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EXECUTIVE SUMMARY

We anticipate including a 4-6 page high-level executive summary that describes the key findings identified by this report.

BACKGROUND

Since 2013, Oregon has been working to modernize its governmental public health system. The goals of a modern public health system include achieving sustainable and measurable improvements in population health; protecting individuals from injury and disease; and being fully prepared to respond to any public health threats that may occur.

In July 2015, the Oregon legislature passed House Bill 3100. This bill sets forth a clear path

to modernize Oregon’s governmental public health system so that it can proactively meet the needs of Oregonians. The new law identifies Foundational Capabilities and Programs for governmental public health as a framework for public health reform.

Foundational Capability

A knowledge, skill, or ability that is necessary to carry out a public health activity. They include:

- Assessment and Epidemiology
- Emergency Preparedness and Response
- Communications

- Policy and Planning
- Leadership and Organizational Competencies
- Health Equity and Cultural Responsiveness
- Community Partnership Development

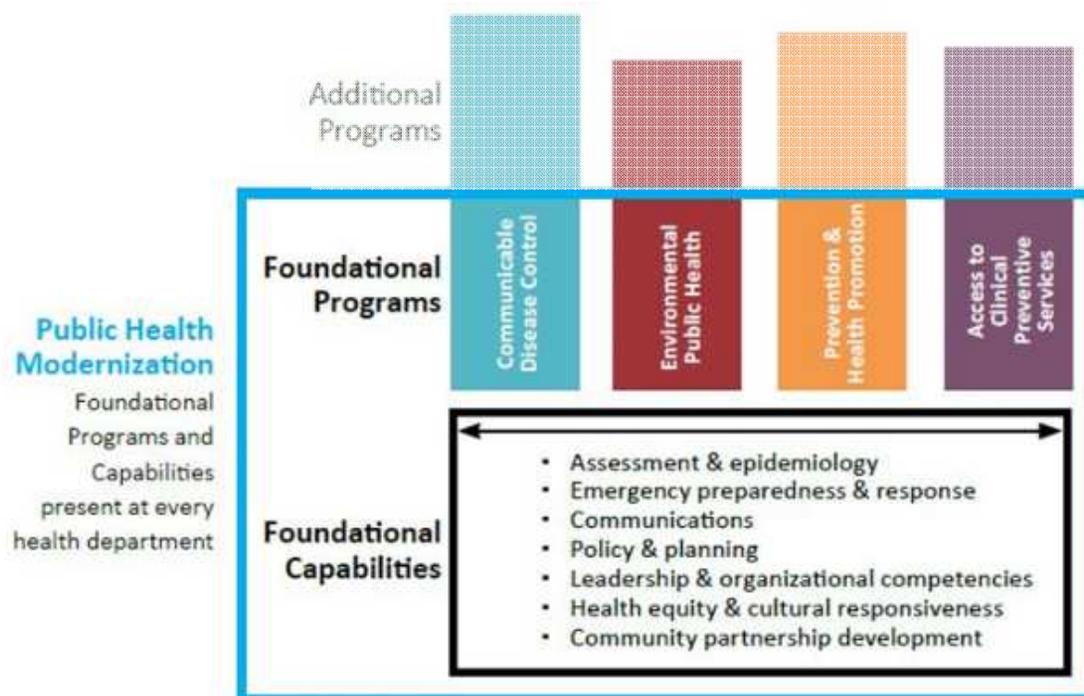
Foundational Program

A public health program that is necessary to assess, protect, or improve the health of residents.

- Communicable Disease Control
- Environmental Public Health
- Prevention and Health Promotion
- Access to Clinical Preventative Services

Additional Programs

Public health programs and activities implemented in addition to Foundational Programs to address specific identified community public health problems or needs. A more detailed description, including definitions and examples of each capability and program, can be found in the *Oregon Public Health Modernization Manual*.



Existing Governmental Public Health in Oregon

The Public Health Modernization framework differs significantly from Oregon State's existing public health structure. The new framework ensures that a common set of Foundational Capabilities and Programs are present at every governmental public health authority. These Foundational Capabilities and Programs support population-based health services such that they are provided uniformly across the state and present in all communities. With healthcare transformation in Oregon, the role of governmental public health as a provider of last resort for residents who don't have access to healthcare in traditional settings is shrinking. Governmental public health can provide more efficient benefits by focusing on population-based health services and programs.

However, governmental public health in Oregon still plays a role in providing some localized public health services, or individualized interventions. These services are outside of the Foundational Capabilities and Programs, and are known as "Additional Programs."

SERVICE DELIVERY

Oregon's governmental public health authorities work as a system to deliver governmental public health services to all Oregonians.

Service Providers

Governmental public health authorities can be separated into two distinct groups by service area:

- **State Public Health Authorities** provides services that are best delivered centrally for the entire state, for example development and maintenance of statewide data systems. In Oregon, there is one state public health authority, PHD.
- **Local Public Health Authorities** provide services that are best delivered locally. Oregon has 34 local governmental public health authorities, known as LPHAs. LPHA's service areas each cover one county except for North Central Public Health District, which serves Gilliam, Sherman, and Wasco counties.

It is important to recognize that this provider split

Cross Jurisdictional Sharing

Some LPHAs have existing service delivery relationships whereby they support each other in delivering public health services. Most often, these relationships are between proximate LPHAs. Cross jurisdictional services are an efficient way to deliver public health services while still leveraging local knowledge.

Service Dependencies

The activities of state and local authorities are interdependent. The state supports many local activities, and some local activities feed back in to PHD's work.

The transition to the Public Health Modernization framework provides an opportunity to review and revise the existing features of the governmental public health system in Oregon to maximize its efficiency and effectiveness.

To understand the potential programmatic and financial shift required to implement the Public Health Modernization framework in Oregon, House Bill 3100 also required that the Oregon Health Authority (OHA) adopt and update, as necessary, a Statewide Public Health Modernization Assessment.

PUBLIC HEALTH MODERNIZATION ASSESSMENT OVERVIEW

Public Health Division (PHD), a division of OHA, was tasked with developing and stewarding the first Statewide Public Health Modernization Assessment. The Assessment would answer two key questions:

1. To what extent are the roles and responsibilities of Public Health Modernization being provided today? (*Qualitative and quantitative*)
2. What will it cost to fully implement the roles and responsibilities of Public Health Modernization? (*Quantitative*)

Programmatic Framework

Oregon’s Public Health Modernization framework is organized around seven Foundational Capabilities and four Foundational Programs. The *Public Health Modernization Manual* provides detailed definitions for each Foundational Capability and Program for governmental public health. It is primarily intended for administrators and staff of state and local public health authorities to guide the implementation of each Foundational Capability

	State		Local	
	Roles	Deliverables	Roles	Deliverables
Program				
P-CDC: Communicable Disease Control	26	24	19	16
P-EPH: Environmental Public Health	33	24	25	11
P-PHP: Prevention and Health Promotion	29	13	27	14
P-CPS: Clinical Preventative Services	29	6	24	7
Capability				
C-AEP: Assessment and Epidemiology	11	10	11	9
C-EPR: Emergency Preparedness and Response	26	12	10	11
C-COM: Communications	12	11	6	9
C-PAP: Policy and Planning	16	5	14	5
C-HEC: Health Equity and Cultural Responsiveness	59	7	44	6
C-CPD: Community Partnership Development	11	7	7	7
C-LOC: Leadership and Organizational Competencies	19	8	13	7
TOTAL	271	127	200	102

and Program. The manual defines each Foundational Capability and Program as it applies specifically to state and local public health authorities, who in turn work closely with community members and partners to implement them. Each Foundational Capability and Program definition includes:

- **Core system functions:** work that state and local public health must do together as a system;
- **State role:** the unique responsibilities of the OHA Public Health Division;
- **Local role:** the unique responsibilities of local public health authorities;

- **Deliverables:** tangible work products created by state and local public health authorities;
- **Critical tools and resources:** items necessary for state and local public health authorities to produce their deliverables.

BERK leveraged the December 2015 version of the manual to inform our programmatic framework for the Public Health Modernization Assessment.

The detailed definitions provided in the *Modernization Manual* also presented challenges to the Assessment. For example, it is impractical to require any provider to generate resource estimates at the role or deliverable

level considering that there are almost 400 state roles and deliverables and over 300 local roles and deliverables.

It was also difficult for local providers to generate estimates at the Foundational Capability and Program level. To mitigate these challenges, we developed an intermediate level between Foundational Capabilities and Programs and roles and deliverables to be used to support local authorities in their assessments. The activities at this intermediate level were dubbed “functional areas” and describe how local providers might execute this work. There are 40 functional areas, defined in **Appendix B: Functional Area Definitions**.

302 local roles and deliverables were assigned to these functional areas through a one-to-one relationship. Definitions of the functional areas are provided in **Appendix A: Glossary and Acronyms**.

We did not develop complementary functional areas for the state based on their activities.

Assessment Process

PHD engaged BERK Consulting, a public policy consultancy with experience and expertise related to public health modernization, to execute the Public Health Modernization Assessment. BERK's knowledge of Public Health Modernization is from work with the

Washington State Department of Health (DOH), Washington State Association of Local Public Health Officials (WSALPHO), and the states 35 Local Health Jurisdictions (LHJs) in implementing public health modernization (known as Foundational Public Health Services there) in Washington.

Based on discussion with local providers through its Joint Leadership Team and the Coalition of Local Health Officials (CLHO) the organization that represents LPHAs, PHD determined that an ideal Public Health Modernization Assessment would collect data from all 35 (state and local) governmental public health authorities in Oregon. This presented several challenges:

- Collecting information based on a new framework of which there was a limited and inconsistent understanding
- Collecting information from two different kinds of governmental public health authorities with two different sets of responsibilities as per the Public Health Modernization
- Collecting consistent responses from 34 LPHAs

To respond to these challenges, two information collection processes were used:

- An Assessment of all local providers completed by each LPHA

- An Assessment of the state provider completed by PHD

These processes were intended to collect responses from authorities that would illuminate their unique activities. Each process is detailed further in the following sections.

LPHA ASSESSMENT PROCESS

Process Design

The developed Assessment Tool was vital to fostering consistent responses from each of Oregon's 34 LPHAs. The Assessment Tool enabled:

- Assessment of each LPHA's current capacity for providing Foundational Capabilities and Programs; and
- Estimation the cost of what is needed to fully implement Foundational Capabilities and Programs.

Assessment Tool Development

The Assessment Tool's development began in December 2015, and included several opportunities for LPHA feedback and usability review. This feedback helped improve the final Assessment Tool. The live Assessment Tool was distributed to LPHAs on January 19, 2016.

Tool Description

The Assessment Tool comprised of 28 tabs, including instruction and orientation tabs and two tabs (Programmatic Self-Assessment and Resources) for each Foundational Capability and Program. Across these 28 tabs, over 2,000 data points were collected from each LPHA.

PROGRAMMATIC SELF-ASSESSMENT

The Programmatic Self-Assessment allowed LPHAs to 1) assess their current capacity and expertise to meet the requirements of the Public Health Modernization framework; 2) help LPHAs identify the degree to which they are already executing Public Health Modernization roles; and 3) understand the expertise with which they are providing those services as defined as part of Public Health Modernization. It includes two

scales - capacity and expertise.

- **Capacity.** To what degree the organization currently has the staffing and resources necessary to provide the services/deliverables dictated.
- **Expertise.** To what degree the organization’s current capacity aligns with the appropriate knowledge necessary to implement the services/deliverables dictated.

The tool was a qualitative self-assessment of how closely LPHAs believe they are currently meeting the requirements of the new Public Health Modernization framework.

