (cross-walk available upon request). The trainings provided by LPHI in FY21 (see Appendix B) covered all 31 competencies. Although all of the competencies are addressed through LPHI's current offerings, LPHI continues to assess the training needs of the local public health workforce to achieve improved understanding of the training needs of local public health, as well as the trainings that exist and others that may be needed.

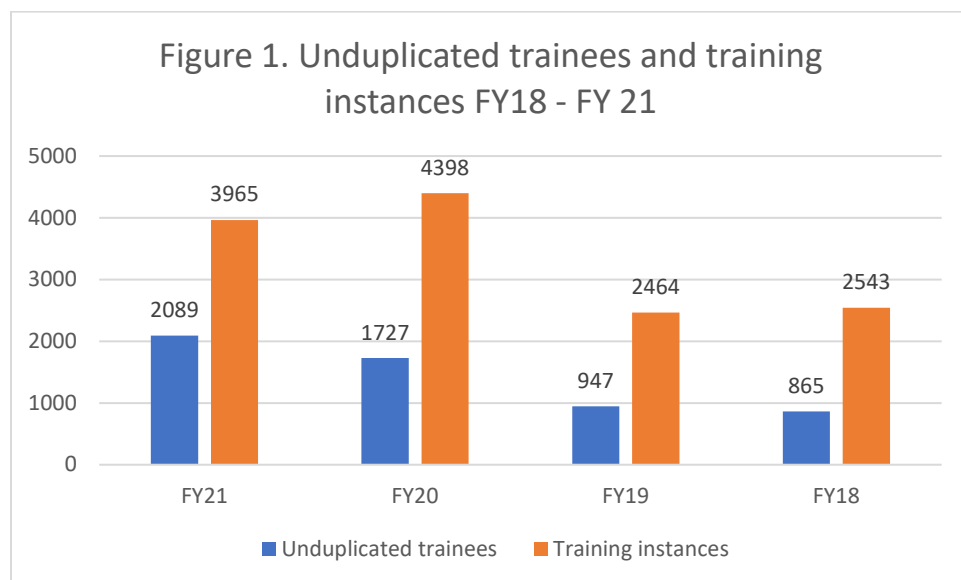
To that end, trainees are routinely asked to provide feedback on desired topics for future trainings on their session evaluation form. In this way, LPHI is able to track the needs and interests of those engaged in training. Since the release of the Department of Health and Human Services (DHHS)'s *Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure*, LPHI has worked with recommendations contained in that report to consider what trainings need to be provided (and in what format) to best prepare the public health workforce to meet these demands, and maps current offerings to those recommendations. LPHI staff remain current on state and national trends in training content and approach, and monitor for changes in content that are important to the local public health workforce and for impact on existing training resources.

LPHI also relies on partner organizations who represent and understand the needs of segments of the local public health workforce (e.g., public health nurses, environmental health officers, boards of health). In FY21, LPHI and CLPH worked together to convert the *Foundations* course to a fully online offering. Since 2004, the *Foundations* course has taught trainees how to provide the 10 essential public health services according to local and state laws, regulations, and policies. While initially it was an in-person course, over the years it evolved into a blended format with in-person and online components. CLPH and LPHI reviewed the *Foundations* course content, and discussed additional content development that would be necessary to meet the current needs of the local public health workforce. LPHI staff prepared an initial assessment of how the *Foundations* course might be offered as an extended online course. Additionally, LPHI discussed the delivery of the *MA PHIT Housing* course with MDPH, instructors, and the lead partner (MHOA) – specifically, how to deliver the course safely during the pandemic and cost-effectively post-COVID. Fully online course development was completed in FY21. Discussions about possible field training development were held with partners, and the LPHI expansion proposal developed this year includes development of a Tier 2 offering that provides field training and ways to assess inspection competency.

Training

Utilization

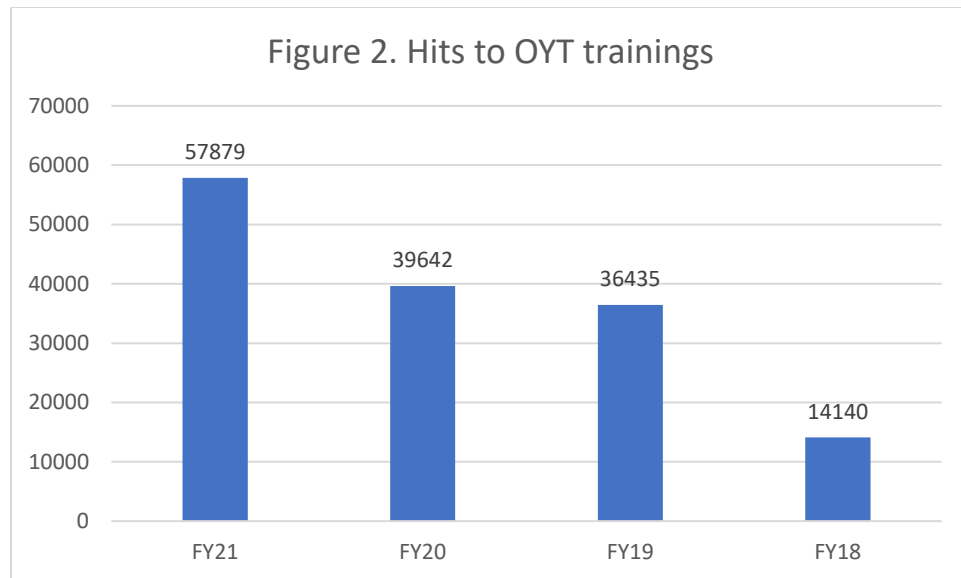
LPHI provides a range of educational programs that provide baseline knowledge to prepare the public health workforce to deliver public health services to achieve its objective and outcomes. LPHI has focused on distance education to ensure participation in LPHI offerings from across all HMCC regions. In FY21, LPHI offered 56 OYT trainings. One LPHI training (*Dealing with Stress in Disasters: Building Psychological Resilience*) was promoted nationally by the CDC. During FY21, 2,089 unduplicated individuals completed all aspects⁴ of one or more LPHI trainings. As the illustrated in Figure 1 below, the number of unduplicated trainees has increased each year since FY18.



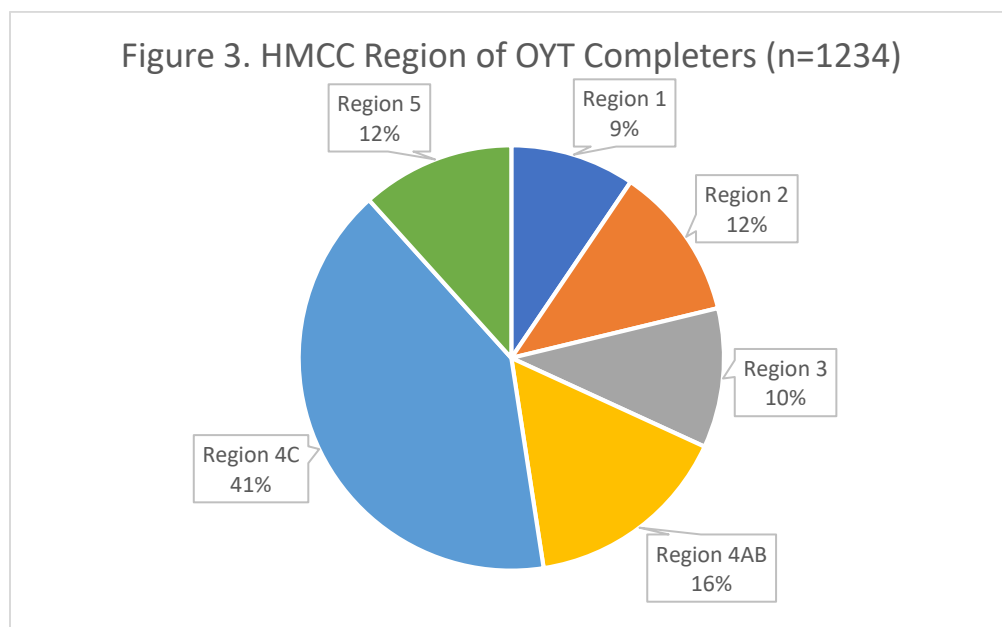
In all, there were 3,965 training instances in FY21, an average of 1.9 trainings per unique user. The FY21 trainings cover all 17 program area competencies and 10 cross-cutting competencies, as well as the four emergency preparedness competencies.

