



# 2018 COMPREHENSIVE LABORATORY SERVICES SURVEY REPORT

## Background

Healthy People 2020 includes a public health infrastructure (PHI) objective focused on comprehensive public health laboratory services. PHI-11 states, “Increase the proportion of Tribal and State public health agencies that provide or assure comprehensive laboratory services to support essential public health services.”

To track progress toward PHI-11 and its sub-objectives, APHL developed and launched the Comprehensive Laboratory Services Survey (CLSS) in 2004. It is based on the activities related to the Core Functions of Public Health Laboratories as representative of states’ providing or assuring comprehensive laboratory services in support of public health. The full language of the PHI-11 sub-objectives is listed in Table 1.

**Table 1. PHI-11 Sub-Objectives**

|       |   |
|-------|---|
| 11.1  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services to support <b>disease prevention, control, and surveillance</b> |
| 11.2  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that incorporate <b>integrated data management</b>              |
| 11.3  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that support <b>reference and specialized testing</b>           |
| 11.4  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services in support of <b>environmental health and protection</b>        |
| 11.5  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services in support of <b>food safety</b>                                |
| 11.6  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that advance <b>laboratory improvement and regulation</b>       |
| 11.7  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that support <b>policy development</b>                          |
| 11.8  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services in support of <b>emergency response</b>                         |
| 11.9  | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services in support of <b>public health-related research</b>             |
| 11.10 | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that support <b>training and education</b>                      |
| 11.11 | Increase the proportion of tribal and state public health agencies that provide or assure comprehensive laboratory services that foster <b>partnerships and communication</b>               |

Each PHI-11 sub-objective’s corresponding target value is the percentage of responding laboratories that meet that sub-objective. Targets were calculated using previous CLSS data as a baseline with the goal of increasing the percentage of responding laboratories meeting each sub-objective by 10% by 2020. This goal is considered challenging yet achievable by Healthy People 2020.

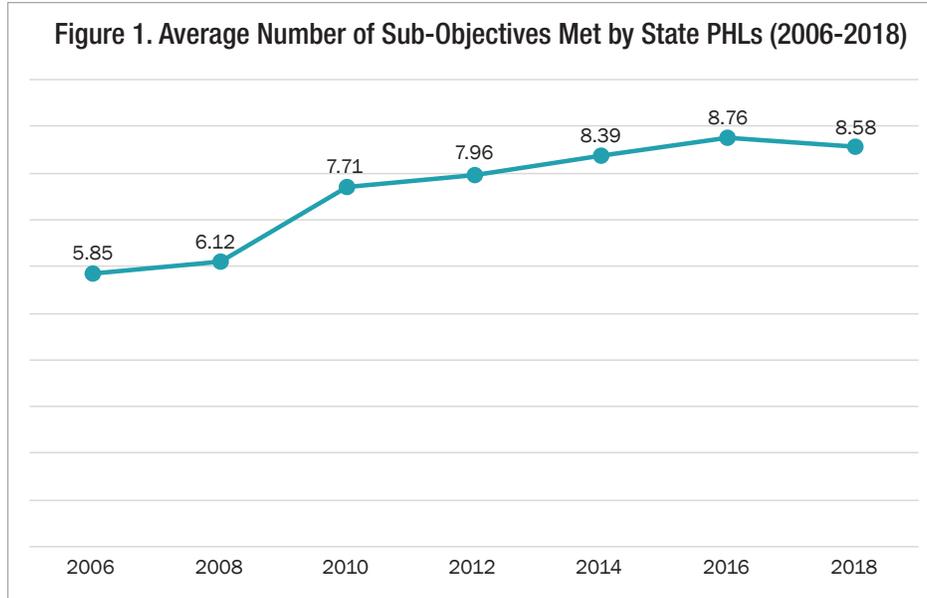
A laboratory meets a sub-objective if it garners at least 70% of the available points. Each CLSS section is scored based upon the responses to each question in that section, with each section having a set number of points. To review updated results for all Healthy People 2020 objectives, see the DATA2020 and DATA2010 websites.

