



# **LABORATORY SYSTEM IMPROVEMENT PROGRAM**

Performance Measurement Tool



Developed by the Association of Public Health Laboratories  
Updated May 2022

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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## TABLE OF CONTENTS

About the Tool.....	4-5
Using the Tool.....	6-7
Essential Service #1: Assess and Monitor Population Health Status, Factors that Influence Health, and Community Needs and Assets.....	8-12
Essential Service #2: Investigate, Diagnose and Address Health Problems and Health Hazards Affecting the Population.....	13-16
Essential Service #3: Communicate Effectively to Inform and Educate People About Health Issues, Factors that Influence It, and How to Improve It .....	17-20
Essential Service #4: Strengthen, Support and Mobilize Communities and Partnerships to Improve Health .....	21-27
Essential Service #5: Create, Champion and Implement Policies, Plans and Laws That Impact Health .....	28-30
Essential Service #6: Utilize Legal and Regulatory Actions Designed to Improve and Protect the Public’s Health.....	31-34
Essential Service #7: Assure an Effective System that Enables Equitable Access to the Individual Services and Care Needed to Be Healthy .....	35-38
Essential Service #8: Build and Support a Skilled Public Health Workforce.....	39-44
Essential Service #9: Improve and Innovate Public Health Functions Through Ongoing Evaluation, Research and Continuous Quality Improvement.....	45-50
Essential Service #10: Build and Maintain a Strong Organization Infrastructure for Public Health.....	51-55

## ABOUT THE TOOL

The Laboratory System Improvement Program (L-SIP) Performance Measurement Tool is based on the Eleven Core Functions and Capabilities of Public Health Laboratories<sup>i</sup> and is designed within the framework of the Ten Essential Public Health Services.<sup>ii</sup> (The former were developed through the Association of Public Health Laboratories (APHL) and have been used since 2002. The latter were developed through a national collaborative process and have been in use since 1994.) The Essential Services are the basis for the National Public Health Performance Standards Program tools, used for state and local public health systems and for local Boards of Health.

The initial version of the tool was developed by public health laboratory experts and partners, implemented in 2007, and used for 26 public health laboratory system assessments. In 2021 and 2022, as a part of internal continuous quality improvement, a workgroup of previous users, who were experienced with the assessment process, updated the tool to align with the [2020 revision of the 10 Essential Public Health Services](#). This tool is intended to measure performance by assessing public health laboratory systems and help them align with the new [Public Health 3.0 framework](#), which is characterized by elevating local communities' role in public health and using cross-sectoral collaborations and non-traditional public health department functions and programs.

The public health laboratory system (“System”) consists of all the participants in laboratory testing, including those who initiate testing, those performing the testing, and those who ultimately use the test results. It is HIGHLY recommended that you refer to the User’s Guide before beginning use of this instrument for a more complete definition of the System, as understanding the concept of the System is of core importance to the assessment process.

System performance relative to each of the Essential Services is measured through one or more Key Ideas, each of which includes a Model Standard that describes aspects of high level performance for state public health laboratory systems. The components of each Model Standard are termed “Key Ideas.” Laboratory system performance related to each Model Standard is addressed through a series of Points for Discussion for each Key Idea.

<sup>i</sup> *Core Functions and Capabilities of State Public Health Laboratories: A Report of the Association of Public Health Laboratories (CDC 20sep02)*

<sup>ii</sup> *Public Health Functions Steering Committee: Public Health in America. July 1994.*

## ABOUT THE TOOL

### (CONTINUED)

**APPROACH:**

The assessment of a System is best completed in one day using breakout groups. Consult the L-SIP User's Guide for ideas to assist in deciding which stakeholders to include and how to plan and structure an assessment. A number of other important aids are found in this User's Guide as well.

**USE OF FACILITATORS AND THEME TAKERS:**

It is strongly recommended that at least three facilitators be used to guide the process on the day of the assessment. It is also recommended that the facilitators be "system neutral"—that is, not employed by the state laboratory. This helps assure neutrality and minimize assessment bias. It is also recommended that a "theme taker" be included for each Essential Service assessment. The suggested responsibilities of theme takers are described in the next section. More information is provided in the L-SIP User's Guide.

**BEGINNING THE ASSESSMENT:**

The facilitator will guide participants through a conversation about the Essential Services, Model Standards, Objectives, Points for Discussion and Key Ideas. The purpose of the Points for Discussion is to guide a brief discussion among the participants regarding who is performing the activities referenced and to what degree the questions are satisfied by the work currently being done by partners within the System. Each of the Points for Discussion following the Key Idea is intended to represent essential activities that the system should be performing in that area.

Individuals in the group who have firsthand experience relative to one or more of the questions should share their perspectives and experiences. When the group identifies an issue related to the Key Idea or to one or more of the questions that requires deeper dialogue, the facilitator should ask the theme taker to capture that idea as a "parking lot" issue on the form provided for future consideration, and then move the group on to the next discussion. Many of the Key Ideas are accompanied by a list of "examples," which are intended to add further clarity to the Key Idea and do not require a full discussion.