In addition to their value as trainings, the OYT trainings have also been used by public health practitioners for reference purposes. For example, rather than completing an entire online training for a certificate, a practitioner may visit the LPHI website and find specific information they need, without logging in to the learning management system using the audit option (which essentially acts as an up-to-date online reference manual). As shown below, in FY21, there were 57,879 hits to the OYT trainings, a significant increase over the three previous fiscal years (see Figure 2 below).

⁴ All aspects of training includes completion of the training itself, as well as provision of pre/post-test data for evaluation purposes.

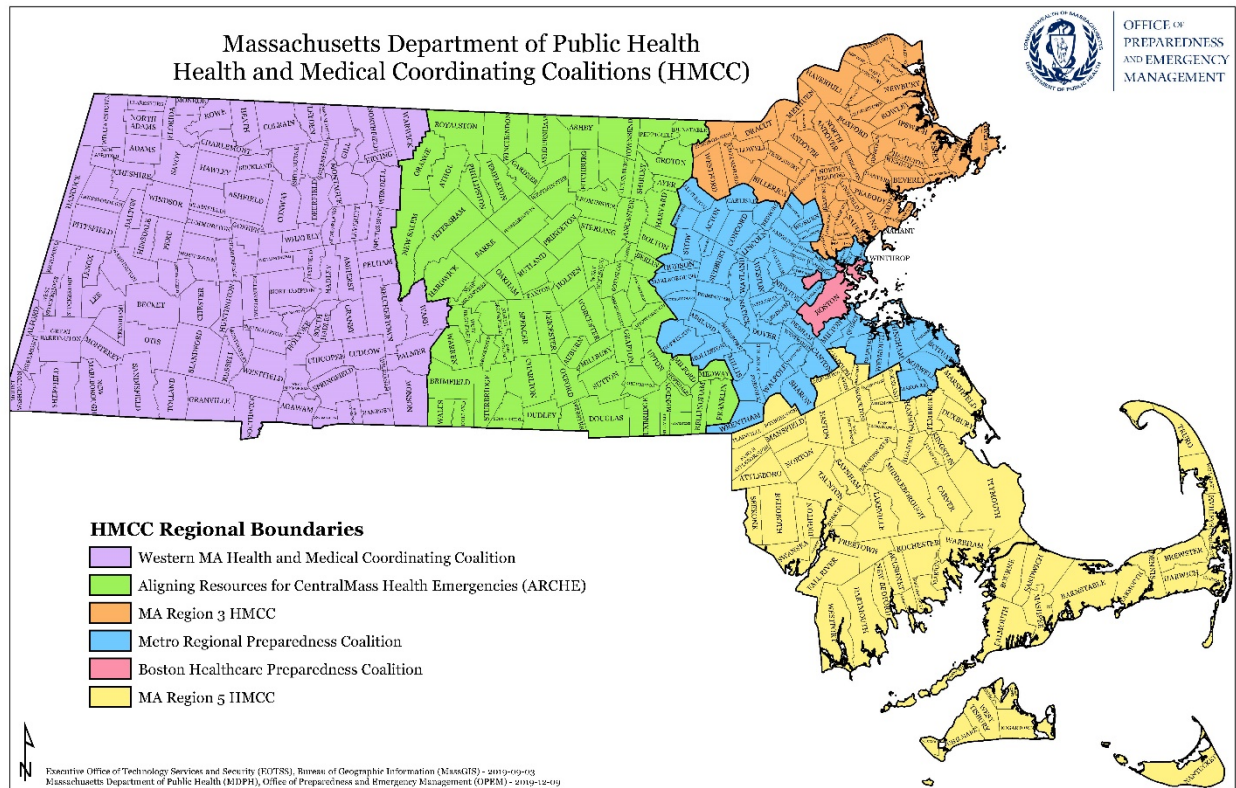


Of the 2,089 unduplicated users of OYT trainings in FY21, 1,234 (59%) provided data on their HMCC region. In general, those who did not identify their HMCC region are students or work in professions not organized by HMCC (e.g., social serve providers, private industry), and/or are located outside of Massachusetts. Of those who reported their HMCC region, most were from region 4C (40.8%), although all HMCC regions were represented among those who completed one or more OYT trainings in FY21 (see Figure 3 below).



LPHI staff may want to consider additional marketing of trainings to practitioners in HMCC regions other than 4C, and, as part of future needs assessment efforts, ensure that the constellation of trainings meets the needs of practitioners in those regions.

The image below shows the HMCC regional boundaries across the state.



Beyond training local public health practitioners, LPHI plays an essential role in supporting the development of the next generation of public health practitioners by extending training to students. Additionally, LPHI helps to ensure the use of best practices among those in industry by making its trainings available to those performing roles impacting the health of the public, but who work in private industry. Professionals in other public sector and non-profit roles (e.g., school nurses, social service providers, health care) whose work supports the health and well-being of the public, and who are thus essential to the public health system, also benefit from OYT trainings. To understand which types of professionals are utilizing LPHI trainings, and to identify opportunities for marketing trainings to professionals who may benefit from them, LPHI tracks the professional role of those who use their trainings. Across the 2,089 unduplicated users of OYT trainings in FY21, data on professional role was available for 1,776 users or 85%. Professional role was not selected, and is therefore unknown, for 313 individuals.

The pie chart below excludes those for whom role information is unknown, and shows the professional role of FY21 OYT completers grouped by professional roles into four categories: (1) students, (2) industry, (3) public health practitioners (i.e., BOH members, health directors, program managers, public health nurses, environmental health inspectors/sanitarians, and

administrative assistants), and (4) other related public health professional roles (i.e., healthcare, inspectional services, school nurses, social services, and other). As shown in Figure 4 below, public health practitioners account for 15% of the FY21 training instances. Those in other related public health professions account for 41%, and students account for 40%. Those in private industry had the lowest utilization in FY21 at 4%.

Possible reasons for this distribution include 1) less time for training for the public health workforce due to additional responsibilities in covid-19 response, 2) increased use of trainings by student volunteers for the Academic Public Health Corps, 3) increased use of trainings by related public health professional due to Covid-19 response, such as members of contact tracing teams, CTC wraparound service teams, and school nurses. These possible reasons are based on informed speculation only – absent a survey of the training completers, it is not possible to know definitively.