The Programmatic Self-Assessment had two levels:

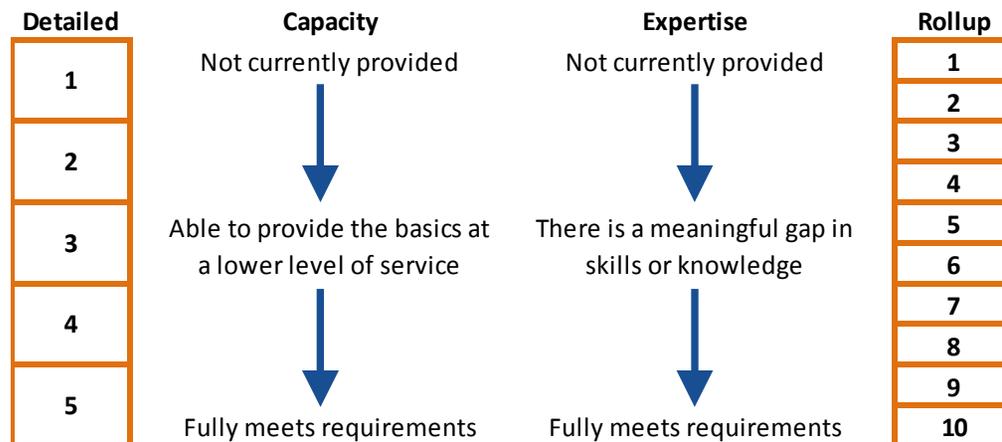
- A **Detailed Assessment** of capacity and expertise for meeting local roles and providing deliverables outlined in the *Modernization Manual*; and
- A generalized **Rollup Assessment** for meeting the key functional areas as described in the cost estimation and an overall assessment for this Foundational Capability or Program.

The detailed assessment used a five-point scale, while the rollup assessment used a ten-point scale. It is important to remember that these scales are not linear (i.e., a three on the detailed assessment or a six on the rollup assessment don’t denote 60% implementation).

Rather, the scores map to a scoring rubric provided in the Assessment Tool, shown on this page.

These scores are used in conjunction with the cost estimations provided by the authorities to help describe the resources needed to fully implement Public Health Modernization.

The Programmatic Self-Assessment results provide an overall indicator of the size, location, and nature of the programmatic gaps that currently exist in providing Foundational Capabilities and Programs in all communities across Oregon.



CURRENT SPENDING

To identify their current level of investment in each functional area, LPHA staff had to review all of their FY 2015 annual spending and allocate those resources that supported each functional area.

We asked that LPHAs provide current spending for each functional area disaggregated by:

- **Full Time Equivalent (FTE):** Total staff directly supporting each program or capability.
- **Labor Costs:** Direct labor costs, the salaries and benefits of staff who are employed within or directly support each program or capability.
- **Non-Labor Costs:** The costs of supporting that program or capability's function. Example costs include materials, supplies, small equipment (e.g., computers or lab equipment), professional services, or other contracted services.
- **Overhead Costs:** Facility-related costs such as rent, utilities, or maintenance.

As a general approach, we recommended that LPHAs:

- Begin with a FY 2015 budget and identify which FTE and line items are part of Public Health Modernization (Foundational).

- Allocate each Foundational FTE and line item to the appropriate Functional Area based on the Functional Area definitions provided in the Assessment Tool.

LPHA provided current spending estimates for each functional area in the resource tab for the appropriate Foundational Capability or Program and were asked to review the total on the Assessment Tool dashboard to prevent duplication and ensure all spending was captured.

FULL IMPLEMENTATION RESOURCE ESTIMATION

Within the Assessment Tool, LPHAs developed cost estimates for each Foundational Capability and Program. These cost estimates include values for:

- Full Time Equivalent (FTE)
- Labor Costs
- Non-Labor Costs
- Overhead Costs

Cost estimates for ten of the Foundational Capabilities and Programs, all excluding Leadership and Organizational Competencies, were generated using our Basic Cost Estimation Method. Cost estimates for Leadership and Organizational Competencies were generated using our Infrastructure Cost Estimation

Method. Both cost estimation methods provide Initial Estimates and an Estimation Tool powered by an estimation calculator.

The estimation calculator relies on assumptions about:

- The percentage of costs that are fixed, i.e., expenses that do not change as a function of the activity of the Foundational Capability or Program;
- Demand drivers for public health services, factors that cause a change in the overall demand for a Foundational Capability or Program; and
- The influence each demand driver has in relation to one another. This variable is called "driver influence."

These variables are used in conjunction with cost factors (units of cost directly proportional to the independent variables [in this case, demand drivers]) developed through prior research and cost factor weighting (a general variable that allows you to globally increase the magnitude of cost factors in any given area) to provide planning-level estimates for each functional area.

The Initial Estimates and Estimation Tool were provided to aid in the development of final cost estimates, however use of the tools was optional.

The cost estimation tabs identify the costs to fully implement and complete the local roles and associated deliverables, and to estimate the current level of investment in Foundational Capabilities and Programs. The cost estimates collected in each cost estimation tab are planning-level estimates that provide an order of magnitude understanding of resource needs for full implementation of Public Health Modernization, not exact costs.

LPHA Assessment Completion

Great care was taken to ensure a smooth and high-quality data collection process that would secure good data to inform public health modernization implementation, conversations with key legislators, and likely a legislative budget request. At the time of data collection, many of the specifics on how a funding request might be made to the legislature for state general fund support in the 2017 legislative session were not yet confirmed. But it was clear that at a minimum, a lump sum total for all local health departments, and the state health department, would need to be identified to make a request to the legislature.

This context made the tool collection and technical support phases of the work very important. The live tool was deployed to LPHAs on January 19, 2016. The collection process was structured in a wave system, so that half of the

LPHA tools were due on March 1, 2016, and the other half were due on March 15, 2016. This phased system enabled a steady data validation process and high-touch technical assistance. Data validation occurred throughout the month of March 2016 with members of the BERK team reviewing data in returned tools and, if data was questionable or unclear, contacting LPHA staff to clarify necessary points. Cost analysis was performed once all data was returned.

Throughout this timeline, robust technical assistance efforts were in place with live and personalized support available to each LPHA. All data collection as well as information sharing for the effort was hosted on a SharePoint site, allowing access to information at any time. Additionally, a comprehensive set of written materials were available to LPHA staff, a series of webinars were hosted throughout the process to address questions, and live phone assistance was provided upon request. A singular point of contact was provided through the orphmodernization@berkconsulting.com email inbox, where LPHA staff were able to send in a request and receive a response within one business day, although response times were often much quicker.

Technical Assistance was a cornerstone of the data collection process, and was carefully planned out to meet the needs of any LPHA staff, ranging from large, complex departments

CLHO TECHNICAL ASSISTANCE

To further support LPHAs in completing their Assessments CLHO hired an outside consultant, Kelly McDonald, who was already well known to CLHO members. The existing relationships with LPHAs that this consultant had made her an invaluable part of the technical assistance process, as LPHAs already had familiarity with and trust in her.

Kelly buttressed BERK's technical assistance, helping to build understanding around Public Health Modernization, answer questions, and provide strategies for approaching the work. She coordinated with all 34 LPHAs via email and spoke with 28 by phone, having three to four conversations with most of these LPHAs. She also visited with six counties in person to support them in completing their assessment tools.

Kelly also supported many conversations around cross jurisdictional sharing and facilitated discussions between four counties considering their current and potential future cross-jurisdictional relationship.

to small, resource-constrained departments. By the end of the data collection process, the technical assistance team had successfully responded to over **200** assistance requests.

TECHNICAL ASSISTANCE PROGRAM AND COMPLETION RESOURCES

A robust technical assistance program was a key element of the Assessment Tool collection process from the launch of the Public Health Modernization Site through the completion and validation of all Assessment Tools. Beyond supporting LPHAs in completing their Assessments, it also helped to ensure high quality data was being collected. The program consisted of live technical assistance available by request within one business day from 8:00 am to 5:00 pm, live webinars, and over ten graphic-rich instructional and troubleshooting documents.

Live Technical Assistance

Live technical assistance was an important component of the data collection process, and a number of tools were used to connect LPHA staff with BERK resources. Technical assistance was provided via email and phone, with a unique inbox devoted to technical assistance and other requests as part of this work. This inbox was monitored during business hours, Monday – Friday from 8:00 am to 5:00 pm.

Requests were responded to within one business day, and often more quickly than that.

Over **200** technical assistance requests were resolved from January through March 15. Of those, 86 were related to Modernization site access, 74 were related content questions around completing the Assessment Tool, and 15 were related to tool deadlines. Other requests included questions about adding additional staff to the site, confidentiality, and what the data would be used for, among other things.

Many inquiries that were emailed to the inbox were resolved when they were received, by simply calling the individual who requested assistance or scheduling a time to speak with them on the phone. During the months of January and February, BERK staff provided outreach via phone call 144 times and spent nearly 11 hours answering questions, troubleshooting, and providing guidance through tool completion over the phone with LPHA staff.

The technical assistance team received positive feedback from LPHA staff and many participants were appreciative of the level of personal assistance provided.

Some constructive feedback was provided over the course of this process, and the number and type of technical assistance requests provide

some valuable lessons learned when considering the process:

- Many technical assistance requests related to gaining access to the SharePoint site, suggesting that greater outreach in relation to site access at the outset of the effort would be helpful in future efforts.
- Similarly, many of the site access issues related to end user email account set up and confusion around which email account should be associated with this work. Providing resources outlining the importance of using one consistent email account to gain site access would be helpful.
- Throughout the months that the data collection tool was available, many jurisdictions continuously requested that new staff be added to the site. In future efforts it may be useful to review which staff may be needed to complete the tool and advise that jurisdictions select a core team to have site access, routing other input via email or another method to ensure clear coordination.
- Many tool-specific inquiries related to using the tool.

Webinars

To enhance the technical assistance process and familiarize participants with the assessment process and tool, BERK hosted ten live webinars.

In total, the live webinars reached over 100 people, and many more were able to watch the webinars after they occurred. Webinars were recorded and posted to the Modernization site after their completion to allow individuals who were not able to join the live webinar to listen to the webinar at a later time. For each month during the data collection process there were two webinars provided.

Technical Assistance Instructions and Resources

Before the Assessment Tool launch, a series of technical assistance instructional documents were developed to prepare LPHA staff for the data collection process. Additional materials were developed as new requests were made.

PHD ASSESSMENT PROCESS

For the state OHA's Public Health Division, one agency with one budgeting and accounting system allowed a simpler approach but with the added challenge of a large organization with a large service area

Programmatic Self-Assessment

The Programmatic Self-Assessment allowed PHD to assess its current capacity and expertise to

meet the requirements of the Public Health Modernization framework, and to help PHD identify the degree to which they are already executing Public Health Modernization roles and the expertise with which they are providing those services as defined as part of Public Health Modernization. This Programmatic Self-Assessment was extremely similar to that provided to the LPHAs in their Assessment Tools, with the exception that it was based on state roles and deliverables, rather than local roles and deliverables. Like the LPHA Programmatic Self-Assessment, it included two scale -, capacity and expertise.

The tool was a qualitative self-assessment of how closely PHD believed they were currently meeting the requirements of the new Public Health Modernization framework.

Like the LPHA Programmatic Self-Assessment, PHDs Programmatic Self-Assessment had two levels: a detailed assessment and a rollup assessment.

The detailed assessment used a five-point scale, while the rollup assessment used a 10-point scale. Again, these scales are not linear and the scores should be interpreted based on the scoring rubric provided in the LPHA Assessment section.

These scores are used in conjunction with the cost estimations provided by PHD to help

describe the resources needed to fully implement Public Health Modernization.

The Programmatic Self-Assessment results provide an overall indicator of the size, location, and nature of the programmatic gaps that currently exist, in relation to providing state public health activities as defined by the newly defined Foundational Capabilities and Programs.