## USING THE TOOL

### “SCORING” THE RESPONSE:

Once the questions for a Key Idea have been discussed, the facilitator should move the discussion to closure. The facilitator should ask the group how they would rate performance by the System relative to the Key Idea and the Points for Discussion. The performance options to be considered are:

NONE	MINIMAL	MODERATE	SIGNIFICANT	OPTIMAL
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It is the facilitator’s responsibility to bring the group to general agreement on one of the ratings listed above for each Key Idea (but not each individual question). One method used is to ask for a “straw vote” of individuals in the group, who vote by holding up a card with the color that matches that of the system performance rating (refer to the rating definitions below). If the resulting vote reflects significant diversity of opinion, the facilitator may ask for a few members of the group who showed high and low rating cards to explain their vote. The discussion often helps lead to agreement. Additional “re-votes” can be used to determine if the group is coalescing around a rating.

When general agreement is reached, the theme taker should record the rating on the instrument scoring matrix located after the Points for Discussion and refer to the L-SIP User’s Guide or the scoring tool in the first tab labeled “Instructions.” The facilitator should guide the group through the scoring process, using the following definitions of the rating options:

<b>NONE</b>	0% or absolutely none of the performance described is met within the public health laboratory system.
<b>MINIMAL</b>	Greater than zero, but no more than 25%, of the performance described is met within the public health laboratory system.
<b>MODERATE</b>	Greater than 25%, but no more than 50%, of the performance described is met within the public health laboratory system.
<b>SIGNIFICANT</b>	Greater than 50%, but no more than 75%, of the performance described is met within the public health laboratory system.
<b>OPTIMAL</b>	Greater than 75% of the performance described is met within the public health laboratory system.

## USING THE TOOL

### (CONTINUED)

**IMPORTANT NEXT STEPS:**

After the last Key Idea for each Essential Service is completed, the facilitator should lead a brief discussion of the top two to three “next steps” that System partners might consider taking to strengthen system performance in the overall Essential Service. A ranking by priority regarding the importance of each of the next steps is also suggested. The facilitator should help the group determine a unified response.

The responses will subsequently help identify priorities for system improvement projects. The theme taker should note the next steps selected by participants and, if possible, the name of contact persons responsible for convening a first meeting to begin addressing the respective issues.

**SCORING SPREADSHEET:**

Provided with the L-SIP assessment kit is an Excel spreadsheet. Scores can be entered on the spreadsheet during the assessment, or sometime later. Refer to the User’s Guide or the scoring tool in the first tab, labeled “Instructions.”

**FINAL NOTE:**

It is important that you retain worksheets that document the assessment, including scores, “Next Steps,” discussion notes, and parking lot records. These will be invaluable as you begin developing an improvement project with your partners and stakeholders to address areas of system performance needing improvement.

## ESSENTIAL SERVICE #1

### ASSESS AND MONITOR POPULATION HEALTH STATUS, FACTORS THAT INFLUENCE HEALTH, AND COMMUNITY NEEDS AND ASSETS

#### INTENT:

Partners in the System are involved in the monitoring of health status of communities, identifying factors influencing health and contributing to communities' health assessments to mitigate problems. The systems partners support surveillance programs to understand health in their jurisdictions by generating high quality epidemiological and laboratory data in all areas in public health. Data are analyzed in a timely manner to identify threats, trends and respond to emerging issues to reduce impact on all populations, including those that are disproportionately affected.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Chronic disease monitoring	Newborn screening monitoring
Infectious disease investigating and reporting	Health information exchange
Environmental exposure monitoring	Laboratory testing
Electronic medical record implementation	Specimen/isolate submission

### Model Standard 1.1: Monitoring of Community Health Status Through Surveillance Information Systems

The System generates surveillance information and supports others in monitoring health status and identifying health problems in the community.

#### MEASURABLE OBJECTIVES (SAMPLES):

- System partners conduct regular meetings to evaluate data regarding health events.
- Diverse partners participate in ongoing meetings and after-action reports for public health challenges.
- Partners' roles and responsibilities in monitoring data are clearly defined.
- Continuity of Operations Plan (COOP) includes one or more Memoranda of Understanding (MOU) with other facilities for areas of critical and time-sensitive testing.
- Data information systems used to compile and analyze data are integrated and interoperable.
- An assessment of data systems to track health issues and inform equitable actions is conducted on a routine basis, and appropriate follow-up measures are taken.
- Exercises are conducted among system partners to test the information exchange and its interoperability

## KEY IDEA 1.1.1

The System identifies infectious disease and environmental sentinel events, monitors trends, and participates in state and federal surveillance systems.

### EXAMPLES:

- Processes are in place for the public health laboratory (PHL) to obtain representative isolates/specimens for surveillance testing in a timely manner.
- The academic, commercial, environmental, veterinary and agriculture laboratories collaborate in outbreaks with the system partners.
- The System provides safe drinking water and biomonitoring testing.

### Points for Discussion:

Does the System:

- Contribute to and support a statewide sentinel surveillance system for infectious diseases and environmental events of public health significance?
- Engage its partners to determine the public health laboratory service needs of the community?
- Have multiple methods of gathering laboratory data from public and private laboratories?
- Contribute to the monitoring of foodborne outbreaks through collaboration among system partners such as epidemiologists, clinical and public health laboratorians, and government agency representatives?
- Translate data into useful information to coordinate with state epidemiologists in determining appropriate action, such as identifying disease clusters, calculating disease incidence, promoting food safety and clean air, and examining for the presence of toxins?