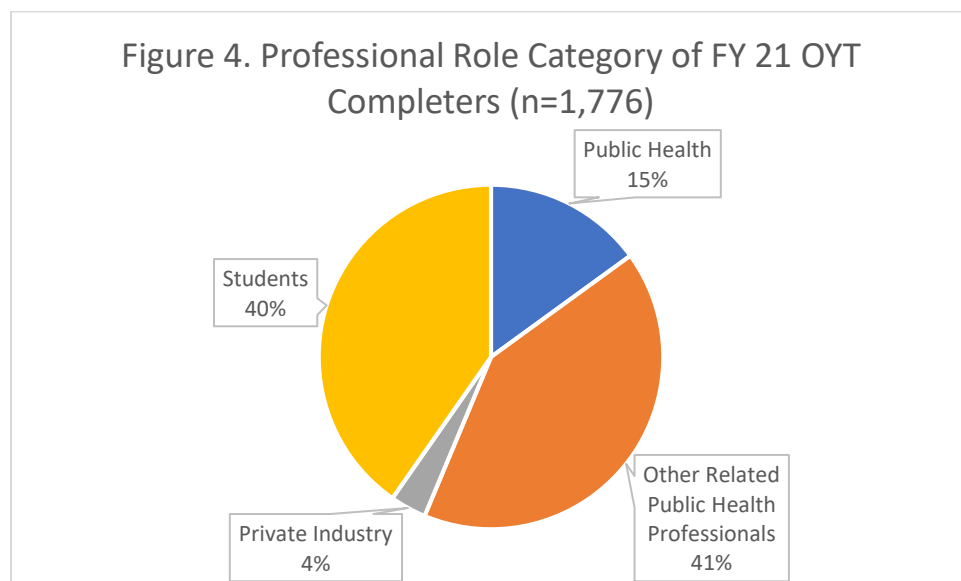
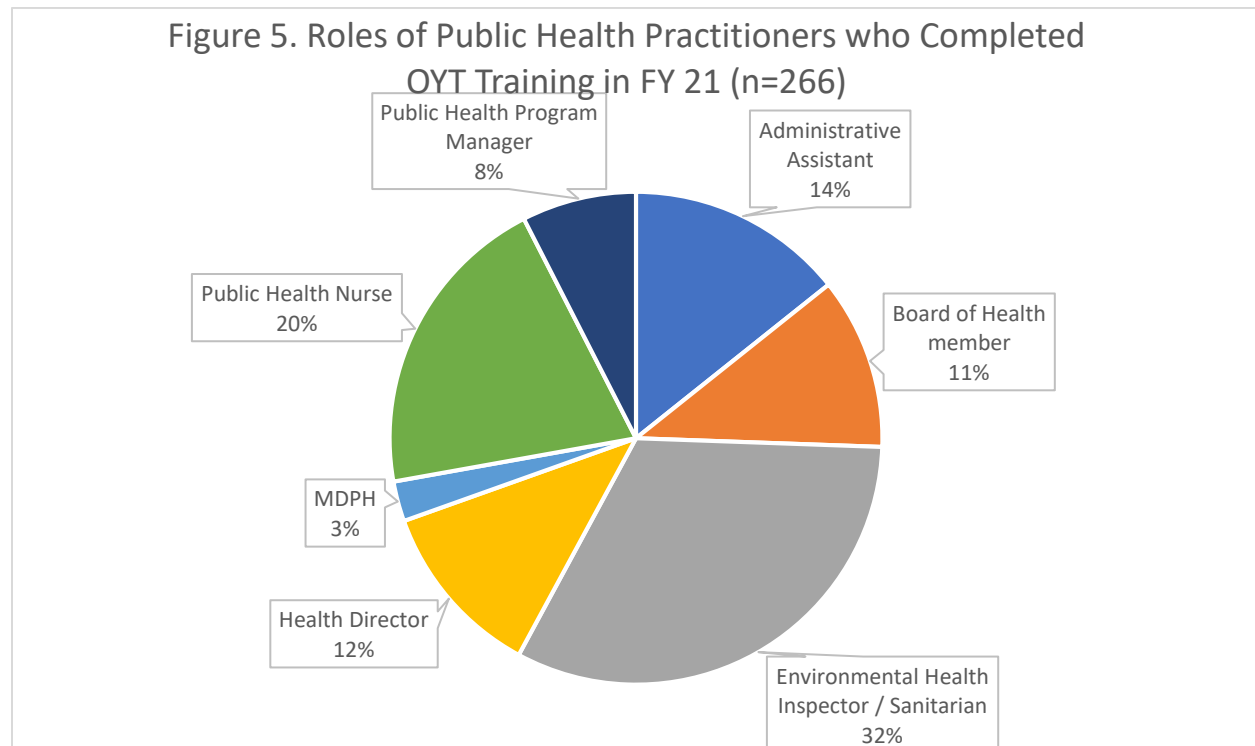


Figure 5 below shows the role of those classified as fulfilling traditional public health roles; among the 15% or 266 individuals who serve in traditional public health roles (as pointed out in Figure 4 above), the highest utilization was among environmental health inspectors/sanitaricians who accounted for 32% of the public health practitioners. While LPHI was formed to serve the local public health workforce, utilization among state-level public health staff (i.e., at MDPH) was 3%.



Level 1 Findings

Those completing OYT trainings in FY21 (n=2,089) were asked to indicate their level of agreement with two statements using a Likert scale (1=strongly disagree to 5=strongly agree). These statements are used to assess the effectiveness of the OYT trainings on the first of the Kirkpatrick training evaluation levels. Table 1 shows the number of trainees who rated each of the OYT trainings, as well as the number and percent of who agreed or strongly agreed with each of the two statements. For all but one of the OYT trainings (*Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores*), 75% or more of the completers agreed or strongly agreed that the information was presented in ways they could clearly understand. For all but two trainings (*Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores* and *Coaching Skills*), 75% or more were satisfied with the training overall. In the case of *Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores*, 9 of the 13 FY21 completers (69.2%) agreed or strongly with the two statements. In the case of *Coaching Skills*, 11 of the 15 users agreed or strongly agreed with the statement about overall satisfaction. Once utilization of these two trainings is higher (having 50 or more completers), LPHI staff may want to include them in a deep-

dive review to assess opportunities for quality improvement. In the meantime, LPHI staff may want to review the trainings to assess whether there are opportunities for improving the presentation of content and enhancing the training overall. With the exception of these two trainings, all of the OYT trainings were effective at Level 1 in FY21.

Table 1:
Agreement (agree or strongly agree) with Level 1 Statements about OYT Trainings in FY21