Current Spending

To identify PHD's current level of investment in the Foundational Capabilities and Programs, PHD staff reviewed all of the FY 2015 annual spending and allocated resources that support Foundational Capabilities and Programs.

We asked that PHD provide current spending for each Foundational Capability and Program disaggregated by:

- Full Time Equivalent (FTE)
- Labor Costs
- Non-Labor Costs
- Overhead Costs

To do this effectively, we suggested that PHD focus on allocating the resources from each of their Centers (Office of the State Public Health Director, Center for Health Protection, Center for Prevention and Health Promotion, and Center for Public Health Practice). As a general approach, we recommended that PHD:

- Beginning with a FY 2015 budget, identify which FTE and line items are part of Public Health Modernization (Foundational).
- Allocate each Foundational FTE and line item to the appropriate Foundational Capabilities and/or Programs based on the state roles and deliverables outlined in the *Public Health Modernization Manual*.
- Include indirect costs in current spending. For those indirect costs that are determined on a percent basis of total or program budget, compare the individual Foundational Capabilities and Programs line item allocations to the total or program budget, and apply that proportion to the expected indirect costs.

PHD collected current spending estimates for individual programs and reviewed them to prevent duplication and ensure all spending was captured. This allowed PHD to provide a full set of spending for each Foundational Capability and Program to BERK.

Full Implementation Resource Estimation

To estimate the resources needed for PHD to fully implement Public Health Modernization, small groups of staff worked with Program Support Managers to generate estimations for each Foundational Capability and Program, disaggregated by:

- Full Time Equivalent (FTE)
- Labor Costs
- Non-Labor Costs
- Overhead Costs

Groups completed the resource estimations during two meetings, with additional work to be completed between meetings.

Once resource estimates for each Foundational Capability and Program were complete, estimates were reviewed by the Public Health Division Executive Team to identify and resolve any gaps or areas of overlap, and approve the estimates.

Limitations

As self-reported data, the information collected through the Assessment Process has certain inherent limitations. These include respondent biases, an uneven understanding of Public Health Modernization, and differing resource estimation expertise.

With all self-reported data, there is a question of respondent biases, especially if there are perceived benefits, such as favorable future funding decisions. Additionally, attitudes about Public Health Modernization in general and the Assessment processes specifically are reflected in the data collected.

Respondents have differing levels of cost estimation backgrounds; the respondents of this Assessment are generally experts in public health. While some LPHAs and PHD had staff with specialized expertise in cost estimation, the majority of LPHA respondents were public health professionals. Areas of Public Health Modernization are new activities for governmental public health, so some cost estimates had to be done without comparables.

Additionally, the Assessment Tool is a complicated form with over 2,000 data entry points, and completing the Tool was a challenge for some respondents. It was also a significant investment of resources for LPHAs that already feel resource constrained.

Completing the Assessment Tool was not only an unfamiliar exercise, but the Public Health Modernization framework was new for some respondents as well. This Assessment was some LPHAs first exposure to Public Health Modernization as implemented in the *Oregon Public Health Modernization Manual*, and a certain level of education was built into the process. We identified a number of inconsistencies originating in differing understandings.

BERK was aware of these issues before releasing the tool and mitigated wherever possible. In addition to those efforts, there are a number of

factors that diminish the data limitations' effects on the final estimate:

- As a planning level estimate, expected accuracy of estimates is at the order of magnitude
- We performed some limited standardization using the data set as a whole and external data sources to correct individual inconsistencies
- As all 34 LPHAs responded, these are population data, which means we don't have to correct for sampling issues
- Research suggests that managers tend to underestimate the resources needed to perform new job tasks¹

Assessment Results

VALIDATION

Data were validated through a number of methods, some built into the Assessment Tool and some through post-collection analysis.

As suggested by Glen Mays in his recommended methodology for estimating the cost of

¹ Whittington et al., "Strategic Methodologies in Public Health Cost Analyses" *Journal of Public Health Management Practice* (2016-02): 1-7.

Foundational Public Health Capabilities,² BERK incorporated anchoring questions. Using the work of Gary King and Jonathan Wand³ on using anchoring vignettes to correct for issues of inter-rater reliability. By presenting hypothetical situations to respondents, general attitudes about resources needs can be approximated. Some respondents consistently assessed the anchoring questions higher or lower than their peers, which informed identifying and assessing outliers.

BERK has previous experience with this type of cost estimation, working with the Washington State Department of Health to estimate the cost of implementing Washington's version of Public Health Modernization. This previous work, while not directly comparable because of differences in Public Health Modernization frameworks, was incorporated into initial estimates provided to LPHAs and used as a high-level estimate check.

² Glen Mays, "Estimating the Costs of Foundational Public Health Capabilities: A Recommended Methodology" The Robert Wood Johnson Foundation National Public Health Leadership Forum (2014).

³ King and Wand, "Comparing Incomparable Survey Responses: Evaluating and Selecting Anchoring Vignettes" *Political Analysis* 15, no. 1 (2007): 46-66.

Internal consistency. For example, if Programmatic Self-Assessment responses indicated full implementation of the activities included in Public Health Modernization but the respondent also reported a large funding need, this would indicate that further information is needed.

PHD collects LPHA revenue data annually. In an attempt to reduce reporting burden on LPHAs, PHD requested that BERK include this revenue data collection in the Assessment Tool. While not part of Public Health Modernization, these data allowed BERK to compare Public Health Modernization current spending totals with projected revenue. PHD provided multiple years of revenue data that allowed BERK to identify inconsistencies and work with LPHAs to correct estimates.

STANDARDIZATION

After working with respondents to validate data, BERK implemented standardization to correct for non-validated outliers. The order of magnitude level used for the total resource estimates largely negated any outliers and standardization provided only an additional check against respondent estimates.

PUBLIC HEALTH MODERNIZATION ASSESSMENT OVERALL RESULTS

In the full Assessment Results, we present Assessment Results at several altitudes:

- For all Governmental Public Health authorities
 - Overall Assessment Results
- For state providers
 - Foundational Program and Capability Level Results
- For Local providers
 - Foundational Program and Capability Level Results
 - Functional Area level results

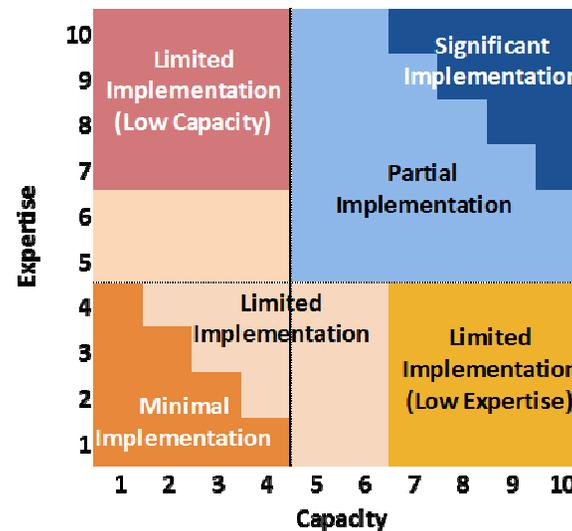
For the purposes of this high-level overview, we have extracted data and exhibits that provide information to support our high-level findings from the Assessment. Following, we describe features of the analysis that provides the results at each of these altitudes.

Interpreting Results

DEGREE OF IMPLEMENTATION

The degree of implementation of Foundational Capabilities and Programs and Functional Areas, is illustrated throughout the overall Assessment Results with both color-coding and charts. The image below illustrates how programmatic self-assessment results are interpreted to provide insight on governmental public health authorities level of implementation with Expertise on the y-axis and Capacity on the x-axis.

Degree of Implementation for Foundational Capabilities and Programs, and Functional Areas



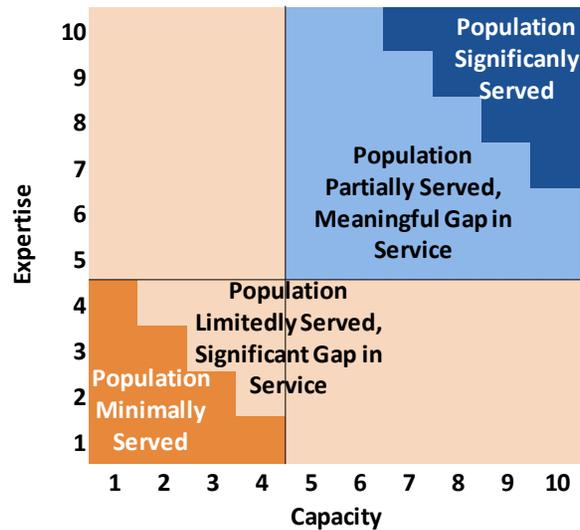
- **Significant Implementation (Dark Blue):** Services are mostly or fully implemented.
- **Partial Implementation (Light Blue):** Services are partially implemented however, some meaningful gaps remain.
- **Limited Implementation, Low Expertise (Yellow):** Services are limitedly implemented and, while the provider has significant capacity there are substantial gaps related to a lack of necessary expertise.
- **Limited Implementation, Low Capacity (Red):** Services are limitedly implemented and, while the provider has significant expertise there are substantial gaps related to a lack of necessary capacity.
- **Limited Implementation (Light Orange):** Services are limitedly implemented and there are significant gaps in capacity and expertise.
- **Minimal Implementation (Orange):** Services are mostly not or not at all implemented.

POPULATION BY LEVEL OF SERVICE

The Population by Level of Service exhibits describe how the Degree of Implementation of Foundational Capabilities and Programs and Functional Areas translate to population service.

The image below illustrates how programmatic self-assessment results are interpreted to provide insight on governmental public health

authorities population service with Expertise on the y-axis and Capacity on the x-axis.



- **Population Significantly Served (Blue):** The population is mostly or fully served.
- **Population Partially Served (Light Blue):** The population is partially served, and there are meaningful gaps in level of service.
- **Population Limitedly Served (Light Orange):** The population is underserved, and there are significant gaps in service.
- **Population Minimally Served (Orange):** The population is mostly not or not at all served.

Cost of Full Implementation

The Public Health Modernization Assessment resource estimates are presented in the table above.

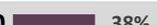
The \$105M estimated additional cost increment represents the first step in an evolving process – it is a product of a particular time and place and likely doesn't represent the final funding request needed to implement Public Health Modernization.