### Evaluation:

1.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 1.1.2

The System monitors congenital, inherited and metabolic diseases of newborns and participates in state and federal surveillance systems.

### EXAMPLES:

- Appropriate healthcare specialists are made available for medical consultation for NBS.
- The System is represented on NBS program oversight.

### Points for Discussion:

Does the System:

- Conduct newborn screening (NBS) or have an established resource (e.g., memoranda of understanding (MOU), formal contract, etc.) to ensure screenings and follow-up actions occur?
- Assure timely and safe transport of blood spots to the NBS PHL?
- Use nationally recommended NBS test panels, such as from the U.S. Department of Health and Human Services Secretary’s Advisory Committee on Heritable Disorders in Newborns and Children?
- Assure timely transfer of NBS data from point-of-collection to results sharing?
- Help to assure that infants with abnormal NBS findings are referred to appropriate medical consultants?
- Have an advisory committee, which includes a laboratory representative, that meets routinely to discuss NBS best practices?

### Evaluation:

1.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 1.1.3

The System has a secure, accountable and integrated information management system for data storage, analysis, retrieval, reporting and exchange. Partners collaborate to strengthen electronic surveillance systems.

### EXAMPLES:

- LIMS are capable of assimilating information parallel with the flow of specimen processing and laboratory reporting which covers pre-analytical and post-analytical systems.
- The LIMS interfaces with appropriate health information systems.
- The PHL is fully staffed with knowledgeable informaticians in order to assure data quality and integrity.

### Points for Discussion:

Does the System:

- Support highly integrated and comprehensive information systems (e.g., Laboratory Information Management System(LIMS)) that meet security and confidentiality requirements (e.g., server rooms, cyber security, access, administrative, etc.)?
- Have information technology (IT) systems with a database with capability to electronically share laboratory results and to utilize nationally recognized data standards (e.g., HL7, LOINC, SNOMED, ASC ANSI X12)?
- Support electronic laboratory reporting and real-time data exchange, including bidirectional information exchange (e.g., test ordering, result reporting, disease reporting, health information exchange, etc.), among relevant system partners?
- Budget for resources to update and manage hardware and software, e.g., fiscal, personnel, connectivity, etc.?
- Regularly evaluate needs and effectiveness for data systems via documented audits and validations?
- Partner with a variety of organizations to assure availability of a system that links the testing results (e.g. dairy, environmental, cannabis, etc.) to a reporting and surveillance system?

### Evaluation:

1.1.3	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #1 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #2

### INVESTIGATE, DIAGNOSE, AND ADDRESS HEALTH PROBLEMS AND HAZARDS AFFECTING THE POPULATION

#### INTENT:

Partners in the System provide laboratory services of the highest quality, consistent with state and community needs. Members of the System collaborate through networks to support responses to public health challenges, and have the capacity, authority, resources, partnerships and infrastructure in place to assure an appropriate response.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Clinical services  
Investigational outcomes  
Surveillance activities  
Participation in drills and exercises

Communication pathways  
Emergency response networks  
Submission of clinical isolates

#### Model Standard 2.1: Appropriate and effective high quality testing and dissemination of data

The System assures the availability of appropriate laboratory testing of the highest level of quality to support timely diagnosis and investigation of health problems and hazards, utilizing input from all communities and populations.

#### MEASURABLE OBJECTIVES (SAMPLES):

- There is a mechanism to evaluate the quality of system services that meets related standards or regulations.
- Samples are monitored for quality assurance (i.e., specimen integrity, receipt times).
- Sufficient capacity exists in the system to assure laboratory response to emergencies in an equitable manner.
- Outbreak investigations are conducted through a partnership approach to assure needed expertise.
- Real-time dissemination of public health data is made available to all communities to inform responses to public health events.

## KEY IDEA 2.1.1

The System assures the effective provision of services at the highest level of quality to assist in the detection, diagnosis and investigation of all significant health problems and hazards.

### EXAMPLES:

- The System complies with local, state and federal regulations governing the development, validation and use of tests and services.
- Knowledge of users on test limitations is assured (e.g., sensitivity, specificity).
- Compliance and regulatory inspection results are available and current (e.g. proof of certificates of compliance or accreditation).
- Laboratories and providers meet disease-reporting requirements of reportable diseases and health hazards.

### Points for Discussion:

Does the System:

- Possess scientific expertise and necessary resources to assure the highest level of appropriate quality testing?
- Use its combined resources, including staff, equipment, technology, methodology, and supplies to respond to health problems and hazards?
- Assure the necessary system capacity with the appropriate level of containment (e.g., biosafety Level 3 capacity, lead containers for radioactivity, etc.)?
- Have timely communication with customers and stakeholders to support diagnosis and investigations?
- Support public health investigations through participation of system partners, including epidemiologists, first responders, health care providers, environmental professionals, etc.?

### Evaluation:

2.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 2.1.2

The System has the necessary capacity and authority in place to rapidly respond to public health events.

### EXAMPLES:

- Implementation of the Incident Command System (ICS) and Health Alert Network messaging is standard practice.
- All response plans, such as COOP, surge capacity, emergency communication, etc., are in alignment.
- To facilitate a rapid response in emergencies, the necessary agreements, contracts and interstate compacts to expedite purchases, service contracts, shared personnel, facilities and supplies, including stockpiled reagents are in place.