| Name of OYT Training | The information was presented in ways I could clearly understand | | | I was satisfied with this training/course overall | | |
|--|--|-----|--------|---|-----|--------|
| | n | # | % | n | # | % |
| 1. Administrative Search Warrants | 34 | 31 | 91.2% | 34 | 31 | 91.2% |
| 2. Animal Control | 22 | 19 | 86.4% | 22 | 20 | 90.9% |
| 3. Bed Bugs: A Special Housing Topic | 118 | 111 | 94.1% | 118 | 110 | 93.2% |
| 4. Body Art Programs for Regulators | 59 | 55 | 93.2% | 59 | 54 | 91.5% |
| 5. Coaching Skills | 15 | 12 | 80.0% | 15 | 11 | 73.3% |
| 6. Community Preparedness: Awareness Level | 28 | 27 | 96.4% | 28 | 27 | 96.4% |
| 7. Community Recovery: Awareness Level | 17 | 16 | 94.1% | 17 | 16 | 94.1% |
| 8. Dealing with Stress in Disasters: Building Psychological Resilience | 653 | 605 | 92.6% | 653 | 595 | 91.1% |
| 9. Drinking Water and Private Wells | 55 | 50 | 90.9% | 55 | 50 | 90.9% |
| 10. Emergency Dispensing Site (EDS) Guidance | 25 | 20 | 80.0% | 25 | 22 | 88.0% |
| 11. Emergency Dispensing Site Management | 22 | 20 | 90.9% | 22 | 21 | 95.5% |
| 12. Emergency Preparedness Begins at Home | 15 | 14 | 93.3% | 15 | 14 | 93.3% |
| 13. Emergency Preparedness in Massachusetts and Local Board of Health Role | 209 | 181 | 86.6% | 209 | 178 | 85.2% |
| 14. Food Protection Programs for Regulators | 99 | 85 | 85.9% | 99 | 85 | 85.9% |
| 15. Food Safety for Food Establishment Operators | 29 | 26 | 89.7% | 29 | 25 | 86.2% |
| 16. Grant Writing Basics | 13 | 12 | 92.3% | 13 | 12 | 92.3% |
| 17. Hazardous Materials and Waste | 22 | 20 | 90.9% | 22 | 19 | 86.4% |
| 18. Health and Medical Coordinating Coalition Sustainability | 5 | 5 | 100.0% | 5 | 5 | 100.0% |
| 19. Health Promotion and Health Equity | 117 | 111 | 94.9% | 117 | 110 | 94.0% |
| 20. Hoarding: A Special Housing Topic | 93 | 86 | 92.5% | 93 | 85 | 91.4% |
| 21. Holding Effective Meetings | 6 | 6 | 100.0% | 6 | 6 | 100.0% |
| 22. Housing Programs for Regulators | 74 | 67 | 90.5% | 74 | 65 | 87.8% |
| 23. How to Hold a Public Hearing in Massachusetts | 33 | 29 | 87.9% | 33 | 29 | 87.9% |
| 24. ICS and Public Health | 35 | 33 | 94.3% | 35 | 33 | 94.3% |
| 25. Immunizations | 128 | 115 | 89.8% | 128 | 117 | 91.4% |
| 26. Indoor Ice Skating Rink Programs for Regulators | 6 | 6 | 100.0% | 6 | 6 | 100.0% |
| 27. Infectious Disease Case Management | 98 | 92 | 93.9% | 98 | 91 | 92.9% |

| | | | | | | |
|---|-----|-----|--------|-----|-----|--------|
| 28. Isolation and Quarantine | 228 | 204 | 89.5% | 228 | 208 | 91.2% |
| 29. Marketing Public Health | 9 | 8 | 88.9% | 9 | 8 | 88.9% |
| 30. Medical or Biological Waste Programs for Regulators | 13 | 11 | 84.6% | 13 | 11 | 84.6% |
| 31. Mold: A Special Housing Topic | 34 | 32 | 94.1% | 34 | 33 | 97.1% |
| 32. Mutual Aid for Public Health in Massachusetts | 15 | 12 | 80.0% | 15 | 13 | 86.7% |
| 33. Nuisance Control Abatement and Removal | 70 | 64 | 91.4% | 70 | 65 | 92.9% |
| 34. Onboarding New Employees | 11 | 11 | 100.0% | 11 | 11 | 100.0% |
| 35. Opioid Epidemic and Substance Use Disorder : Local Public Health in Action | 30 | 29 | 96.7% | 30 | 28 | 93.3% |
| 36. Opioid Epidemic and Substance Use Disorder: A Primer for Massachusetts Boards of Health | 27 | 24 | 88.9% | 27 | 24 | 88.9% |
| 37. Orientation to Local Public Health in Massachusetts | 404 | 350 | 86.6% | 404 | 350 | 86.6% |
| 38. Public Health Law and Legal Issues in Massachusetts | 97 | 89 | 91.8% | 97 | 89 | 91.8% |
| 39. Public Health Workforce Protection | 22 | 22 | 100.0% | 22 | 21 | 95.5% |
| 40. Recreational Camps for Children Programs for Regulators | 44 | 41 | 93.2% | 44 | 41 | 93.2% |
| 41. Recreational Waters: Bathing Beach Programs for Regulators | 31 | 27 | 87.1% | 31 | 28 | 90.3% |
| 42. Recreational Waters: Swimming Pools | 59 | 55 | 93.2% | 59 | 56 | 94.9% |
| 43. Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores | 13 | 9 | 69.2% | 13 | 9 | 69.2% |
| 44. Safety: Practical Strategies While Doing Field Work | 24 | 21 | 87.5% | 24 | 21 | 87.5% |
| 45. Sanitary Surveys for Variances: A Special Bathing Beach Topic | 8 | 6 | 75.0% | 8 | 6 | 75.0% |
| 46. Solid Waste and Recycling | 34 | 30 | 88.2% | 34 | 30 | 88.2% |
| 47. Strategic National Stockpile (SNS) | 53 | 49 | 92.5% | 53 | 49 | 92.5% |
| 48. Strategies for Funding Board of Health Programs | 8 | 8 | 100.0% | 8 | 8 | 100.0% |
| 49. Surveillance of Infectious Diseases | 116 | 109 | 94.0% | 116 | 109 | 94.0% |
| 50. Sushi: A Special Food Topic | 68 | 59 | 86.8% | 68 | 62 | 91.2% |
| 51. Tanning Facilities for Regulators and Operators | 219 | 204 | 93.2% | 219 | 205 | 93.6% |
| 52. Temporary Food Establishments | 34 | 28 | 82.4% | 34 | 28 | 82.4% |
| 53. The Ten Essential Services of Public Health in Action | 40 | 39 | 97.5% | 40 | 40 | 100.0% |
| 54. Tickborne Disease Surveillance and Prevention | 110 | 106 | 96.4% | 110 | 105 | 95.5% |
| 55. Wastewater and Title 5 | 108 | 93 | 86.1% | 108 | 94 | 87.0% |
| 56. What is Public Health? | 5 | 5 | 100.0% | 5 | 5 | 100.0% |

Level 2 Findings

As shown in Table 2 below, with the exception of one training (*Coaching Skills*), 75% or more of FY21 completers of OYT trainings agreed or strongly agreed that their understanding of the subject matter improved as a result of the training. With the exception of two trainings (*Coaching Skills* and *Sanitary Surveys for Variances: A Special Bathing Beach Topic*), 75% or more of FY21 completers agreed or strongly agreed that they identified actions to apply the information learned in training to their work. In the case of *Coaching Skills*, 73.3% of completers agreed or strongly agreed with the two statements. Although 75% or more of completers agreed or strongly agreed that their understanding of the subject matter improved as a result of taking *Sanitary Surveys for Variance: A Special Bathing Beach Topic* training, 62.5% agreed or strongly agreed that they had identified actions to apply what was learned to their work.

Table 2:
Agreement (agree or strongly agree) with Level 2 Statements about OYT Trainings in FY21

| Name of OYT Training | My understanding of the subject matter has improved as a result of having participated in this training. | | | I have identified actions I will take to apply information I learned from this training in my work. | | |
|--|--|-----|--------|---|-----|--------|
| | n | # | % | n | # | % |
| 1. Administrative Search Warrants | 34 | 30 | 88.2% | 34 | 30 | 88.2% |
| 2. Animal Control | 22 | 20 | 90.9% | 22 | 19 | 86.4% |
| 3. Bed Bugs: A Special Housing Topic | 118 | 111 | 94.1% | 118 | 110 | 93.2% |
| 4. Body Art Programs for Regulators | 59 | 55 | 93.2% | 59 | 52 | 88.1% |
| 5. Coaching Skills | 15 | 11 | 73.3% | 15 | 11 | 73.3% |
| 6. Community Preparedness: Awareness Level | 28 | 27 | 96.4% | 28 | 25 | 89.3% |
| 7. Community Recovery: Awareness Level | 17 | 16 | 94.1% | 17 | 15 | 88.2% |
| 8. Dealing with Stress in Disasters: Building Psychological Resilience | 653 | 594 | 91.0% | 653 | 595 | 91.1% |
| 9. Drinking Water and Private Wells | 55 | 50 | 90.9% | 55 | 48 | 87.3% |
| 10. Emergency Dispensing Site (EDS) Guidance | 25 | 21 | 84.0% | 25 | 20 | 80.0% |
| 11. Emergency Dispensing Site Management | 22 | 21 | 95.5% | 22 | 20 | 90.9% |
| 12. Emergency Preparedness Begins at Home | 15 | 12 | 80.0% | 15 | 14 | 93.3% |
| 13. Emergency Preparedness in Massachusetts and Local Board of Health Role | 209 | 183 | 87.6% | 209 | 169 | 80.9% |
| 14. Food Protection Programs for Regulators | 99 | 87 | 87.9% | 99 | 85 | 85.9% |
| 15. Food Safety for Food Establishment Operators | 29 | 26 | 89.7% | 29 | 26 | 89.7% |
| 16. Grant Writing Basics | 13 | 12 | 92.3% | 13 | 13 | 100.0% |
| 17. Hazardous Materials and Waste | 22 | 19 | 86.4% | 22 | 19 | 86.4% |
| 18. Health and Medical Coordinating Coalition Sustainability | 5 | 5 | 100.0% | 5 | 5 | 100.0% |
| 19. Health Promotion and Health Equity | 117 | 109 | 93.2% | 117 | 109 | 93.2% |