Both current spending and full implementation estimate that Foundational Programs represent approximately two-thirds of total costs. However, full implementation rebalances some

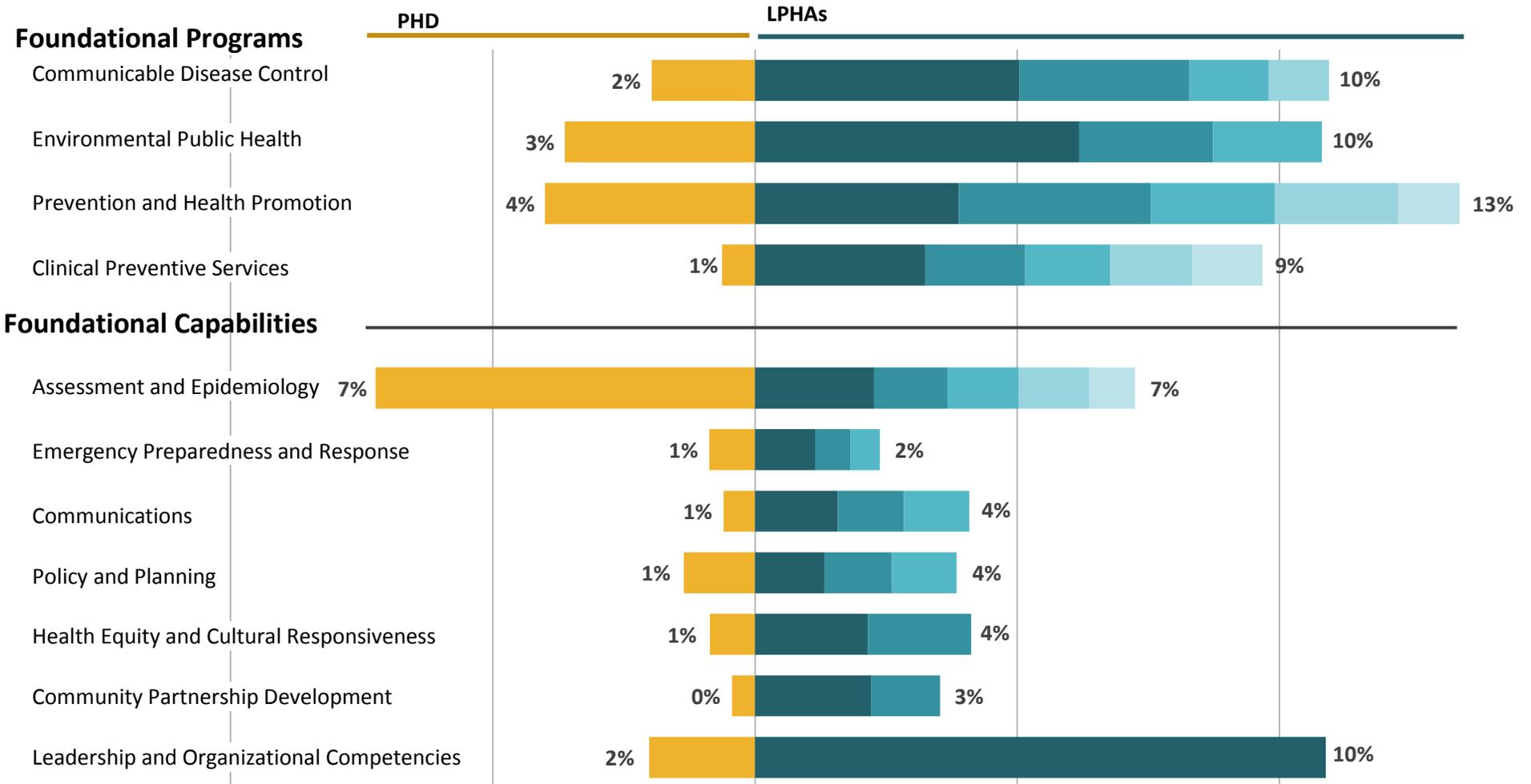
of these costs into Foundational Capability, with a 70% increase in Foundational Capabilities versus a 35% increase in Foundational Programs.

To reach full implementation, three Capabilities will require doubling current spending – Communications, Health Equity and Cultural Responsiveness, and Policy and Planning.

At the time of the assessment, cross-jurisdictional sharing conversations had just begun. Additionally, this estimate incorporates the current understanding of governmental public health, but true Public Health Modernization will involve all stakeholders opening a dialog about alternative service delivery options and funding.

	Total Estimated Cost of Full Implementation	Current Spending	Cost of Additional Increment of Service
Foundational Programs	\$ 184,714,000  59%	\$ 129,616,000  62%	\$ 55,098,000  53%
Communicable Disease Control	\$ 38,322,000  12%	\$ 25,404,000  12%	\$ 12,918,000  12%
Environmental Public Health	\$ 59,647,000  19%	\$ 45,214,000  22%	\$ 14,433,000  14%
Prevention and Health Promotion	\$ 58,351,000  19%	\$ 40,908,000  20%	\$ 17,443,000  17%
Clinical Preventive Services	\$ 28,394,000  9%	\$ 18,090,000  9%	\$ 10,304,000  10%
Foundational Capabilities	\$ 129,068,000  41%	\$ 79,602,000  38%	\$ 49,464,000  47%
Leadership and Organizational Competencies	\$ 47,860,000  15%	\$ 17,504,000  8%	\$ 14,479,000  14%
Assessment and Epidemiology	\$ 31,984,000  10%	\$ 8,966,000  4%	\$ 3,247,000  3%
Emergency Preparedness and Response	\$ 12,214,000  4%	\$ 3,373,000  2%	\$ 4,683,000  4%
Community Partnership Development	\$ 9,941,000  3%	\$ 4,415,000  2%	\$ 5,202,000  5%
Policy and Planning	\$ 9,617,000  3%	\$ 4,411,000  2%	\$ 4,985,000  5%
Health Equity and Cultural Responsiveness	\$ 9,396,000  3%	\$ 5,974,000  3%	\$ 3,967,000  4%
Communications	\$ 8,056,000  3%	\$ 34,959,000  17%	\$ 12,901,000  12%
TOTAL	\$ 313,782,000	\$ 209,218,000	\$ 104,562,000

Distribution of Unmet Costs

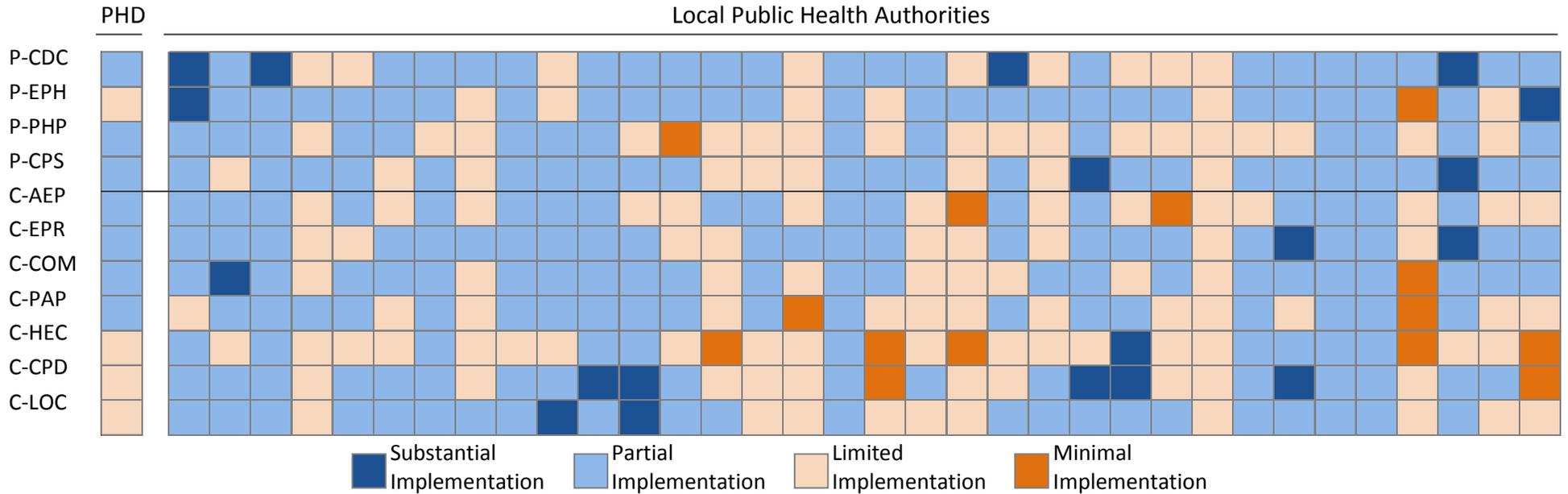


The distribution of the \$105M in unmet costs is presented in the graph above. The unmet costs are split between PHD (yellow, left) and the LPHAs (teal, right). The LPHA cost estimates also

include a breakdown for the individual Functional Areas within each Foundational Program and Capability. The percentages are

that Foundational Program or Capability's share of the unmet cost for either PHD or the LPHAs.

Foundational Programs and Capabilities Current Implementation



Above are the Foundational Program and Capability implementation levels for PHD and a randomized ordering of the LPHAs.

Each vertical set of boxes represent one public health authority. There are no Foundational Programs or Capabilities that are substantially implemented universally across all public health authorities. There are some areas with a higher concentration of limited and minimal implementation, such as the Health Equity and Cultural Responsiveness Capability

Foundational Programs and Capabilities Code Key

- P-CDC: Communicable Disease Control
- P-EPH: Environmental Public Health
- P-PHP: Prevention and Health Promotion
- P-CPS: Clinical Preventive Services
- C-AEP: Assessment and Epidemiology
- C-EPR: Emergency Preparedness and Response
- C-COM: Communications
- C-PAP: Policy and Planning
- C-HEC: Health Equity and Cultural Responsiveness
- C-CPD: Community Partnership Development
- C-LOC: Leadership and Organizational Competencies

Foundational Programs and Capabilities Implementation and Percent Increase in Costs

PHD

Local Public Health Authorities

P-CDC	12%	28%	39%	42%	78%	15%	74%	58%	56%	50%	64%	51%	60%	77%	93%	75%	78%	88%	17%	63%	77%	49%	77%	71%	60%	50%	80%	69%	77%	50%	66%	80%	78%	83%	59%
P-EPH	11%	28%	26%	32%	60%	7%	60%	49%	12%	25%	42%	15%	51%	54%	0%	46%	47%	36%	21%	16%	87%	60%	59%	67%	48%	29%	75%	66%	100%	86%	85%	75%	86%	59%	100%
P-PHP	12%	60%	29%	57%	66%	14%	75%	69%	53%	7%	23%	0%	23%	52%	63%	84%	52%	79%	76%	69%	76%	68%	84%	73%	51%	8%	76%	74%	42%	67%	62%	88%	69%	50%	53%
P-CPS	6%	44%	31%	31%	86%	17%	89%	79%	48%	69%	45%	40%	27%	25%	97%	88%	51%	52%	35%	51%	85%	89%	70%	95%	36%	27%	83%	84%	0%	67%	24%	96%	74%	54%	65%
C-AEP	41%	37%	31%	25%	55%	9%	89%	100%	43%	60%	96%	34%	95%	58%	84%	98%	100%	100%	24%	62%	77%	83%	100%	98%	51%	0%	85%	100%	93%	100%	39%	100%	100%	92%	100%
C-EPR	14%	46%	21%	59%	43%	0%	44%	46%	33%	5%	48%	27%	38%	43%	35%	19%	31%	23%	25%	66%	69%	31%	64%	47%	13%	0%	17%	2%	0%	24%	47%	68%	20%	25%	25%
C-COM	54%	44%	22%	46%	66%	12%	90%	71%	57%	86%	86%	38%	88%	54%	93%	100%	98%	95%	34%	66%	92%	92%	100%	94%	45%	29%	83%	100%	3%	100%	32%	100%	100%	100%	100%
C-PAP	59%	50%	31%	37%	26%	12%	97%	65%	52%	86%	62%	28%	75%	25%	100%	94%	100%	100%	39%	68%	90%	86%	100%	89%	41%	0%	91%	100%	0%	100%	24%	100%	100%	100%	100%
C-HEC	54%	44%	36%	55%	64%	10%	95%	100%	12%	66%	80%	23%	70%	51%	100%	100%	100%	100%	62%	41%	100%	94%	100%	77%	71%	49%	87%	100%	86%	100%	68%	100%	100%	100%	100%
C-CPD	25%	40%	26%	44%	18%	21%	53%	3%	33%	85%	42%	23%	100%	70%	96%	100%	68%	67%	62%	80%	89%	62%	100%	94%	12%	25%	79%	100%	43%	100%	64%	100%	100%	100%	100%
C-LOC	8%	49%	92%	40%	52%	22%	39%	42%	33%	38%	51%	31%	96%	55%	36%	42%	62%	33%	0%	37%	61%	13%	73%	89%	11%	6%	33%	0%	62%	61%	38%	50%	100%	100%	100%



Above are the Foundational Program and Capability implementation levels and percent of full implementation unmet cost for PHD and a randomized ordering of the LPHAs.