### Points for Discussion:

Does the System:

- Have the ability to provide for triaging and testing of samples that may contain potential biological, radiological, or chemical threats, including a process that provides for laboratory specimen tracking, results reporting, interpretation and use of laboratory information?
- Utilize public health preparedness and response networks, (e.g. biological, chemical, radiological, food, etc.)?
- Include a representative cross-section of members in the development and definition of partner roles, Continuity of Operations Plan (COOP), preparedness and response?

### Evaluation:

2.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #2 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #3

COMMUNICATE EFFECTIVELY TO INFORM AND EDUCATE PEOPLE ABOUT HEALTH, FACTORS THAT INFLUENCE IT, AND HOW TO IMPROVE IT

### INTENT:

Partners of the System are actively engaged in developing and disseminating culturally and linguistically appropriate, accurate and relevant information about laboratory issues to health partners (e.g., providers, physicians) and non-health partners (e.g., public, policy makers). System partners participate in outreach through education and communication to identify needs, share appropriate information and ensure partnerships exist to empower communities to initiate programs in response to health problems.

### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Clinical services  
Identification of laboratory issues  
Requests for laboratory input & expertise

Participation in development of information  
Educational opportunities

### Model Standard 3.1: Outreach to Partners

The System provides targeted laboratory information and educational opportunities to appropriate health and community partners and empowers them to collaborate on prevention and health promotion strategies.

### MEASURABLE OBJECTIVES (SAMPLES):

- A defined process, which is monitored for timeliness and consistency, is established with partners to communicate information to a variety of stakeholders.
- A mechanism is in place that tracks and supports feedback among partners to ensure effective and useful educational activities.
- Partnership networks are identified, promoted and utilized across the System..
- Tracking of relationship-building and community partner educational activities is maintained

## KEY IDEA 3.1.1

The System develops and disseminates accurate and consistent information to community partners about relevant health issues associated with laboratory services.

### EXAMPLES:

- Partners are provided with appropriate communication tools and resources (e.g., social media, peer-to-peer networks, mass media, and other channels) to understand and utilize the public health laboratory services.
- Two-way Information-sharing occurs consistently for routine and emergency situations.
- An authorization process is in place for the release of information where required.

### Points for Discussion:

Does the System:

- Support processes that distribute accurate and consistent public health laboratory information to community partners?
- Conduct outreach to partners to provide resources and information about laboratory services?
- Assure that the communication and information between health partners and the community stakeholders is culturally and linguistically appropriate?
- Conduct outreach to the general public about laboratory services?

### Evaluation:

3.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 3.1.2

The System creates and provides educational opportunities to community partners.

### EXAMPLES:

- There is a mechanism for identifying and developing educational presentations for community partners.
- Messages to community partners contain relevant, timely and accurate information.
- Publications with updated and targeted laboratory information are available to stakeholders.

### Points for Discussion:

Does the System:

- Participate in the education of public health officials, partners, state and local legislators and the academic community on current and emerging laboratory issues?
- Offer a variety of community educational opportunities that are broad-based and include multi-cultural, rural and urban perspectives?
- Use multiple communication approaches (e.g., websites, flyers, social media/marketing, etc.) and levels of complexity (e.g., reading levels, technical level, multiple languages) for educating partners and the public?
- Work proactively with the media to educate stakeholders about laboratory topics and matters?

### Evaluation:

3.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #3 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #4

### STRENGTHEN, SUPPORT, AND MOBILIZE COMMUNITIES AND PARTNERSHIPS TO IMPROVE HEALTH

#### INTENT:

The SPH Laboratory leads the development of the SPH Laboratory System. Members of the System create and maintain a network of partnerships with a diverse group of stakeholders representing different communities in order to identify and solve health problems related to the laboratory system. System members communicate regularly with each other to foster collaboration and share resources to support the mobilization of partnerships in response to community health issues.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Clinical services  
Leadership  
Collaboration

Environmental awareness  
Multicultural Awareness

### Model Standard 4.1: Partnership Development

Partners within the System demonstrate collaborative relationships with each other.

#### MEASURABLE OBJECTIVES (SAMPLES):

- The System roles and responsibilities are defined for members of the System.
- The System has an ongoing monitoring process to measure and evaluate the effectiveness of partner collaboration.
- The System has a process in place to address feedback from partners.

## KEY IDEA 4.1.1

Partners in the System develop and maintain relationships to formalize and sustain an effective system.

### EXAMPLES:

- Agreements (formal and/or informal) are in place to delineate partner responsibilities.
- Partnerships are sustained financially, politically and/or programmatically.
- An individual from the system is a dedicated liaison with clinical/hospital-based laboratories (i.e., Laboratory Program Advisor (LPA)).
- Depending on state rules of conduct, the system may create a steering committee, advisory or similar group that meets regularly to provide feedback and guidance to the system.

### Points for Discussion:

Does the System:

- Regularly convene partners to strengthen the System?
- Formally define the roles and responsibilities of member organizations within the SPH Laboratory System?
- Have a process for identifying key constituents and building partnerships among member organizations?
- Address the need for member organizational missions, visions, and values to be in alignment with the goals of the System?

### Evaluation:

4.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

### Model Standard 4.2: Communication

The System is structured to support regular and effective communication.