| | | | | | | |
|---|-----|-----|--------|-----|-----|--------|
| 20. Hoarding: A Special Housing Topic | 93 | 85 | 91.4% | 93 | 83 | 89.2% |
| 21. Holding Effective Meetings | 6 | 6 | 100.0% | 6 | 6 | 100.0% |
| 22. Housing Programs for Regulators | 74 | 65 | 87.8% | 74 | 66 | 89.2% |
| 23. How to Hold a Public Hearing in Massachusetts | 33 | 28 | 84.8% | 33 | 29 | 87.9% |
| 24. ICS and Public Health | 35 | 34 | 97.1% | 35 | 33 | 94.3% |
| 25. Immunizations | 128 | 113 | 88.3% | 128 | 115 | 89.8% |
| 26. Indoor Ice Skating Rink Programs for Regulators | 6 | 6 | 100.0% | 6 | 6 | 100.0% |
| 27. Infectious Disease Case Management | 98 | 91 | 92.9% | 98 | 91 | 92.9% |
| 28. Isolation and Quarantine | 228 | 210 | 92.1% | 228 | 210 | 92.1% |
| 29. Marketing Public Health | 9 | 8 | 88.9% | 9 | 8 | 88.9% |
| 30. Medical or Biological Waste Programs for Regulators | 13 | 11 | 84.6% | 13 | 10 | 76.9% |
| 31. Mold: A Special Housing Topic | 34 | 33 | 97.1% | 34 | 32 | 94.1% |
| 32. Mutual Aid for Public Health in Massachusetts | 15 | 13 | 86.7% | 15 | 14 | 93.3% |
| 33. Nuisance Control Abatement and Removal | 70 | 65 | 92.9% | 70 | 65 | 92.9% |
| 34. Onboarding New Employees | 11 | 11 | 100.0% | 11 | 11 | 100.0% |
| 35. Opioid Epidemic and Substance Use Disorder: Local Public Health in Action | 30 | 29 | 96.7% | 30 | 29 | 96.7% |
| 36. Opioid Epidemic and Substance Use Disorder: A Primer for Massachusetts Boards of Health | 27 | 24 | 88.9% | 27 | 23 | 85.2% |
| 37. Orientation to Local Public Health in Massachusetts | 404 | 363 | 89.9% | 404 | 343 | 84.9% |
| 38. Public Health Law and Legal Issues in Massachusetts | 97 | 90 | 92.8% | 97 | 89 | 91.8% |
| 39. Public Health Workforce Protection | 22 | 21 | 95.5% | 22 | 22 | 100.0% |
| 40. Recreational Camps for Children Programs for Regulators | 44 | 41 | 93.2% | 44 | 41 | 93.2% |
| 41. Recreational Waters: Bathing Beach Programs for Regulators | 31 | 29 | 93.5% | 31 | 27 | 87.1% |
| 42. Recreational Waters: Swimming Pools | 59 | 56 | 94.9% | 59 | 53 | 89.8% |
| 43. Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores | 13 | 10 | 76.9% | 13 | 11 | 84.6% |
| 44. Safety: Practical Strategies While Doing Field Work | 24 | 21 | 87.5% | 24 | 21 | 87.5% |
| 45. Sanitary Surveys for Variances: A Special Bathing Beach Topic | 8 | 6 | 75.0% | 8 | 5 | 62.5% |
| 46. Solid Waste and Recycling | 34 | 30 | 88.2% | 34 | 28 | 82.4% |
| 47. Strategic National Stockpile (SNS) | 53 | 49 | 92.5% | 53 | 48 | 90.6% |
| 48. Strategies for Funding Board of Health Programs | 8 | 8 | 100.0% | 8 | 8 | 100.0% |
| 49. Surveillance of Infectious Diseases | 116 | 106 | 91.4% | 116 | 109 | 94.0% |
| 50. Sushi: A Special Food Topic | 68 | 62 | 91.2% | 68 | 57 | 83.8% |
| 51. Tanning Facilities for Regulators and Operators | 219 | 207 | 94.5% | 219 | 206 | 94.1% |
| 52. Temporary Food Establishments | 34 | 28 | 82.4% | 34 | 28 | 82.4% |
| 53. The Ten Essential Services of Public Health in Action | 40 | 40 | 100.0% | 40 | 40 | 100.0% |
| 54. Tickborne Disease Surveillance and Prevention | 110 | 105 | 95.5% | 110 | 105 | 95.5% |
| 55. Wastewater and Title 5 | 108 | 92 | 85.2% | 108 | 93 | 86.1% |
| 56. What is Public Health? | 5 | 5 | 100.0% | 5 | 5 | 100.0% |

Table 3 below shows the mean and range of pre-test and post-test scores for those who completed OYT trainings in FY21. The mean scores at post-test were higher than the mean scores at pre-test for every OYT training, which suggests that trainee knowledge about the content covered in the quizzes improved as a result of the training.