Each vertical set of boxes represent one public health authority. The percentage within each box is the estimated unmet cost as a percentage of the full implementation cost for that Foundational Program or Capability. For example, in the upper left corner, PHD estimated that an additional 12% is needed for full implementation of Communicable Disease Control. There are 54 boxes that contain 100%;

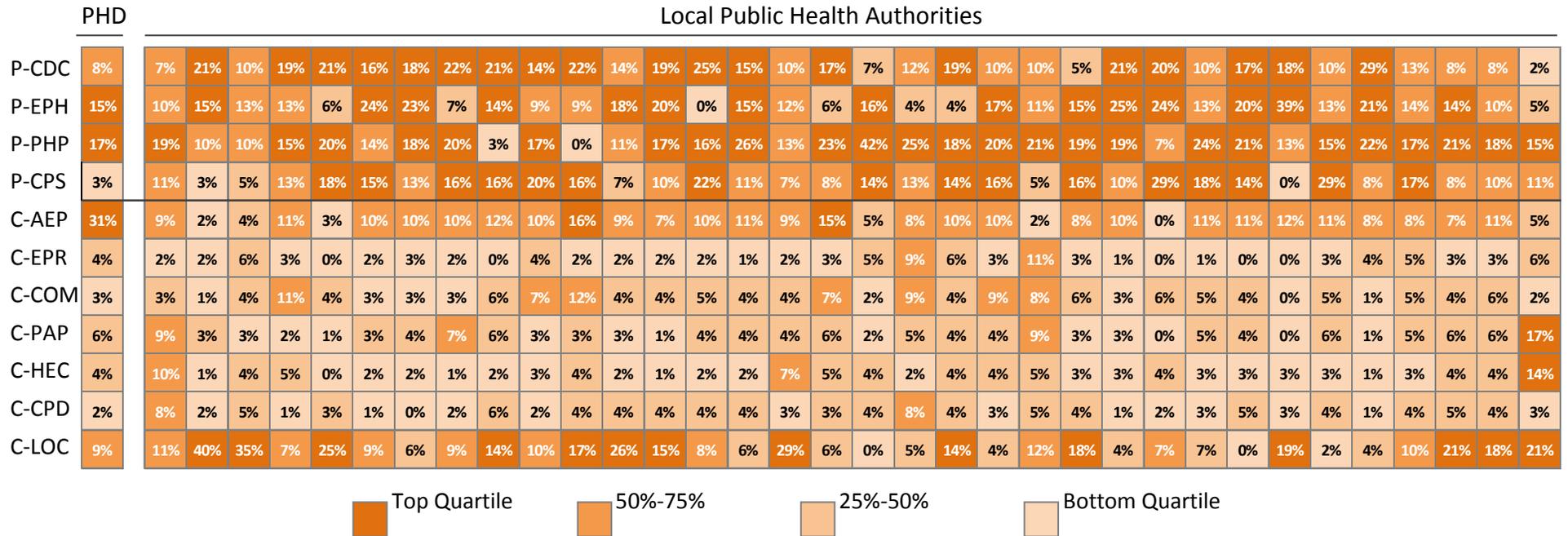
current spending was reported to be \$0 for 53 of the 54.

The chart demonstrates that areas with a higher level of implementation do not necessarily need less resources than those areas with lower implementation. On the other hand, a limited implementation does not always indicate that a substantial amount of funding is needed.

Foundational Programs and Capabilities Code Key

- P-CDC: Communicable Disease Control
- P-EPH: Environmental Public Health
- P-PHP: Prevention and Health Promotion
- P-CPS: Clinical Preventive Services
- C-AEP: Assessment and Epidemiology
- C-EPR: Emergency Preparedness and Response
- C-COM: Communications
- C-PAP: Policy and Planning
- C-HEC: Health Equity and Cultural Responsiveness
- C-CPD: Community Partnership Development
- C-LOC: Leadership and Organizational Competencies

Unmet Cost for the Foundational Programs and Capabilities as Percent of Each Public Health Authority’s Total Unmet Cost



Above are the percentages for each public health authority’s unmet cost that the individual Foundational Programs and Capabilities represent for PHD and a randomized ordering of the LPHAs.

For example, in the upper left corner, PHD estimated that of its total unmet cost, Communicable Disease Control constituted 8%. Each column represents one public health authority and sums down to 100% (rounding

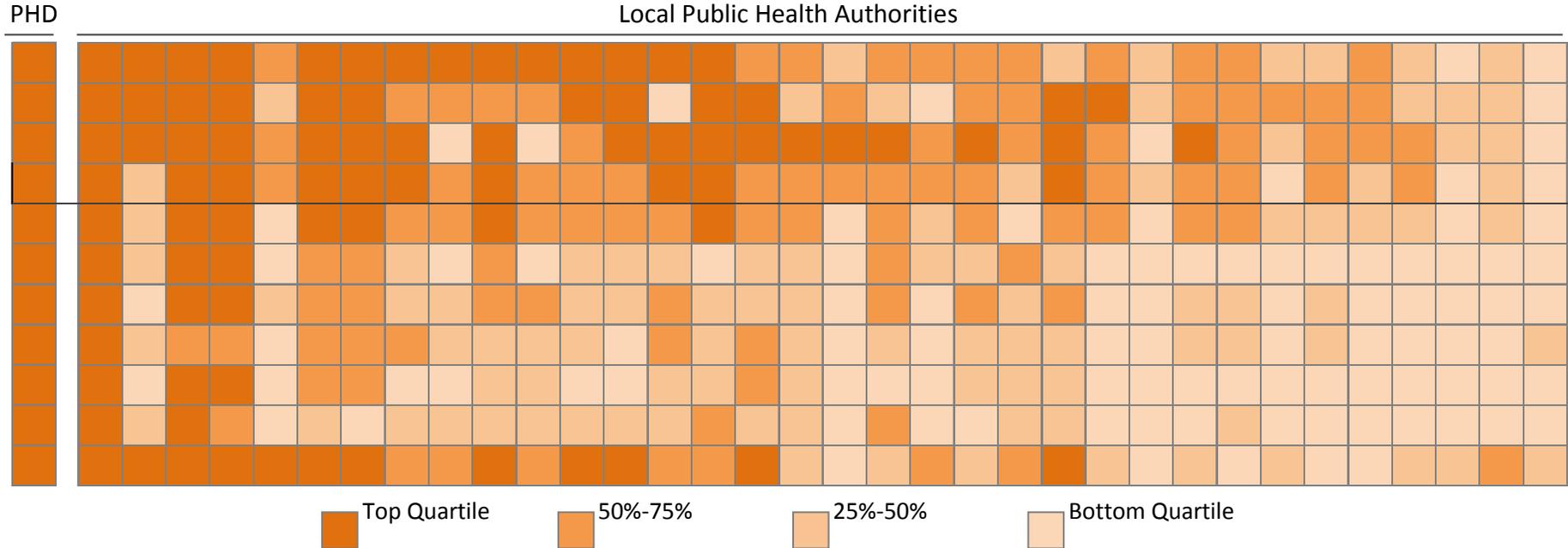
may lead to values slightly different). The boxes have been color-coded by quartile to show patterns in the reported data.

This graph shows that the greatest unmet costs are concentrated in the four Programs (the four top rows) and the Leadership and Organizational Competencies Capability (the bottom row). Unlike the LPHAs, PHD has its highest unmet cost in the Assessment and Epidemiology

Capability, which also houses the State Public Health Laboratory.

While unmet costs are generally concentrated in the four Program and Leadership and Organizational Competencies Capability, there is no Program or Capability that does not have increased unmet costs for at least one public health authority.

Unmet Cost for the Foundational Programs and Capabilities as Percent of Statewide Total Unmet Cost

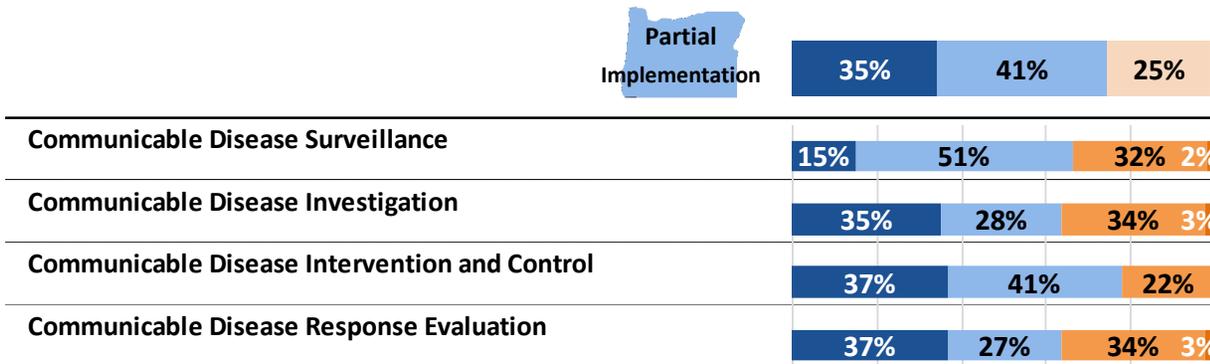


Above are the unmet costs for the Foundational Programs and Capabilities proportion of the statewide total unmet cost at PHD and a randomized ordering of the LPHAs.

Similar to the proportional unmet cost within each public health authority, looking across all public health authorities, unmet costs are concentrated in the Foundational Programs and Leadership and Organizational Competencies Capability.

Communicable Disease Control

	State	Local
Current Share of Activities	20.0%	19.9%
Share of Full Activities	18.8%	16.7%

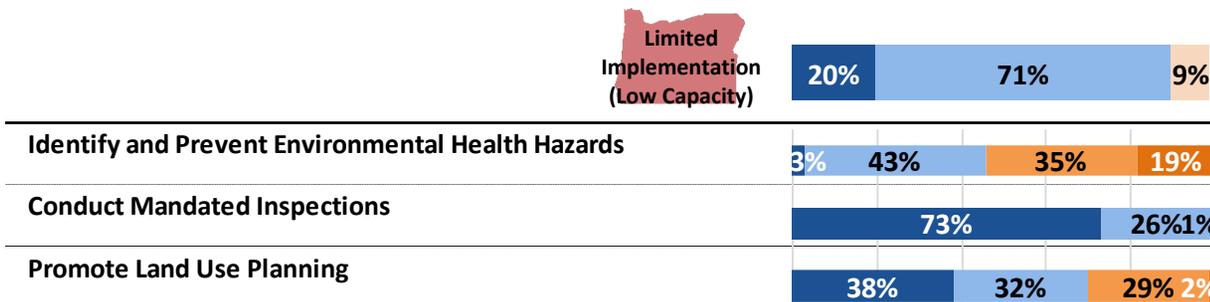


Communicable Disease Control represents 20.5% of current statewide Public Health Modernization Activities. At full implementation, the activity's share will decrease to 17.9%.

This Program has several service dependencies where state activities directly support provision of local activities, such as providing technical assistance and surge capacity for LPHAs investigating and controlling reportable diseases and outbreaks.

Environmental Public Health

	State	Local
Current Share of Activities	20.0%	19.9%
Share of Full Activities	18.8%	16.7%



Environmental Public Health represents 19.9% of current statewide Public Health Modernization Activities and is expected to decrease to 17.8% at full implementation.