#### **MEASURABLE OBJECTIVES (SAMPLES):**

- Members of the PH Laboratory System have communication plans for their respective partner organizations.
- The PH Laboratory System communication plan is monitored, evaluated and updated on a regular basis.
- 24/7 contact information for all partners is collected, maintained and available to all system partners.

## KEY IDEA 4.2.1

System members communicate in regular, timely, and effective ways to support collaboration.

### EXAMPLES:

- System partners have regularly updated websites, which may link to other system partners.
- System partners have the capacity to generate simultaneous communications.
- Partnerships with various types of media resources (e.g., social, radio, TV, newspaper, etc.) are utilized to inform the public..

### Points for Discussion:

Does the System:

- Share member communication plans and work towards coordination of plans among partners?
- Provide information, both routine and emergency, to partners in a coordinated and redundant fashion?
- Have a mechanism in place that supports feedback among partners?
- Use multiple and alternative methods to effectively communicate PH Laboratory System messages to ensure the public is well informed about public health issues?

### Evaluation:

4.2.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

### Model Standard 4.3: Resources

The PH Laboratory System has sustainable funding, personnel and other resources to address health issues.

#### **MEASURABLE OBJECTIVES (SAMPLES):**

- System partners work collaboratively to obtain necessary external funding.
- System partners periodically assess system resource needs to ensure that they meet the System's demands.

## KEY IDEA 4.3.1

The PH Laboratory System works together to share existing resources and identify new resources to address health issues.

### EXAMPLES:

- System partners collaborate when applying for cooperative grant funds.
- System resource needs are clearly defined.
- System partners identify opportunities for sharing staff, equipment and other resources.

### Points for Discussion:

Does the System have:

- Time and resources to build and maintain relationships with partners?
- A mechanism to share resources to increase effectiveness?
- A mechanism to proactively collaborate in seeking and obtaining new resources?
- A process to evaluate system effectiveness and resource needs?

### Evaluation:

4.3.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #4 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #5

### CREATE, CHAMPION, AND IMPLEMENT POLICIES, PLANS, AND LAWS THAT IMPACT HEALTH

#### INTENT:

The public health laboratory and its system partners provide policy development expertise at all levels of government. Health policy is frequently based on laboratory data and scientifically sound principles and information that address individual and community health needs. The System participates in the dissemination of new and revised policies to all appropriate community partners. Policies, plans and laws that affect the System are reviewed and updated on a regular basis.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Collaboration  
Data analysis and interpretation  
Needs assessment  
Policy development

Communication  
Evaluation  
Planning

### Model Standard 5.1: Partnerships in Public Health Planning and Laboratory-Related Policymaking

The System assures broad involvement, using science and data, in developing policies, plans and laws addressing health issues.

#### MEASURABLE OBJECTIVES (SAMPLES):

- Agencies work together to address clinical, environmental and other regulatory requirements.
- Policies, plans and laws are reviewed and shared routinely with system partners.
- Proposed policies, plans and laws are assessed for agreement with applicable scientific evidence, regulations and standards.

## KEY IDEA 5.1.1

The System obtains input from diverse partners to develop new policies, plans and laws and modify existing ones, using scientific evidence to inform and influence policy.

### EXAMPLES:

- Communication among the partners helps to identify the policy needs of the System.
- System partners collaborate to conduct community assessments to define policy needs.
- System partners interact with legislators and key policy personnel to address upcoming legislation.
- System partners are represented when policies, plans and laws are being reviewed, using scientific evidence to inform planning and policy development.

### Points for Discussion:

Does the System:

- Consider input from all partners in policy development and planning?
- Promote and support policies, plans and laws that are consistent with public health best practices and community needs?
- Collaborate with state and local officials to prioritize efforts to address pressing health needs of the community, using evidence-based approaches?
- Integrate laboratory issues into program planning?
- Have access to data that can be used to inform the policy making process?

### Evaluation:

5.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #5 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #6

### UTILIZE LEGAL AND REGULATORY ACTIONS DESIGNED TO IMPROVE AND PROTECT THE PUBLIC'S HEALTH

#### INTENT:

The System assures that all laboratory-related laws and regulations that protect health and ensure safety are in place. System members review and recommend revisions of applicable laws and regulations as needed. System members encourage compliance with the laws and regulations.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Chemical exposure prevention  
Communications  
Legal advice  
Restaurant inspections

Compliance activities  
Multicultural awareness  
Food safety  
Regulation review

### Model Standard 6.1: Laws and Regulations

The System periodically reviews, recommends revisions to, and promotes compliance with federal, state and local laws and other regulations pertaining to laboratory practice.

#### MEASURABLE OBJECTIVES (SAMPLES):

- The System members have an awareness of applicable laws and regulations.
- There are mechanisms for the laboratory system to share expertise and make recommendations regarding revision of laws and regulations.
- The System optimizes compliance by all laboratories regarding all applicable laws and regulations to improve and protect the public's health.

## KEY IDEA 6.1.1

The System is actively engaged in the review and revision of laws and regulations pertaining to laboratory practice.

### EXAMPLES:

- Members of the System participate in reviewing the list of reportable diseases, pathogens and environmental toxins.
- Members of the System are aware of all laws and regulations related to laboratory practice.