As the sole data source for PHI-11, CLSS was piloted in 2004, and has been administered biennially to all 50 state and the District of Columbia public health laboratories. A review of the first survey cycle resulted in substantial changes and improvements for the 2006 version. A task force composed of APHL Laboratory Systems and Standards Committee members reviewed the 2016 CLSS survey instrument in preparation for the 2018 rollout, modifying it to ensure that the questions were relevant. APHL distributed CLSS in early 2019, and received an 88% response rate (45 out of 51 public health laboratories).

Throughout this report, only data from 2006 through 2018 will be compared. Data from the 2004 pilot of the CLSS is not included because feedback from that year led to substantial changes in the survey instrument.

## Findings

Overall, there has been an increase from 2006 through 2018 in the average number of sub-objectives met by states (See Figure 1).



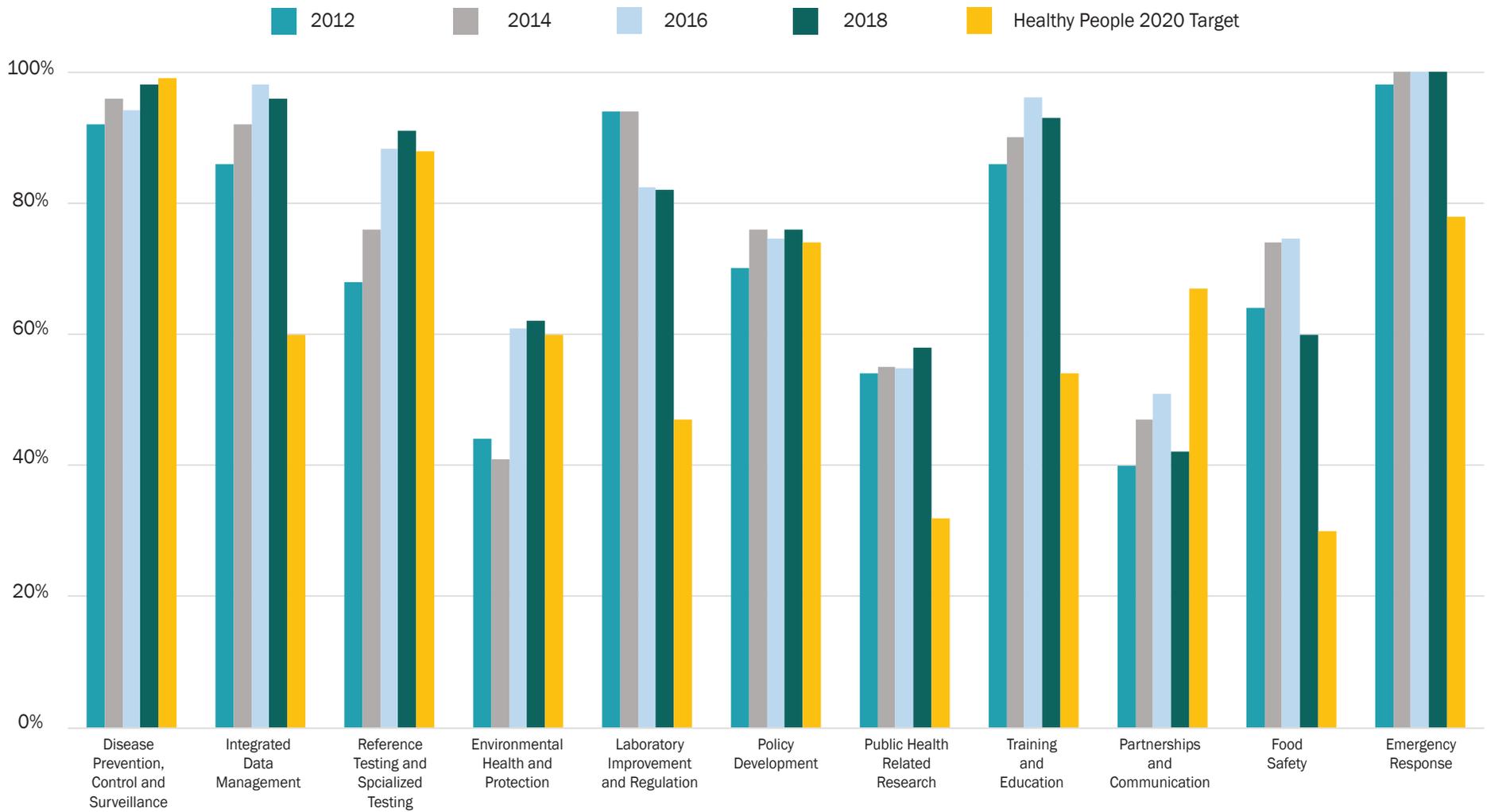
Results from 2006 through 2018 show that progress toward Healthy People 2020 targets can be divided into three broad categories:

- Target met: Data Management, Reference and Specialized Testing, Environmental Health and Protection, Food Safety, Laboratory Improvement and Regulation, Policy Development, Emergency Response, Public Health Research, and Training and Education
- Progress toward target stable: Disease Prevention, Control and Surveillance
- Target not met: Partnerships and Communication

Of the areas of focus evaluated under PHI-11, Training and Education experienced the largest increase in the percentage of laboratories meeting the sub-objective, moving from 28% in 2006 to 93% in 2018—an increase of 65 percentage points.

Conversely, Partnerships and Communication showed the largest decline in the percentage of laboratories meeting the Healthy People sub-objective, with 52% meeting it in 2006 and only 42% in 2018, a decline of ten percentage points (Figure 2). APHL will analyze the data closely to understand the factors influencing this decline.

Figure 2. Percent of Respondents Meeting Healthy People 2020 PHI-11 Sub-objectives, 2012-2018



## Information about the Environmental Health Section

During the data analysis process of initial 2016 CLSS responses, data received in the Environmental Health section specifically drew attention. Many state public health laboratories selected “Neither provide nor assure” for several environmental health tests. Since responsibility for these activities is sometimes shared across state agencies, APHL wanted to assure that state environmental laboratory testing capabilities were accurately represented in the CLSS data. To address this data gap, APHL also sent the Environmental Health section to state environmental laboratories that operate separately from the state public health laboratory. If the state public health laboratory or the state environmental laboratory indicated “provide” or “assure” on any of the services in the section, the state was given credit for that service. The Environmental Health objective has been a historically low-scoring objective, around the 40-50% range for CLSS 2010, 2012 and 2014. However, the additional data elevated the percentage of state health agencies that met the objective in 2016 (61%) and 2018 (62%), as well as provided a more accurate picture of what environmental health laboratory services are provided or assured.

## Upcoming Events

With Healthy People 2020 ending, this will be the final year that CLSS will be distributed. APHL submitted two developmental sub-objectives for Healthy People 2030 and will be exploring ways to measure them:

- a. Increase the proportion of state public health laboratories that provide comprehensive laboratory services to support emerging public health issues.
- b. Increase the proportion of state public health laboratories that have implemented emerging technology to provide enhanced laboratory services.

## Conclusion

Recent investments in data systems, foodborne disease surveillance, emergency preparedness, systems research and other areas may account, at least in part, for public health laboratory advances in those areas over the 2006-2018 period. Yet work remains to meet the objective of 100% for fundamental public health services, such as Partnerships and Communication. To assist public health laboratories in determining how system partners perceive the effectiveness of the laboratory system meeting the Core Functions, and how they all can collaborate to improve the public health laboratory system, APHL recommends that laboratories consider convening a Laboratory System Improvement Program (L-SIP) assessment.

For more information about Healthy People or L-SIP, contact Tina Su, MPH, at 240.485.2729 or bertina.su@aphl.org.

## References

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## Association of Public Health Laboratories

The Association of Public Health Laboratories (APHL) works to strengthen laboratory systems serving the public's health in the US and globally. APHL's member laboratories protect the public's health by monitoring and detecting infectious and foodborne diseases, environmental contaminants, terrorist agents, genetic disorders in newborns and other diverse health threats.

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