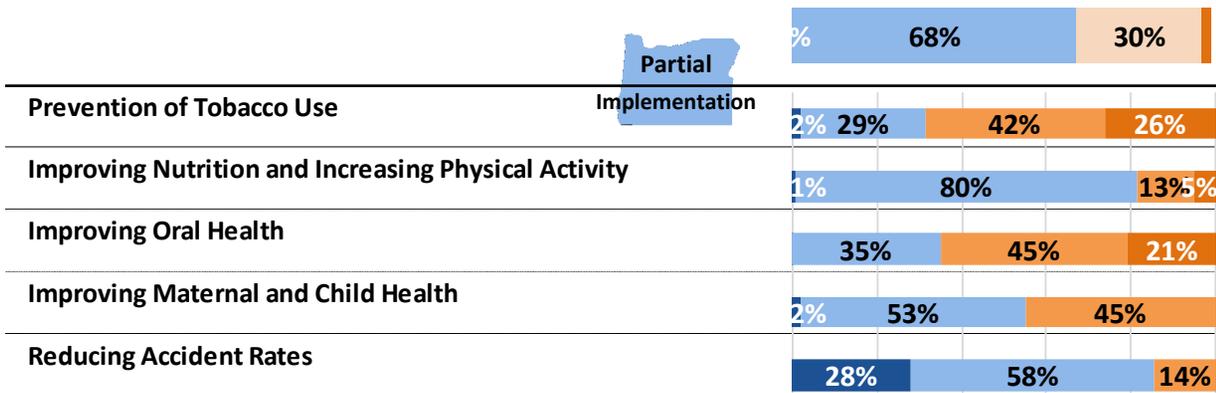
This Program has a few service dependencies between state and local activities, including the state's maintenance of information systems.

Prevention and Health Promotion

	State	Local
Current Share of Activities	20.8%	13.5%
Share of Full Activities	19.8%	15.0%

Prevention and Health Promotion represents 18.1% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to decrease to 17.4%.

This Program only has a couple service dependencies between state and local health authorities that are not yet fully implemented.

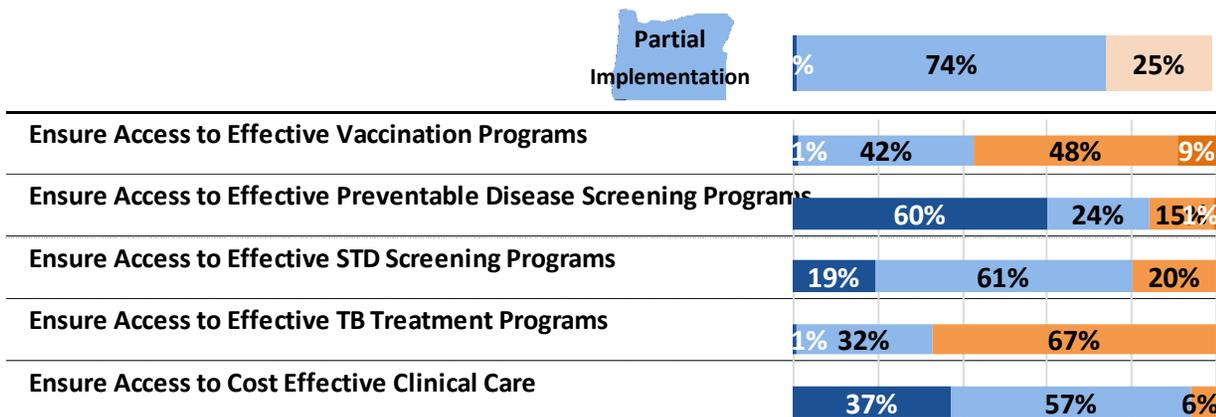


Clinical Preventive Services

	State	Local
Current Share of Activities	6.4%	10.4%
Share of Full Activities	5.8%	11.2%

Clinical Preventive Services represent 7.9% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase to 8.5%.

This Program only has a couple service dependencies between state and local health authorities that are not yet fully implemented.



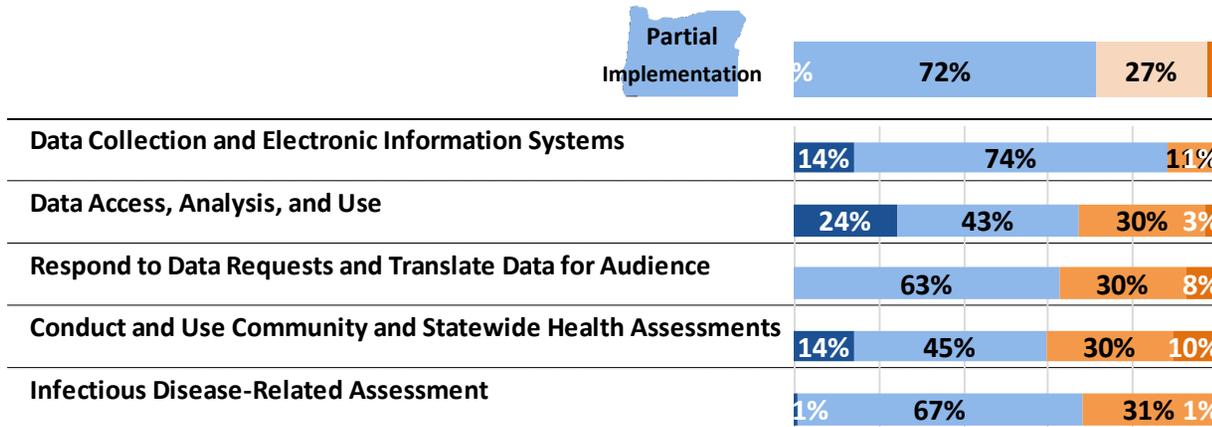
Assessment and Epidemiology

Current Share of Activities
Share of Full Activities

	Population Service	
	State	Local
Current Share of Activities	7.4%	8.0%
Share of Full Activities	10.6%	8.4%

Assessment and Epidemiology makes up 7.6% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase to 9.5%.

This Program only has a couple service dependencies between state and local health authorities that aren't yet fully implemented.



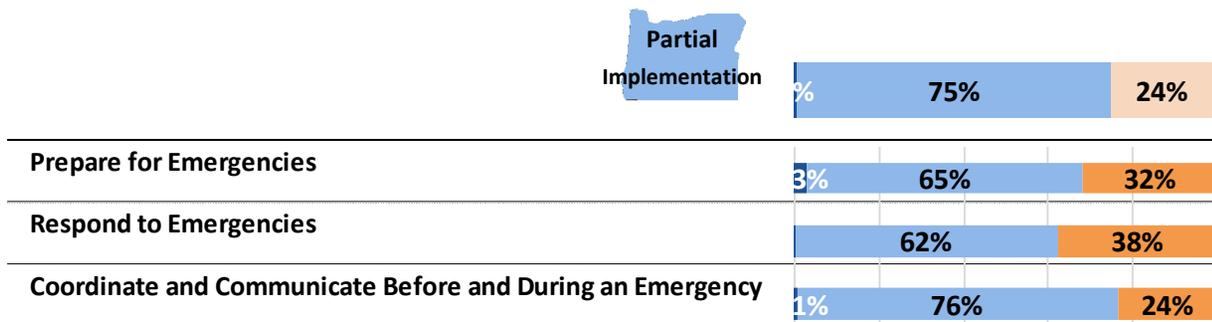
Emergency Preparedness & Response

Current Share of Activities
Share of Full Activities

	Population Service	
	State	Local
Current Share of Activities	3.7%	4.3%
Share of Full Activities	3.7%	3.6%

Emergency Preparedness and Response makes up 3.9% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to decrease slightly to 3.6%.

This Capability has many service dependencies between the state and local authorities.

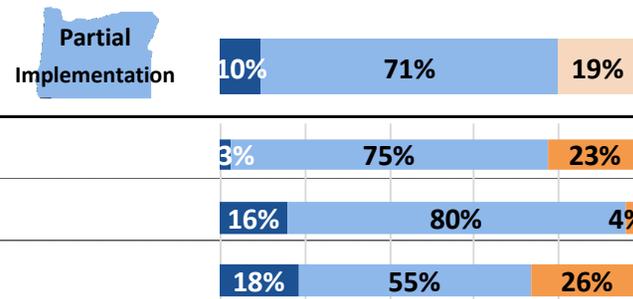


Communications

Current Share of Activities
Share of Full Activities

	Population Service	
	State	Local
Current Share of Activities	0.4%	3.3%
Share of Full Activities	0.7%	4.1%

Communications represents 1.5% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase to 2.4%.

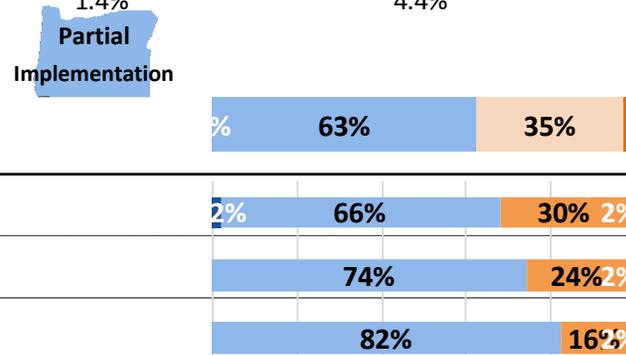


Policy and Planning

Current Share of Activities
Share of Full Activities

	Population Service	
	State	Local
Current Share of Activities	0.7%	4.0%
Share of Full Activities	1.4%	4.4%

Policy and Planning represents 1.9% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase to 2.8%.



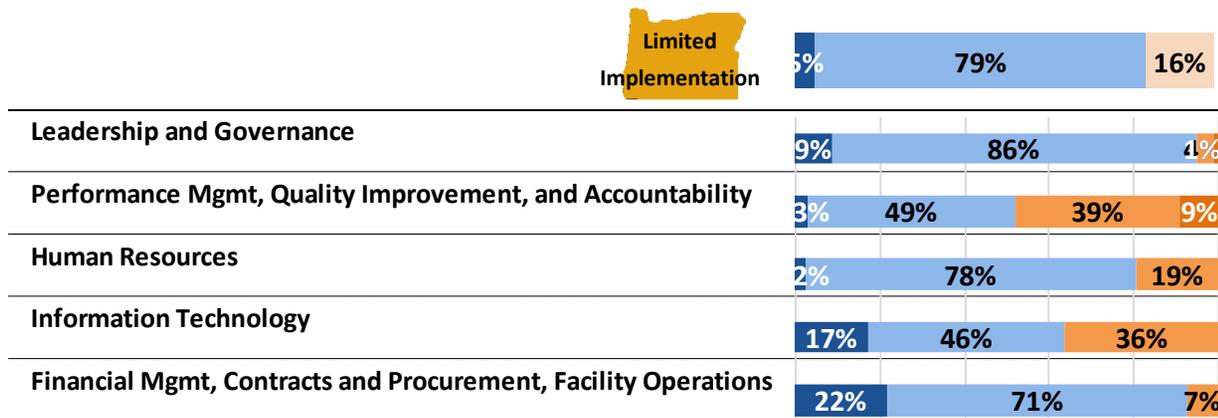
Leadership & Organizational Competencies

	Population Service	
	State	Local
Current Share of Activities	13.6%	15.0%
Share of Full Activities	14.3%	14.3%

Leadership and Organizational Competencies

represent 14.1% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase slightly to 14.3%.

This capability has several service dependencies that are not yet fully implemented, where state roles and deliverables support local activities.



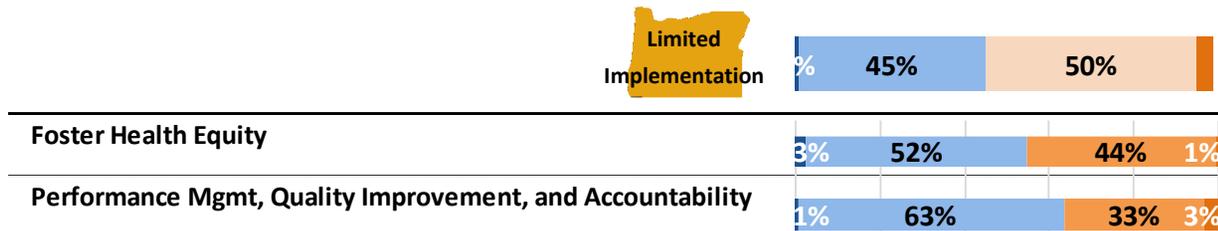
Health Equity & Cultural Responsiveness

	Population Service	
	State	Local
Current Share of Activities	0.5%	4.3%
Share of Full Activities	0.9%	4.7%

Health Equity and Cultural Responsiveness

represent 1.9% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase slightly to 2.9%.