Table 3:
PreTest- vs Post-Test Data for FY21 OYT Trainings

| OYT Training | # of quiz questions | n | Pre-test | | Post-test | |
|--|---------------------|-----|----------|---------|-----------|----------|
| | | | Mean | Range | Mean | Range |
| 1. Administrative Search Warrants | 8 | 34 | 4.5 | 1 to 8 | 7.4 | 6 to 8 |
| 2. Animal Control | 12 | 22 | 5.3 | 1 to 9 | 10.7 | 6 to 12 |
| 3. Bed Bugs: A Special Housing Topic | 11 | 118 | 4.9 | 1 to 11 | 10.1 | 6 to 11 |
| 4. Body Art Programs for Regulators | 12 | 59 | 6.3 | 1 to 11 | 10.7 | 8 to 12 |
| 5. Coaching Skills | 9 | 15 | 5.6 | 2 to 8 | 8.1 | 7 to 9 |
| 6. Community Preparedness: Awareness Level | 7 | 28 | 2.9 | 0 to 6 | 6.3 | 3 to 7 |
| 7. Community Recovery: Awareness Level | 8 | 17 | 3.9 | 0 to 6 | 7.1 | 2 to 8 |
| 8. Dealing with Stress in Disasters: Building Psychological Resilience | 15 | 653 | 10.9 | 1 to 15 | 14.3 | 5 to 15 |
| 9. Drinking Water and Private Wells | 12 | 55 | 7.3 | 3 to 12 | 11.1 | 9 to 12 |
| 10. Emergency Dispensing Site (EDS) Guidance | 10 | 25 | 4.0 | 0 to 8 | 9.6 | 7 to 10 |
| 11. Emergency Dispensing Site Management | 11 | 22 | 6.4 | 3 to 10 | 10.5 | 9 to 11 |
| 12. Emergency Preparedness Begins at Home | 7 | 15 | 5.3 | 3 to 7 | 6.7 | 5 to 7 |
| 13. Emergency Preparedness in Massachusetts and Local Board of Health Role | 11 | 209 | 4.6 | 0 to 11 | 10.1 | 3 to 11 |
| 14. Food Protection Programs for Regulators | 13 | 99 | 7.5 | 0 to 13 | 12.1 | 8 to 13 |
| 15. Food Safety for Food Establishment Operators | 12 | 29 | 7.4 | 3 to 11 | 10.7 | 1 to 12 |
| 16. Grant Writing Basics | 10 | 13 | 6.4 | 0 to 10 | 9.6 | 8 to 10 |
| 17. Hazardous Materials and Waste | 11 | 22 | 7.5 | 1 to 10 | 10.7 | 9 to 11 |
| 18. Health and Medical Coordinating Coalition Sustainability | 11 | 5 | 5.6 | 1 to 8 | 10.8 | 10 to 11 |
| 19. Health Promotion and Health Equity | 13 | 117 | 8.4 | 1 to 13 | 12.4 | 4 to 13 |
| 20. Hoarding: A Special Housing Topic | 12 | 93 | 7.1 | 0 to 11 | 11.1 | 7 to 12 |
| 21. Holding Effective Meetings | 9 | 6 | 5.0 | 3 to 6 | 8.7 | 8 to 9 |
| 22. Housing Programs for Regulators | 11 | 74 | 5.1 | 0 to 11 | 10.2 | 3 to 11 |
| 23. How to Hold a Public Hearing in Massachusetts | 12 | 33 | 7.1 | 0 to 11 | 11.5 | 0 to 12 |
| 24. ICS and Public Health | 9 | 35 | 2.7 | 0 to 6 | 7.6 | 4 to 9 |
| 25. Immunizations | 15 | 128 | 9.3 | 2 to 15 | 13.9 | 1 to 15 |

| | | | | | | |
|---|----|-----|------|---------|------|----------|
| 26. Indoor Ice Skating Rink Programs for Regulators | 12 | 6 | 5.7 | 4 to 7 | 11.5 | 11 to 12 |
| 27. Infectious Disease Case Management | 11 | 98 | 6.8 | 1 to 11 | 10.3 | 7 to 11 |
| 28. Isolation and Quarantine | 10 | 228 | 5.1 | 0 to 10 | 9.0 | 5 to 10 |
| 29. Marketing Public Health | 9 | 9 | 5.6 | 4 to 8 | 8.8 | 8 to 9 |
| 30. Medical or Biological Waste Programs for Regulators | 12 | 13 | 4.7 | 2 to 11 | 10.9 | 8 to 12 |
| 31. Mold: A Special Housing Topic | 10 | 34 | 4.6 | 2 to 9 | 9.0 | 5 to 10 |
| 32. Mutual Aid for Public Health in Massachusetts | 10 | 15 | 5.6 | 4 to 8 | 8.9 | 2 to 10 |
| 33. Nuisance Control Abatement and Removal | 9 | 70 | 4.9 | 1 to 9 | 8.9 | 7 to 9 |
| 34. Onboarding New Employees | 10 | 11 | 6.9 | 5 to 10 | 9.7 | 9 to 10 |
| 35. Opioid Epidemic and Substance Use Disorder: Local Public Health in Action | 8 | 30 | 3.9 | 0 to 8 | 7.0 | 1 to 8 |
| 36. Opioid Epidemic and Substance Use Disorder: A Primer for Massachusetts Boards of Health | 14 | 27 | 7.7 | 2 to 11 | 13.0 | 2 to 14 |
| 37. Orientation to Local Public Health in Massachusetts | 15 | 404 | 8.1 | 2 to 15 | 13.9 | 3 to 15 |
| 38. Public Health Law and Legal Issues in Massachusetts | 10 | 97 | 5.0 | 0 to 9 | 9.2 | 5 to 10 |
| 39. Public Health Workforce Protection | 16 | 22 | 9.5 | 2 to 13 | 15.4 | 12 to 16 |
| 40. Recreational Camps for Children Programs for Regulators | 11 | 44 | 5.3 | 0 to 9 | 9.9 | 1 to 11 |
| 41. Recreational Waters: Bathing Beach Programs for Regulators | 15 | 31 | 6.9 | 4 to 15 | 14.4 | 11 to 15 |
| 42. Recreational Waters: Swimming Pools | 13 | 59 | 6.4 | 2 to 13 | 12.4 | 8 to 13 |
| 43. Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores | 11 | 13 | 4.8 | 1 to 8 | 9.8 | 7 to 11 |
| 44. Safety: Practical Strategies While Doing Field Work | 9 | 24 | 5.4 | 2 to 7 | 8.5 | 6 to 9 |
| 45. Sanitary Surveys for Variances: A Special Bathing Beach Topic | 10 | 8 | 5.6 | 0 to 9 | 9.3 | 6 to 10 |
| 46. Solid Waste and Recycling | 9 | 34 | 5.6 | 1 to 8 | 8.5 | 4 to 9 |
| 47. Strategic National Stockpile (SNS) | 9 | 53 | 3.9 | 1 to 9 | 8.8 | 5 to 9 |
| 48. Strategies for Funding Board of Health Programs | 11 | 8 | 7.1 | 1 to 11 | 10.1 | 9 to 11 |
| 49. Surveillance of Infectious Diseases | 15 | 116 | 6.6 | 1 to 14 | 13.5 | 8 to 15 |
| 50. Sushi: A Special Food Topic | 9 | 68 | 4.3 | 1 to 9 | 8.5 | 5 to 9 |
| 51. Tanning Facilities for Regulators and Operators | 21 | 219 | 13.8 | 3 to 21 | 20.4 | 13 to 21 |
| 52. Temporary Food Establishments | 10 | 34 | 5.6 | 0 to 9 | 9.4 | 7 to 10 |
| 53. The Ten Essential Services of Public Health in Action | 11 | 40 | 7.1 | 2 to 11 | 10.6 | 7 to 11 |
| 54. Tickborne Disease Surveillance and Prevention | 12 | 110 | 6.1 | 1 to 12 | 11.4 | 8 to 12 |

| | | | | | | |
|----------------------------|----|-----|------|---------|------|---------|
| 55. Wastewater and Title 5 | 16 | 108 | 10.6 | 2 to 16 | 15.2 | 0 to 16 |
| 56. What is Public Health? | 10 | 5 | 4.8 | 2 to 7 | 9.4 | 9 to 10 |

Although less than 75% of completers of two trainings did not agree or strongly agree with one or both of the level two statements, the mean scores at post-test for each of these trainings were higher than the mean scores at pre-test. These findings suggest that understanding of the subject matter involved in the quizzes improved within the groups of trainees who completed the four trainings. Nevertheless, LPHI staff may want to include *Coaching Skills* and *Sanitary Surveys for Variance: A Special Bathing Beach Topic* in future deep-dive analyses of OYT trainings once utilization of each increases (having 50 or more completers) to assess for quality improvement opportunities. In the meantime, LPHI staff may want to review the trainings to identify possible means of improving trainee understanding and illustrating how training content can be applied on the job. *Sanitary Surveys for Variance: A Special Bathing Beach Topic* was included in the FY20 round of deep-dive analyses, which showed that the training did well at both levels one and two. LPHI staff may want to include that training in another deep-dive analysis, once another 50 or more trainees have completed the training, to compare the results to those from the FY 20 deep-dive.