### Points for Discussion:

Does the System:

- Review laboratory-related laws and regulations?
- Provide recommendations regarding the revision of regulations to elected officials and other policy makers?
- Evaluate the appropriateness of laws and regulations affecting laboratory practice?

### Evaluation:

6.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 6.1.2

The System promotes compliance by all laboratories with regard to applicable laws and regulations.

### EXAMPLES:

- Training is available on DOT packaging and shipping requirements, FDA and EPA regulations, etc.
- The System provides members and stakeholders with reference manuals for available services, consultations towards results interpretation and conducts needs assessments.
- System laboratories maintain regulatory compliance for all testing services.

### Points for Discussion:

Does the System:

- Promote quality practices that meet regulatory standards?
- Communicate and disseminate regulations clearly and in a timely manner to the regulated community?
- Have educational opportunities, outreach or other resources available for partner organizations to assist in understanding and complying with health policies, laws, and regulations?
- Work with regulatory agencies to improve compliance?
- Assure that all laboratories participate in compliance programs, including enrollment and participation in proficiency testing programs?

### Evaluation:

6.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #6 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #7

ASSURE AN EFFECTIVE SYSTEM THAT ENABLES EQUITABLE ACCESS TO THE INDIVIDUAL SERVICES AND CARE NEEDED TO BE HEALTHY

### INTENT:

Partners of the System work to assure that people have access to laboratory services. System members establish processes to identify needed laboratory services, and collaborate within the system to provide those services.

### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Clinical services  
Food safety  
Response to emergencies  
Water testing

Transportation of laboratory samples  
Policy making  
Resource development  
Emerging infections

### Model Standard 7.1: Provision of Laboratory Services

The System collaborates to assure access to laboratory services.

### MEASURABLE OBJECTIVES (SAMPLES):

- An up-to-date list of laboratory services is readily available.
- Support systems, such as sample transport, laboratory consultative services and training, are in place.
- Turnaround times are established, and regularly monitored for effectiveness.

## KEY IDEA 7.1.1

The System identifies laboratory service needs and collaborates to fill gaps.

### EXAMPLES:

- After-hours protocols are in place and accessible.
- Diagnostic laboratories partner with each other and with state and local public health laboratories to provide services.
- Packaging and shipping information for sample transport is available.

### Points for Discussion:

Does the System:

- Ensure availability, quality, accessibility and timeliness of laboratory services?
- Make projections of future capacity and capability needs with partners?
- Collaborate to seek resources to fill gaps in the provision of laboratory services?
- Coordinate the transport of samples to the laboratory?

### Evaluation:

7.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 7.1.2

The System provides timely and accessible quality services.

### EXAMPLES:

- Regularly updated test menus and information about laboratory services are available on the laboratory's website.
- For critical public health tests that are not available, arrangements for testing are made with system partners.

### Points for Discussion:

Does the System:

- Ensure testing services for routine and emergency situations in a timely manner?
- Share information among system partners and the public about available services?
- Provide access to laboratory expertise and consultation services?
- Address access to laboratory services in sparsely populated, underserved and rural areas?

### Evaluation:

7.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #7 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to convene a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #8

### BUILD AND SUPPORT A SKILLED PUBLIC HEALTH WORKFORCE

#### INTENT:

Partners of the System collaborate to assure that the laboratory workforce is of appropriate size and qualifications to respond to all demands for laboratory service. The System promotes the consistent use of position descriptions that are based on education, experience, competence, certification, and licensure if applicable, for all members of the System workforce. System members regularly monitor and assess the competency and performance of their laboratory staff. Training, staff development, partner collaborations, outreach and other strategies are used to retain current staff, recruit and promote laboratory careers.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Communication  
 Legal advice  
 Publicity  
 Training and staff development

Human resources  
 Performance evaluation  
 Quality assessment activities  
 Workforce development

### Model Standard 8.1: Recruitment, Retention and Development of Qualified Staff

Laboratories within the System attract and retain highly qualified staff.

#### MEASURABLE OBJECTIVES (SAMPLES):

- Employees have access to competency-based position descriptions and resources, including human resources, education, etc.
- Recognition occurs regularly for staff accomplishments, contributions and achievements at all levels of the organization.
- Opportunities exist for staff at all levels to participate in laboratory workgroups; quality improvement committees; partner collaborations; and local, state and national workgroups to improve laboratory practice.
- Recruitment strategies include outreach and the promotion of laboratory careers at career fairs, schools, and in other groups of future potential laboratory workers.

## KEY IDEA 8.1.1

The System maintains an environment to attract and retain highly qualified staff.

### EXAMPLES:

- The System uses benefits, such as flexible scheduling, professional development, location, public service loan forgiveness, etc. to increase recruitment and retention.
- A defined career ladder exists within laboratory organizations to allow for staff development.
- The System supports student outreach programs academic partnerships, career fairs, and laboratory tours.
- The System promotes vacancies through social media, professional organizations and by word of mouth, etc.
- The System provides monetary or leave compensation for referrals who are ultimately hired and remain employed for a year.

### Points for Discussion:

Does the System:

- Have position descriptions describe the education, experience, skills, and abilities required to complete specific tasks and fulfill defined responsibilities of positions across all phases of laboratory testing?
- Use creative approaches to promote vacancies based on current market strategies to attract qualified new personnel?
- Support and advocate for compensation or other job satisfaction commodities?
- Empower staff by supporting their participation and membership in professional organizations and educational opportunities for professional growth and development?
- Routinely assess job seeking behaviors and criteria from newly hired employees or employees who resign?