This Capability has a few service dependencies between the state and local authorities.



Community Partnership Development

Current Share of Activities
Share of Full Activities

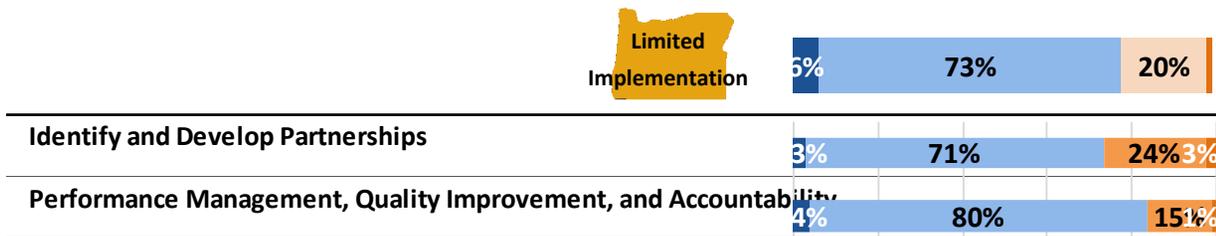
State
0.9%
1.0%

Population Service

Local
5.4%
4.9%

Community Partnership Development

represents 2.6% of current statewide Public Health Modernization Activities. At full implementation, this activity's share is expected to increase slightly to 3.0%.



Summary Findings

The Public Health Modernization Assessment presents an initial Assessment of PHD and LPHAs' current execution of Public Health Modernization, capacity and expertise needs to fully implement, and the costs associated with full implementation. It's important to remember that this data represents a starting place for Public Health Modernization implementation, however, we they did allow us to generate significant findings that will be useful to planning for and executing implementation. These findings are provided following:

Overall

- For many local public health authorities, this was their first detailed exposure to the Public Health Modernization framework. This process helped to build a foundational shared understanding of the framework. This understanding will continue to evolve and governmental public health authorities should be involved in and aware of any changes to the framework.
- The Assessment process was designed to be highly detailed and require the participation of all LPHAs. However, many organizations found responding to the level of detail of the Assessment burdensome and the

schedule challenging to manage over six to eight weeks with their existing workloads.

- Implementation of Public Health Modernization is intended to be a transformative process that will reform public health based on the post-Affordable Care Act health context and align funding to a core set of services that should be available to everyone, uniformly statewide through governmental public health authorities. Breaking out of current paradigms to allow for imaginative solutions to improve the efficiency and effectiveness of the governmental public health system will be an ongoing process.
- The Assessment Process, though thorough, was not exhaustive. There is a need to continue exploring particular features of the existing system, to identify opportunities to increase efficiency and effectiveness. These features may include:
 - Service delivery, including cross-jurisdictional sharing
 - Non-governmental public health assets, resources, and partnerships that contribute to the accomplishment of Public Health Modernization roles and deliverables.
 - Barriers to implementation

- Short-term or one-time additional costs related to implementation itself

- The “functional areas” defined as part of this process seem to accurately define how the Foundational Capabilities and Programs, as defined through core services, roles, and deliverables in the *Modernization Manual*, will be operationalized by local public health authorities.

Full Implementation Cost

- Governmental public health authorities are already significantly executing the Public Health Modernization framework, with \$209 million being spent on these activities. This is approximately two-thirds of the cost of full implementation of the framework.
- The estimated additional cost needed for full implementation is approximately \$105 million. This is the other one-third of the cost of full implementation of the framework. This cost estimate provides a point-in-time, initial planning level estimate which provide order of magnitude precision, but will necessarily evolve as the Modernization framework, implementation strategies, and other policies evolve.

- The estimated additional cost needed for full implementation is approximately \$105 million.
- There are significant existing shared resources among LPHAs today. These existing sharing arrangements provide examples for future sharing relationships. The Assessment process catalyzed conversations between LPHAs around how they might develop future cross jurisdictional relationships.
- The current governmental public health service delivery model is unnecessarily bifurcated by state activities, provided by PHD, which are provided wholly centrally and local activities, provided by LPHAs, which are provided wholly locally. This is a limited service delivery model which could be expanded to allow for cross-jurisdictional service delivery options.

Programmatic

- There are meaningful gaps across the system in all Foundational Capabilities and Programs.
- Every Foundational Capability and Program within the Public Health Modernization framework includes roles and deliverables with varying degrees of implementation.

- There are some functional areas that include roles and deliverables that are well established as governmental public health activities. For some of these activities, local health departments generally rated themselves highly in expertise, although potentially low in capacity.
- There are other functional areas that are dominated by roles and deliverables that may represent new governmental public health activities. In these areas, local public health authorities were more likely to provide scores that identified that they are not currently providing the activities.
- There are meaningful gaps across the system in all governmental public health authorities. These gaps are not uniform, nor do they appear in the same places in every organization. As such, current implementation of Public Health Modernization can be described as a “patchwork quilt.” Because of this, many global implementation decisions could have unintentional service delivery and coverage ramifications.

Implementation

- Implementation of Public Health Modernization will be a significant

undertaking that should be phased to allow governmental public health authorities adequate time to plan intentional implementation strategies.

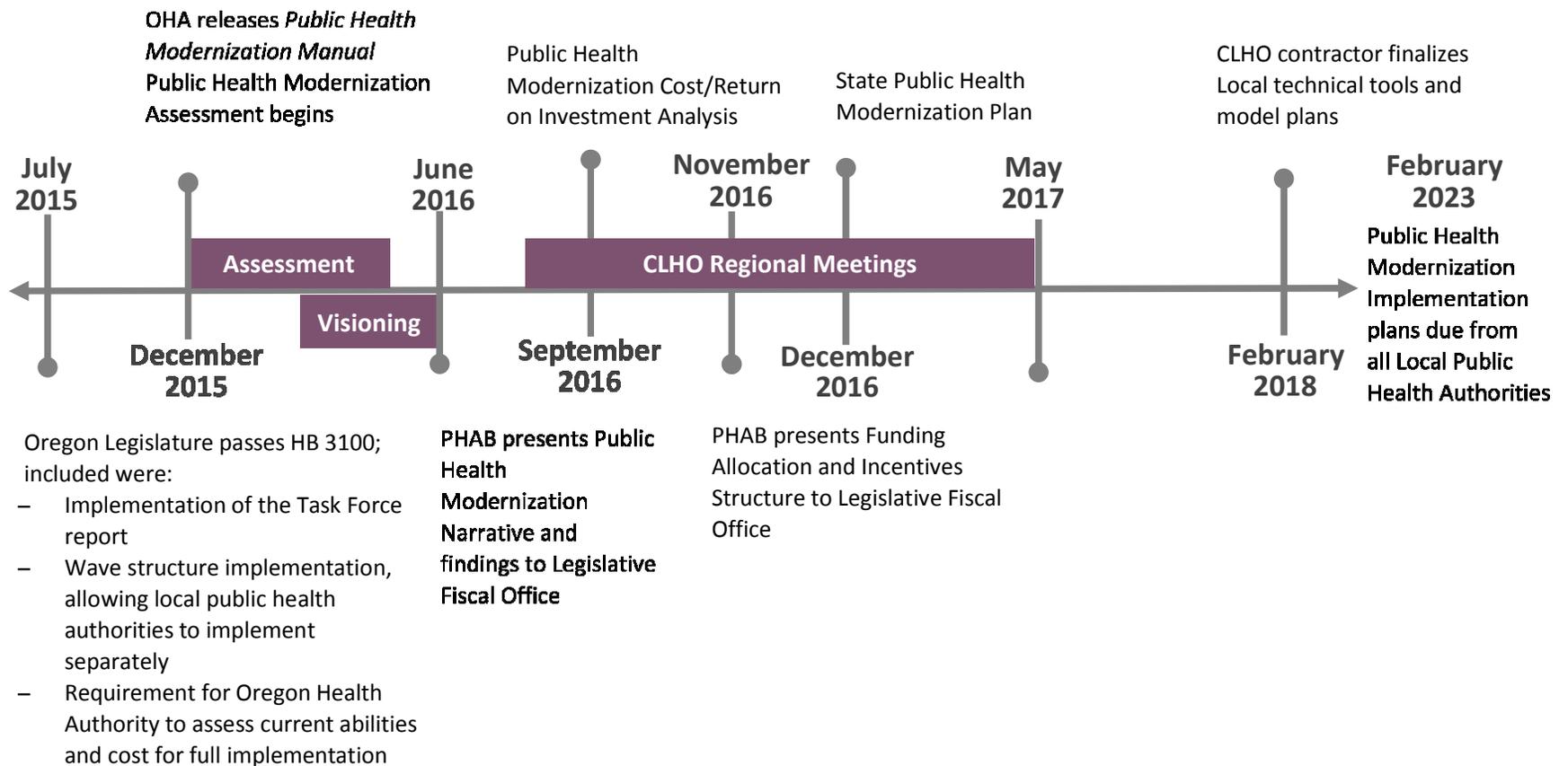
- LPHAs have a high degree of local expertise related to their service areas which should be leveraged to improve the efficiency and effectiveness of implementation. Implementation strategies should allow for some flexibility and local decision making, which could be governed by local implementation plans.
- Implementing by wave of LPHAs could be challenging for several reasons, including but not limited to:
 - Risk of creating a bimodal system (with some LPHAs operating under the Modernization framework, and others not).
 - Significance of potential impacts to health equity (with those served by modernized local public health authorities receiving a higher level of service than those being served by non-modernized local public health authorities).
- Implementing by Foundational Capability or Foundational Program could also be challenging because current implementation

is uneven across local public health authorities.

- There are significant interdependencies between state and local public health activities. Some of the state roles and deliverables that support local activities are not fully implemented.
- Many of the Foundational Capabilities and Programs support one another. That is, in order to accomplish the goals of one Foundational Capability or Program most effectively and efficiently, one might have to have access to the resources available through implementation of another. This is most intuitive when thinking of the Foundational Capabilities, for example, educational communications plays a significant role producing information related to healthy eating active living and other programmatic initiatives.

POLICY IMPLICATIONS

Development of these Public Health Modernization Assessment results is one of many ongoing activities related to Public Health Modernization Implementation, as shown in the timeline below.



The Assessment Results will provide data to support many of these other activities, including:

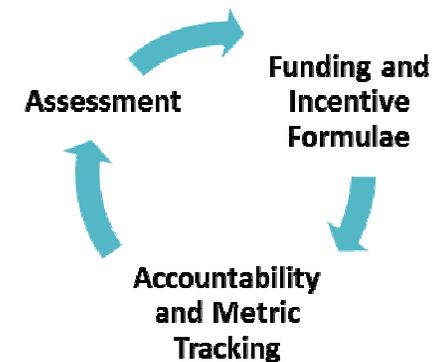
- **Public Health Modernization Funding Allocations and Incentives Formulae.** A major need for implementation of Public Health Modernization is new funding sources to support additional services. As part of this, PHD in collaboration with the PHAB are developing new funding allocation and local funding incentive formulae for any new funds received to support Public Health Modernization.
- **Public Health Modernization Cost/Return of Investment Analysis.** This analysis is being undertaken by Oregon Health Authority Program Development and Evaluation Services to quantify the financial benefit and the benefit to health outcomes of implementation of Public Health Modernization. The Assessment Results presented in this Assessment Report and the data collected as part of the Assessment process will support this effort.
- **State Public Health Modernization Plan.** The State Public Health Modernization Plan will provide detailed strategies for the implementation of Public Health Modernization in Oregon. It is likely that the

Assessment Results herein will be used to inform those strategies. Required by House Bill 3100, this Plan is due by December of 2016.