Communications and Marketing

Implementation of LPHI's marketing and communications plan, designed to increase awareness of LPHI offerings and registrations for training, began in FY19. In the final quarter of FY21, LPHI updated the plan to address the new fully online extended learning offerings and establish a LinkedIn presence.

In FY21, LPHI produced and disseminated nine newsletters focused on a range of topics. Table 4 below provides the newsletter topics, dates of dissemination, number of recipients, percent of recipients who opened each, and a link to each newsletter. Via Mail Chimp, LPHI disseminated the newsletters to an average of 7,350 recipients (range of 5,635 to 7,997). Between 18% and 24% of the recipients opened the newsletters once received. The newsletter opened by the largest percentage of recipients was focused on new trainings related to the opioid epidemic.

Table 4: Newsletter Information

| Date | Newsletter Topic | Number of Recipients | Number of Opens | Link to Newsletter |
|----------|---|----------------------|-----------------|---|
| 7/1/21 | A Message to Public Health Excellence (PHE) Grantees; Foundations Course Now Live | 55 | 24 | https://mailchi.mp/2acc937a5ab9/a-message-to-public-health-excellence-phe-grantees-foundations-course-now-live |
| 6/8/21 | June is National Safety Month | 7,848 | 1,508 | https://mailchi.mp/491f895fc1fc/june-is-national-safety-month |
| 4/27/21 | Mutual Aid for Public Health and LPHI Website Refresh | 7,885 | 1,562 | https://mailchi.mp/dd7f358bce03/mutual-aid-for-public-health-and-lphi-website-refresh |
| 4/7/21 | Springing Forward: LPHI Spring Newsletter | 7,997 | 1,483 | https://mailchi.mp/224ac890b94d/springing-forwardlphi-spring-newsletter |
| 10/27/20 | Two New Courses Available: The Opioid Epidemic and Substance Use Disorder | 7,834 | 1,895 | https://mailchi.mp/3224c64d39fe/two-new-courses-availablethe-opioid-epidemic-and-substance-use-disorder |
| 10/22/20 | "Corrected" Fall Newsletter | 7,880 | 1,636 | https://mailchi.mp/5e90f3ca8655/corrected-fall-newsletter |
| 10/20/20 | Fall 2020 Newsletter | 7,971 | 1,689 | https://mailchi.mp/600822e01f6d/fall-2020-newsletter |
| 7/30/20 | How to Hold a Hearing Training, new training available | 5,635 | 1,066 | https://mailchi.mp/6f906d28f368/how-to-hold-a-hearing-training-new-training-available |
| 7/28/20 | Four New Environmental Protection Trainings Now Available | 5,752 | 1,112 | https://mailchi.mp/5e469344da4d/four-new-environmental-protection-trainings-now-available |

LPHI curated two differently styled at-a-glance calendars, one of which shows a full year of activities (including those hosted by LPHI and CLPH organizations, as well as various state and federal conferences, OLRH, and OPEM events), while the other shows current and upcoming events on the home page. These calendars are available on the LPHI website and are updated regularly as new opportunities become available.

LPHI also launched a new streamlined and visually pleasing website. Changes include new content area organization, addition of a *New to Public Health?* page, multiple points of access to training information, and redesigned menus and information pages.

Evaluator Conclusions & Recommendations

Evaluation

LPHI's FY21 trainings were successful with regard to utilization, reach, and improving both Level 1 and 2 outcomes for completers. There are three recommendations that LPHI may want to consider as part of its ongoing quality improvement efforts:

1. Additional marketing of trainings to practitioners in HMCC regions other than 4C, and, as part of future needs assessment efforts, ensure that the constellation of trainings meets the needs of practitioners in those regions.
2. Once utilization of *Coaching Skills* and *Restricting Flavored Tobacco Products to Adult-only Retail Tobacco Stores* reaches 50 or more completers, include them in a deep-dive review to assess opportunities for quality improvement. In the meantime, review those trainings to assess whether there are opportunities for improving the presentation of content and enhancing the training overall.
3. Include *Sanitary Surveys for Variance: A Special Bathing Beach Topic* in another deep-dive analysis (once an additional 50 or more users have completed the training) and compare the results to the FY20 deep-dive findings for that training to see if/how findings at Levels 1 and 2 (which were excellent in FY20) may have changed. Should any problems with that training be identified, quality improvement should be conducted.

Growth and Operations

Growth and operations support are the next steps for LPHI. This is due, in part, to demand for further training in areas such as food inspection field training, public health nursing orientation, and leadership training. The need for these training resources is not new. Increased awareness of public health, due to the work of the Special Commission and the continuing impact of the COVID-19 pandemic, has served to increase both the need and the demand. As Massachusetts communities assess their public health capacity and develop shared services arrangements, demand for local public health workforce training increases. LPHI staff have developed growth and sustainability plans, describing curriculum development and staffing needs to support that growth.

Operations support is needed to replace the current homemade systems that were created when BUSPH took over the contract for LPHI in 2010. A skilled front-end developer works with the original system builder to keep this homemade system working. However, it is not possible to overcome significant limitations in ability to communicate with learners, support continued growth, and provide in depth reporting about training activity. Therefore, it is critically important that LPHI identify funding to either acquire or join a learning management system to replace the dated and limited database system currently in use.

Growth and operations recommendations include:

- 1) Continue search for funding of acquisition of a learning management system (LMS) to replace the dated and limited database system currently used.
- 2) Obtain endorsement of the Growth and Sustainability strategy developed in FY21.
- 3) Participate in national discussions about changing public health competencies.

Next Steps for LPHI

For FY22, LPHI's scope of work includes:

- Partnering with the Environmental Toxicology Program of MDPH BEH on the development of two new trainings related to harmful algae blooms and surface water sampling techniques.
- Reviewing and assessing the 19 emergency preparedness online courses.
- Conducting annual review for continuous quality improvement of the OYT and extended studies catalog.
- Collaborating with training partners to identify new opportunities for enhanced workforce development (e.g., job shadowing, mentoring, networking, field inspections).
- Continued updating and managing of the LPHI website and learning management system (LMS), including assessing LMS for accessibility and usability, and assessing and identifying steps for increasing the system's capacity or identifying a new system to improve reporting and other functions.
- Evaluating the LPHI training catalog and implementing quality improvements as indicated by analysis.

One of the many impacts of COVID-19 has been an increased awareness of the need for public health education and training. As a component of the MDPH workforce development plan, LPHI is positioned to continue to provide excellent curated training content for the public health workforce, building upon curriculum development and staffing plans created in FY21, that can be implemented to support public health workforce development activities, including those that address the workforce standards recommendations of the Special Commission, in Massachusetts.

The FY21 review of the Logic Model ensured that it reflects both what LPHI currently intends to achieve, as well as outlining how it will meet its objective. To ensure that it continues to reflect LPHI's work and the outputs and outcomes that work is designed to achieve, the LPHI Manager, Principal Investigator, and Evaluator should review the LPHI Logic Model annually. Doing so will also provide an annual opportunity for LPHI management and the LPHI Evaluator to ensure that the evaluation strategy addresses any new initiatives that are added in a given fiscal year.