### Evaluation:

8.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

### Points for Discussion:

## Model Standard 8.2: Assuring a Competent Workforce

The System addresses current and projected workforce competency and availability issues.

### **MEASURABLE OBJECTIVES (SAMPLES):**

- The System actively engages in collaborations, such as peer-to-peer exchanges, internships, fellowships, rotations, or other mentoring activities.
- Programs are available to foster leadership development for future laboratory leaders.
- Each jurisdiction in the System has their own laboratory training programs, which include required and ongoing trainings, webinars, etc.

## KEY IDEA 8.2.1

The System works to assure a competent workforce by encouraging and supporting staff development through training, education, coaching and mentoring.

### EXAMPLES:

- Education plans and opportunities are shared among the partners.
- Distance learning methodologies are used.
- Opportunities are provided for staff development in areas such as leadership, management, communication, technology, etc.
- The System uses tasks and behaviors associated with the competencies found in MMWR to create and implement competence assessments.

Does the System:

- Institute and document appropriate staff development activities to address identified gaps in competencies at all levels?
- Collaborate with academia and other partners to develop and promote programs such as laboratory internships, fellowships, training programs, practicums, rotations, coaching, mentoring and job opportunities?
- Offer continuing education opportunities to all levels of staff?

### Evaluation:

8.2.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 8.2.2

The System identifies and addresses current and future workforce shortage issues.

### EXAMPLES:

- The System addresses workforce shortages projected in a five-year planning cycle.
- The System participates in job fairs, STEM activities and career forums promoting laboratory science and job opportunities.
- The System works with partners, including those from academia, to plan for addressing workforce shortages.
- The System identifies and shares available resources for workforce development with the agency and from system partners.

### Points for Discussion:

Does the System:

- Monitor trends related to the laboratory workforce?
- Collaborate with partners to promote succession planning and leadership development?
- Raise awareness of laboratory career rewards and job opportunities?
- Promote laboratory career opportunities to middle school and high school counselors, teachers, STEM advisors and students?
- Advocate for expansion of laboratory training programs offered by universities and community colleges for training laboratory professionals?

### Evaluation:

8.2.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #8 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #9

### IMPROVE AND INNOVATE PUBLIC HEALTH FUNCTIONS THROUGH ONGOING EVALUATION, RESEARCH, AND CONTINUOUS QUALITY IMPROVEMENT

#### INTENT:

Members of the System regularly examine services and operations to ensure that the needs of the community continue to be met with high quality services in an equitable manner. Partners of the System collaborate in public health systems and services research to find solutions to current health issues and problems encountered by System partners, and, thereby, contribute to the development of evidence-based solutions. The System utilizes the expertise and resources of a broad range of partners from the clinical and environmental laboratory arenas, academia, and other science-based disciplines. Research findings are evaluated and broadly disseminated.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Assessment  
Communication  
Evaluation  
Academia  
Research

Clinical services  
Performance evaluation  
Planning  
Innovation  
Funding/Grant Opportunities

### Model Standard 9.1: System Effectiveness, Accessibility and Quality

The effectiveness, accessibility and quality of individual- and population-based laboratory services provided are regularly evaluated.

#### MEASURABLE OBJECTIVES (SAMPLES):

- There is a process to regularly evaluate the contribution of laboratory services to health outcomes, both at the individual and population levels.
- There is a mechanism to regularly assess gaps in the testing performed by the System.
- The quality of laboratory testing performed by the System is assessed using proficiency testing.

## KEY IDEA 9.1.1

The effectiveness, accessibility and quality of the individual- and population-based laboratory services provided throughout the state is regularly evaluated.

### EXAMPLES:

- Assessment results are used to assist with policy development and resource allocation.
- The range of services and fees as related to the System are evaluated on a regular basis.
- Community organizations and entities that contribute to and use laboratory system services are identified.
- Systems are in place for two-way communication of laboratory services.
- Laboratories in the System participate in a certification, accreditation, and/or licensure program to measure effectiveness and quality of services, as well as customer satisfaction.

### Points for Discussion:

Does the System:

- Have a process in place to evaluate the effectiveness of services?
- Have a plan and the resources for tracking the contribution of laboratory services to health outcomes over time?
- Have a process in place to evaluate the availability and utilization of laboratory services?
- Have a process in place to access laboratory system resources and capacity to meet System needs?
- Use assessments to evaluate the quality of services, including policy development and resource allocation?

### Evaluation:

9.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## Model Standard 9.2: Planning, Financing and Disseminating Research Activities

The System plans research and innovation activities, as well as involves a broad range of partners to conduct studies and disseminate findings.

### MEASURABLE OBJECTIVES (SAMPLES):

- Partners in the System have been identified to collaborate and prioritize research needs.
- The System has a mechanism in place for identifying and tracking funding sources for projects of relevance to the system.
- Research findings are disseminated broadly.

## KEY IDEA 9.2.1

The System has adequate expertise and capacity to plan research and innovation activities.