- **CLHO Regional Meetings.** CLHO has received funds to host ten regional meetings with LPHAs to discuss and gather provider perspectives on Public Health Modernization implementation strategies.
- **Local Public Health Modernization Plans.** Like the state public health provider, LPHA's will develop their own Public Health Modernization Plans. Required by House Bill 3100, these Plans are due by December of 2023. However, House Bill 3100 also allows that PHD will establish a schedule by which LPHAs will submit their local plans for implementation; this schedule could be more ambitious to allow for use of local Plans as a tool for implementation if all LPHAs begin implementation on the same schedule.

Additionally, House Bill 3100 requires that Assessment results be updated as necessary. The Assessment, or a scaled and simplified version, has the potential to be a critical implementation tracking and accountability tool. This will be invaluable to implementation as it will allow of tracking of implementation results, and continuous improvement, and as necessary

course correction, of implementation processes. The cycle in which updated Assessment results might help to support implementation tracking and accountability is shown and described following.



- **Assessment.** Updated assessment results will help to identify current level of implementation at future points in time, which will allow for longitudinal review of the impacts of implementation strategies and the remaining gaps in implementation.
- **Funding and Incentive Formulae.** Initial public health modernization dollars are expected to be distributed through Public Health Modernization specific funding and incentive formula; updated assessment results will allow for midstream allocation decisions to align funding with implementation strategies. It is important to remember that this formulae are designed

to allocate an additional increment of funds, not the full flexible funding available for LPHAs, so alignment between these formulae and implementation strategies will be critical. As these strategies will likely change as implementation progresses, realignment will likely be necessary.

- **Accountability and Metric Tracking.** PHD has undertaken work that will identify the economic and health outcomes of implementation of Public Health Modernization, which will help to identify metrics for tracking implementation and its effects on population health. This will help to tie Assessment results to population health outcomes to ensure that implementation is creating meaningful change, and also to help inform funding decisions to support implementation strategies. It will also present an opportunity to ensure that service dependencies are adequately identified and that there is accountability among governmental public health authorities to ensure that those service dependencies do not become barriers to implementation.

Implications for Implementation

This Public Health Assessment is the first step of an evolving process that will continue to be

refined as implementation progresses. The Assessment Results presented in this Assessment Report represent point in time, planning-level estimates for the cost of full implementation of the Public Health Modernization framework, as outlined in the December 2015 *Modernization Manual*. It is important to recognize that that framework is not static and presents one reason for which these numbers will necessarily evolve.

Additionally, there are opportunities to continue to refine these numbers by leveraging the strengths of the existing system identified during this Assessment. These opportunities are outlined below.

OVERALL

- There is still a need to strengthen the shared understanding around Public Health Modernization definitions, core services, roles, and deliverables.
 - The *Public Health Modernization Manual* was significant help in explaining the Modernization framework; however, it should continue to be refined as implementation proceeds to respond both to changes in the needs of the State and to programmatic learning.
- Both PHD and local public health authorities are unsure as to who will provide the critical

tools and resources (those items necessary for state and local public health authorities to produce their deliverables) outlined in the *Public Health Modernization Manual*.

- Further clarity is needed as to what constitutes additional programs (public health programs and activities implemented in addition to foundational programs to address specific identified community public health problems or needs), how additional programs are different from Foundational Capabilities and Programs, and who is responsible for additional programs.
- The Assessment Process, though thorough, was not exhaustive. There is a need to continue exploring particular features of the existing system, to identify opportunities to increase efficiency and effectiveness. These features may include:
 - Service delivery, including cross-jurisdictional sharing
 - Non-governmental public health assets, resources, and partnerships that contribute to the accomplishment of Public Health Modernization roles and deliverables.
 - Barriers to implementation

- Short-term or one-time additional costs related to implementation itself

As this assessment was the first step in an evolving process, we expect to see ongoing implementation work.

EFFICIENCY AND EFFECTIVENESS

Service Delivery

One of the primary ways in which this number may evolve is through identification of additional efficiencies, which will likely relate to service delivery. Two opportunities for efficiencies include:

- Cross jurisdictional sharing
- Cross jurisdictional delivery

Cross Jurisdictional Sharing

Many LPHAs are already significantly sharing resources (with each other and with nonprofits and other local agencies). The Public Health Modernization Assessment process catalyzed conversations between LPHAs around how they might develop future cross jurisdictional relationships.

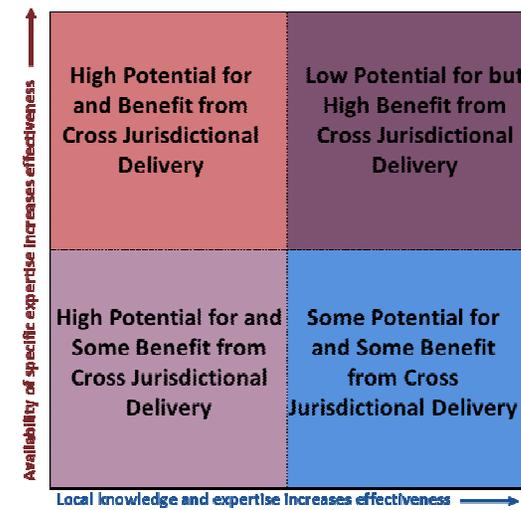
There is need for additional time and resources to support further conversations. LPHAs should have autonomy but still be supported in

developing new cross jurisdictional sharing relationships.

Looking for a venue to document these conversations CLHO developed a survey to be distributed to LPHAs for them to discuss additional opportunities for Cross Jurisdictional Sharing. The results of this survey are forthcoming and will provide additional data to support the continued evolution of the Assessment results published in this report.

Cross Jurisdictional Delivery

Some roles and deliverables may be appropriate for cross jurisdictional delivery. According



Local providers should be involved in determining what roles and deliverables are delivered cross-jurisdictionally.

PHASING

Implementation can be phased in many ways, some of which may be influenced by statewide and local priorities. However, Public Health Modernization is very nuanced with many service dependencies among Foundational Capabilities and Programs and state and local activities and inconsistencies in the existing implementation. Therefore, global strategies for all governmental public health authorities or relating to full implementation are likely to be difficult and inefficient to implementation, and may lead to unintentional consequences like creating service inequities, establishing a bifurcated system, or creating barriers for providers.

To minimize these risks and establish the most efficient, effective implementation process possible, a flexible implementation strategy that is responsive to specific governmental public health authority contexts is needed. Based on the variation in the Assessment results, a decision-making framework should be developed to support making implementation decisions as implementation proceeds. We have identified preliminary criteria for this decision making strategy, including:

- **Population Health Impacts.** The degree to which a specific activity will improve population health. This is challenging to measure, as all Foundational Capabilities and Programs are foundational and, therefore, necessary to support population health. It may be helpful instead, to think of the severity of the consequences to the population of inaction on each Foundational Capability and Program, which do vary. Additionally, it is important to remember that many of the cross-cutting capabilities will likely increase the effectiveness of the Foundational Programs, so their population health impact should be identified accordingly.
- **Service Dependencies:** The activities of state and local governmental public health authorities are interdependent. Many PHD roles and deliverables support local activities, and some local activities feed back into the PHD's work. It will be necessary to understand service dependencies as part of overall implementation process.
- **Coverage Maximization:** This Assessment found that some roles and deliverables are not widely implemented by LPHAs, but are available to significant portions of the population because a few LPHAs with large populations have existing services that meet the Modernization requirements.

- **Service Equity:** How services are implemented could greatly affect service equity. For example, implementation by wave could benefit highly resourced agencies, likely in areas with low poverty rates, while hurting those with limited resources, likely in areas with higher poverty rates.

There are tensions between some of these considerations; for example maximizing coverage by population could be accomplished without increasing the degree of implementation of some smaller LPHAs. It will be important to leverage governmental public health authority expertise in finding balance in using this decision making framework.

The flexibility of this decision making framework will also allow the tracking of implementation results into consideration, allowing for continuous improvement, including course correction, within the implementation process. It will also incentivize continued evaluation of opportunities to increase efficiency and effectiveness (which could be disincentivized or even penalized if strict implementation strategies were already in place.

This decision making framework and the process by which it is applied should be refined through a collaborative process that would include all existing and potential (if others are identified as

part of service delivery conversations) governmental public health authorities. This would also provide a venue to determine how this decision making framework and these ongoing decisions will be reconciled with State and Local Implementation Plans.

PHASING CONSIDERATIONS

Implementation of Public Health Modernization will be a significant undertaking that should be phased to allow governmental public health authorities adequate time to plan intentional implementation strategies. This phasing will likely occur over more than one biennia.

Phasing of any transformative initiative across a complex system is always challenging, but that is especially true for public health because of the diversity of activities that the system supports. Like in any other implementation process, phasing should be designed to consider how:

- Implementation can build on the success of the existing system
- Future phases can be set up for success
- Early successes can be accomplished to demonstrate the value in the initiative to stakeholders, and to create momentum for long term implementation
- Initial phasing decisions can support meaningful change
- To maximize efficiency and effectiveness of activities

With an awareness of these major touchpoints, we can use our decision making framework and the Assessment Results to develop strategies for

deploying additional resources toward phasing implementation.

2017-19 Biennium

To make meaningful and substantial progress on the implementation of Public Health Modernization, some decisions about implementation priorities for the 2017-19 biennium will need to be made. Initial priorities, based on our high level implementation considerations and the decision making framework include:

1. Support additional planning and work related to Public Health Modernization implementation for all governmental public health authorities, recognizing that executing implementation will require non-trivial resources as it is phased in. This may include:
 - Funding resources to support implementation and ongoing assessment work.
 - Funding one-time infrastructure and start-up costs related to hiring, scaling, and any new roles and deliverables being implemented.
 - Incentivize development of local implementation plans

NOTE: We have not identified these costs as part of the \$105M need. PHD and LPHAs should work together to identify the funding necessary to support this.

2. Allow for flexible funding to support LPHAs in funding their “patchwork quilt” gaps based on locally-identified priorities.
 - These resources should support roles and deliverables that are least constrained by service dependencies.
 - PHAB may identify particular focus areas or goals to restrict these flexible funds to, however, we recommend maintaining some flexibility, knowing that gaps vary significantly across the system.
 - Flexibility to use a percentage of these resources to invest in Leadership and Organizational Competencies as LPHAs go, should be allowed, as many organizations will have to scale those capabilities to meet increased infrastructure demands from new implementation priorities.
3. Reduce gaps in state activities related to service dependencies to remove barriers to implementation of the dependent local activities in the future.
 - Flexibility to use a percentage of these resources to invest in Leadership and Organizational Competencies as PHD goes,

should be allowed, as many organizations will have to scale those capabilities to meet increased infrastructure demands from new implementation priorities.

4. Invest in high priority population health initiatives with potential for the highest population health impacts.
 - To the degree there high priority initiatives within Public Health Modernization that need to be funded immediately, invest in those priorities, based on recognition of “patchwork quilt” in funding allocation.

Decisions about how much funding is allocated to each of these priorities should be made based on the availability of funding.

Future Biennia

As mentioned previously, a flexible decision making framework that is responsive to specific governmental public health authority contexts should be used to make futures implementation decisions based on the success of the first phase (considered to be the 2017-19 biennia). This decision making framework should support decisions that align to state and local implementation plans, such that those plans accurately reflect implementation.