Appendix A: LPHI Logic Model

Goal: Improve public health and preparedness capabilities and the health of the residents of the Commonwealth by creating, implementing, and sustaining workforce development activities for local public health and other health system partners.

| Objective | Inputs | Activities | Outputs | Short-Term Outcomes | Intermediate Outcomes | Long-Term Outcomes | Performance Measures |
|---|--|--|--|--|--|---|--|
| Improve the pre to post-training knowledge, skills, and workplace performance of local public health professionals and other health system partners in each Health and Medical and Coordinating Coalition (HMCC) region of the Commonwealth related to established public health and emergency preparedness competencies and other identified emerging public health threats. | <ul style="list-style-type: none"> MDPH funding & program staff Advisory Board Professional association and other training institute partnerships BUSPH faculty & LPHI program staff Faculty, subject matter experts, regional consultants, & trainers Training resources & materials Learning Management System and website Distance education portal Communication & marketing plan Assessment and evaluations strategy tools, database, and personnel | <ul style="list-style-type: none"> Maintain regular communication/meetings with MDPH staff and the Advisory Board Maintain existing competency-based trainings Develop and deliver new trainings based on MDPH and Advisory Board priorities and to address emerging public health issues Develop & implement distance education programs Market trainings to the local public health and other health system partners Conduct ongoing needs assessment Conduct ongoing program evaluation Identify and address quality improvement needs Develop content & maintain robust LPHI website with comprehensive calendar of events Prepare & submit program reports (operational and fiscal) to MDPH | <ul style="list-style-type: none"> # of local public health and other health system partners trained overall and in each HMCC region # of existing and updated trainings, including distance education programs # of new trainings developed and delivered, including distance education trainings # of marketing and communication efforts to publicize training and other professional development opportunities | Satisfaction with trainings among participants (1) | <p>Improved knowledge and skills among training participants (2)</p> <p>Expressed intention among training participants to apply knowledge and skills gained to their work (3)</p> | Improved workplace performance among local public health and other health system partners (4) | <p>A minimum of 75% of training participants will express:</p> <ul style="list-style-type: none"> Satisfaction with trainings Intention to apply knowledge and skills gained in training to their work That their understanding of the subject matter improved as a result of training <p>At least 75% of training participants who complete pre/post quizzes will experience improvements in knowledge as a result of training</p> |

Outcomes Measurement:

- (1) Satisfaction (Level 1*) measured by Common Metrics questions about overall satisfaction and information presented in ways that trainee understood.
- (2) Improved skills/knowledge (Level 2*) measured by Common Metrics question about improved understanding of subject matter AND pre/post quizzes.
- (3) Commitment to use training content (Level 2*) measured by Common Metrics questions about intention to apply information.
- (4) Improved workplace performance (Level 3*) measured by follow-up research (i.e., interviews or surveys) with trainees at specified intervals after training (generally six months).

*Training levels associated with the Kirkpatrick Training Evaluation Framework - Available at:
<http://www.kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx>

Appendix B:

On Your Time Trainings Course Catalog as of 7/1/21

| COURSE TITLE | CREDENTIAL | CONTACT HOURS |
|---|----------------------|---------------|
| Administrative Search Warrants | CHO, RS | 1 |
| Animal Control | CHO, RS | 1 |
| Bed Bugs: A Special Housing Topic | CHO, RS, RN | 1 |
| Body Art Programs for Regulators | CHO, RS, RN | 1 |
| Coaching Skills | CHO, RS | 0.5 |
| Community Preparedness: Awareness Level | CHO, RS | 1 |
| Community Recovery: Awareness Level | CHO, RS | 1 |
| Dealing with Stress in Disasters: Building Psychological Resilience | CHO, RS, RN | 1.5 |
| Drinking Water and Private Wells in Massachusetts | CHO, RS, REHS/RS | 1 |
| Emergency Dispensing Site (EDS) Guidance | CHO, RS, RN | 1 |
| Emergency Dispensing Site Management | CHO, RS, RN | 1 |
| Emergency Preparedness Begins at Home | CHO, RS | 1 |
| Emergency Preparedness in Massachusetts – LBOH Role | CHO, RS, RN | 1 |
| Food Protection Programs for Regulators | CHO, RS, RN | 2 |
| Food Safety for Food Establishment Operators | CHO, RS | 2 |
| Grant Writing Basics | CHO, RS | 1.5 |
| Hazardous Materials and Waste in Massachusetts | CHO, RS, REHS/RS | 1 |
| Health and Medical Coordinating Coalition Sustainability | CHO, RS, RN | 1 |
| Health Promotion and Health Equity | CHO, RS, RN | 1 |
| Hoarding: A Special Housing Topic | CHO, RS, RN | 2 |
| Holding Effective Meetings | CHO | 1 |
| Housing Programs for Regulators | CHO, RS, RN | 1.5 |
| How to Hold a Public Hearing in Massachusetts | CHO, RS | 1 |
| Immunizations and Vaccine Management in Massachusetts | CHO, RS, RN | 2 |
| Incident Command System and Public Health | CHO, RS, RN | 2 |
| Indoor Ice Skating Rink Programs for Regulators | CHO, RS | 1 |
| Infectious Disease Case Management | CHO, RS, RN | 1 |
| Isolation and Quarantine | CHO, RS, RN | 2 |
| Marketing Public Health | CHO, RS | 1 |
| Medical or Biological Waste Programs for Regulators | CHO, RS, RN | 1 |
| Mold: A Special Housing Topic | CHO, RS | 1.5 |
| Mutual Aid for Public Health in Massachusetts | CHO, RS, RN | 1 |
| Nuisance Control – Abatement and Removal | CHO, RS, RN | 1 |
| Onboarding New Employees | CHO, RS | 1 |
| Opioid Epidemic and Substance Use Disorder: A Primer for Massachusetts Boards of Health | CHO, RN, RS, REHS/RS | 2 |
| Opioid Epidemic and Substance Use Disorder: Local Public Health in Action | CHO, RN, RS, REHS/RS | 3 |

| | | |
|---|--------------------------|-----|
| Orientation to Local Public Health in Massachusetts | CHO, RS, RN | 1 |
| Public Health Law and Legal Issues in Massachusetts | CHO, RS, RN | 1 |
| Public Health Workforce Protection | CHO, RS, RN | 1.5 |
| Recreational Camps for Children Programs for Regulators | CHO, RS, RN | 1 |
| Recreational Waters: Bathing Beach Programs for Regulators | CHO, RS, RN | 1 |
| Recreational Waters: Swimming Pools | CHO, RS, RN | 1 |
| Restricting Flavored Tobacco Products to Adult-Only Retail Tobacco Stores | CHO, RS, REHS/RS | 1 |
| Safety: Practical Strategies While Doing Field Work | CHO, RS, RN, REHS/RS | 1 |
| Sanitary Surveys for Variances: A Special Bathing Beach Topic | CHO, RS | 1 |
| Solid Waste and Recycling | CHO, RS, REHS/RS | 1 |
| Strategic National Stockpile (SNS) | CHO, RS, RN | 0.5 |
| Strategies for Funding Board of Health Programs | CHO, RS | 1 |
| Surveillance of Infectious Diseases | CHO, RS, RN | 1 |
| Sushi: A Special Food Topic | CHO, RS, RN | 2 |
| Tanning Facilities for Regulators and Operators | CHO, RS, RN | 1 |
| Temporary (Non-Permanent) Food Establishments: A Special Food Topic | CHO, RS, REHS/RS | 1 |
| The 10 Essential Public Health Services in Action | CHO, RS, RN | 1.5 |
| Tickborne Disease Surveillance and Prevention | CHO, RS, RN | 2 |
| Wastewater and Title 5 | CHO, RS, SE, SI, REHS/RS | 1 |
| What is Public Health? | CHO, RN, RS | 1.5 |

Extended Studies Courses

| | | |
|---|------------------|-----|
| Foundations for Local Public Health Practice Online | CHO, REHS/RS, RS | 35 |
| MA Public Health Inspector Training – Housing (MA PHIT Housing) | CHO, RN, REHS/RS | 6.5 |
| Mini-MPH (to be live August 2021) | CHO, RN, REHS/RS | 5.5 |