Introduction

Healthy People 2020 includes a Public Health Infrastructure objective (PHI-11) which is focused on comprehensive public health laboratory (PHL) services. It 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. The survey was piloted in 2004, which resulted in substantial changes and improvements for the 2006 version. It is now administered biennially to all state PHLs and the District of Columbia PHL. 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 CLSS is the sole data source for PHI-11.

Each PHI-11 sub-objective has a corresponding target value which 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 that 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 Healthy People and CDC DATA2010 websites.

A taskforce composed of Laboratory Systems and Standards Committee members reviewed the CLSS 2014 survey instrument in preparation for CLSS 2016 and modified it to ensure that the questions were relevant and to add or delete them as necessary. APHL distributed the 2016 CLSS in early 2017 to 50 state PHLs and the District of Columbia PHL. The survey received a 100% response rate, the first time in the survey’s history. This high response rate of over 95%, consistent with the rate in previous years: 96.1% in 2010 (49 laboratories), 98.0% in 2012 (50 laboratories), 96.1% in 2014 (49 laboratories) and 96.1% in 2016 (49 laboratories).
Findings

Overall, there was a steady increase from 2006* through 2016 in the average number of sub-objectives met by states (See Figure 1).

CLSS results from 2006 through 2016 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 or slow:** Partnerships and Communication
- **Movement away from target:** Disease Control and Surveillance

Of the areas of focus evaluated under PHI-11, Training and Education experienced the largest increase in the percentage of laboratories meeting the Healthy People sub-objective, beginning with 28% reaching it in 2006 and 96% in 2016, an increase of 68 percentage points.

Conversely, Disease Control and Surveillance showed the largest decline in the percentage of laboratories meeting the Healthy People sub-objective, with 98% meeting it in 2006 and only 94% in 2016, a decline of four percentage points. APHL will analyze the data closely to understand the factors influencing this decline.

* This document compares data from 2006 through 2016 only. Data from the 2004 pilot of the CLSS is not included because feedback from that year led to substantial changes in the survey instrument.
Information about the Environmental Health Section

During the data analysis process, the APHL Institutional Research program reviewed the initial 2016 CLSS responses, and the data received in the Environmental Health section specifically drew attention. Many state PHLs 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 (SEls) that operate separately from the state PHL. If the state PHL or the SEL 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%), as well as provided a more accurate picture of what environmental health laboratory services are provided or assured.

Conclusion

Recent investments in data systems, foodborne disease surveillance, emergency preparedness, systems research and other areas may account, at least in part, for PHL advances in those areas over the 2006-2016 time period. Yet work remains to be done to meet the objective of 100% for fundamental public health services, such as disease control and surveillance. To assist PHLs to obtain knowledge of how their system partners perceive how well the entire laboratory system is meeting the Core Functions and how they all can collaborate to improve the PHL system, APHL recommends that laboratories consider convening a Laboratory System Improvement Program (L-SIP) assessment.

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

References


Figure 2: % of Respondents Meeting Healthy People 2020 PHI-11 Sub-objectives, 2012-2016.
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Association of Public Health Laboratories

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