### EXAMPLES:

- Resources and support for training and grant writing are provided.
- The need for and applicability of a new product, methodology, technology or service are assessed.
- Information gathered from system performance assessments and quality improvement activities are used for planning of research and innovation.
- Prior to performing research, the roles and responsibilities of PHL and the research partners should be documented in IRB, MOUs, MOAs and written agreements. Publication expectations should be included as well.

### Points for Discussion:

Does the System:

- Identify research activities at the system level, including partner and agency collaborations to provide guidance?
- Have an established process for recommending research projects that support broad public health goals?
- Collaborate to obtain resources for research activities, (i.e., time, finances and staff)?
- Have access to institutional review boards (IRB) that provide protection for human research subjects?

### Evaluation:

9.2.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 9.2.2

The System promotes research and innovative solutions.

### EXAMPLES:

- Non-laboratory partners are included and provide feedback on key System issues.
- The System has written agreements with Institutional Review Boards (IRB) for human subject protections and with collaborators that include provisions for sharing of research samples and data.
- The System has a process established for sharing research and innovation projects and findings.
- The System is represented on the public health department's research committee or equivalent..

### Points for Discussion:

Does the System:

- Draw on diverse perspectives and expertise, including academic and research institutions, to stimulate innovative thinking?
- Encourage staff to identify and propose innovative solutions to workplace challenges?
- Have the ability to contribute to partnerships by incorporating new technology and scientific knowledge?
- Evaluate findings of research and implement innovative solutions to foster improvement?
- Disseminate research outcomes, best practices, and recognition of research activities?

### Evaluation:

9.2.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #9 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES

## ESSENTIAL SERVICE #10

### BUILD AND MAINTAIN A STRONG ORGANIZATIONAL INFRASTRUCTURE FOR PUBLIC HEALTH

#### INTENT:

The System has the appropriate foundational components, which include organizational structure, effective leadership, broad partnerships, financial and technological resources, to function and support the public health system.

#### EXAMPLES OF SYSTEM PARTNER CONTRIBUTIONS TO THIS ESSENTIAL SERVICE

Effective partnerships and communication

Ethical leadership

Funding/Resources

Governance

Strategic planning

Transparency

Information technology

#### Model Standard 10.1: Comprehensive and Sustainable Infrastructure

The System partners collaborate to effectively maintain a comprehensive and sustainable infrastructure in support of public health activities.

#### MEASURABLE OBJECTIVES (SAMPLES):

- The System has a mechanism for the management of financial resources, ensuring that the funds are allocated equitably and tracked.
- Leadership is developed and responsive throughout the System to assure that the needs of the community are met.
- Partners of the System actively communicate and strategically meet the community's needs.

## KEY IDEA 10.1.1

The System is composed of different entities that work together effectively on public health activities and are transparent and accountable to the community it serves.

### EXAMPLES:

- Academic institutions have MOUs with public health laboratories to support a workforce pipeline.
- Organizational components of the System regularly convene to participate in strategic planning.
- Agencies periodically meet during and after public health events to discuss and evaluate the handling of emergencies.

### Points for Discussion:

Does the System:

- Have organizational components, e.g. governmental, community-based organizations, academia, etc., that support public health activities?
- Have memorandums of understanding (MOUs) between public health partners and stakeholders to solidify roles, responsibilities, and goals in collaborations?
- Have a mechanism in place to empower, support, and sustain beneficial relationships?

### Evaluation:

10.1.1	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 10.1.2

The System's leadership acts ethically and strategically and communicates proactively to the public through different mechanisms.

### EXAMPLES:

- Regularly scheduled meetings among partners are held to discuss opportunities for collaboration, public health response needs, budgets, future projects, etc.
- The leaders of the System use different media methods to communicate information effectively, e.g. social media, radio, print, etc.
- Ethical standards of conduct are upheld by System leadership.

### Points for Discussion:

Does the System:

- Have leaders who work collaboratively across organizations on decision-making, governance, and strategic planning?
- Have a communication system that uses different avenues to effectively disseminate science and data-driven messages?
- Have the means to expect and ensure ethical leadership?

### Evaluation:

10.1.2	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## KEY IDEA 10.1.3

The System has the necessary resources (e.g. financial, technological, physical (facilities), human) to perform and sustain public health activities.

### EXAMPLES:

- Financial resources are allocated effectively to ensure that technology in the System is updated on a regular basis to maintain capacity and capability.
- System partners share resources, (e.g., funds, space, staff, supplies, reagents, instrumentation) to meet common goals.
- Needs assessments are performed to better understand where training gaps exist and how to best address them.

### Points for Discussion:

Does the System:

- Have the technology that meets privacy and security standards and the capability and capacity to support its public health responsibilities?
- Have the financial resources to support and sustain the public health laboratory workforce, technological infrastructure, etc.?
- Utilize partnerships to collaborate and share resources to address public health needs?
- Conduct periodic needs assessments to better understand and strategize how to allocate resources equitably?

### Evaluation:

10.1.3	None	Minimal	Moderate	Significant	Optimal
How would you rate the performance of the System collectively on achieving this Key Idea?					

### Parking Lot Issues:

## ESSENTIAL SERVICE #10 NEXT STEPS

List top 2-3 possible next steps and rate as to importance (immediate, high, medium, low) and a contact person for each to address at a first meeting.

NEXT STEPS	IMPORTANCE	SUGGESTED ACTIVITIES



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