

State Public Health Laboratory System Performance Assessment (L-SIP)

Mississippi Public Health Laboratory Assessment Report April 6, 2017

A. SUMMARY

This report details the findings of the 2017 Mississippi Public Health Laboratory (MPHL) System assessment. The goals of the assessment were to evaluate the state laboratory system's performance against Model Standards and to begin planning for system improvement. The 2017 reassessment was conducted using the Association of Public Health Laboratories "Laboratory System Improvement Program Performance Measurement Tool" based on the Ten Essential Public Health Services and the Eleven Core Functions and Capabilities of State Public Health Laboratories (Appendix A). The Mississippi Public Health Laboratory System achieved Optimal Activity in 2 domains, Significant Activity in 5 domains, and Moderate Activity in 3 domains. The following is a description of the 2017 reassessment including assessment results and plans for system improvement.

B. INTRODUCTION

In 2002, the Centers for Disease Control and Prevention (CDC) established the National Public Health Performance Standards Program (NPHPSP) to identify and measure components of the public health system. Those efforts inspired the Association of Public Health Laboratories (APHL) and the CDC Division of Laboratory Systems to develop the Laboratory System Improvement Program (L-SIP) to build a stronger foundation for public health, promote continuous quality improvement, and to strengthen the scientific basis of public health practice improvements.

A critical component of the L-SIP is the assessment process that: (1) is based on the 10 Essential Public Health Services and the 11 Core Functions and Capabilities of State Public Health Laboratories (Appendix A), (2) focuses on the overall state PHL System rather than a single organization, (3) measures PHL System performance against Model Standards, and (4) supports continuous improvement of the PHL System which includes all public, private and voluntary entities that define the system.

The Mississippi PHL System includes all of the partners and stakeholders that contribute to Mississippi's ability to meet the public health testing needs of our state and its residents. The Mississippi Public Health Laboratory (MPHL) leads this system but seeks participation from health care providers, state's attorneys and law enforcement officers, water quality professionals, and state and federal agencies, among others.

C. L-SIP ASSESSMENT OBJECTIVES

- Define “Public Health Laboratory System” and establish the importance of the assessment process for the PHLs in Mississippi.
- Provide familiarity with the SDPHL, the PHL System, and its many partners and stakeholders.
- Provide familiarity with the “Laboratory System Improvement Program Performance Measurement Tool” and other materials to be used throughout the day.
- Provide PHL System partners and stakeholders the opportunity to play an active role in advancing our state laboratory system through discussion-intensive breakout sessions.
- Assess the PHL System against Model Standards and define opportunities for improvement including a partner or stakeholder that will lead each effort.

D. L-SIP ASSESSMENT PROCESS

The 2017 Mississippi PHL System assessment was a day-long evaluation that gave partners and stakeholders the opportunity to assess the system’s support of the 10 Essential Public Health Services at the state-level. Prior to the reassessment, participants were provided with informational material describing the L-SIP process, the 10 Essential Health Services, and the 11 Core Functions and Capabilities of Public Health Laboratories. Upon check-in on the day of the assessment, each participant received the following:

- APHL “Laboratory System Improvement Program Performance Measurement Tool”
- 10 essential community public health services summary document for the “Non-Public Health Professional” by Milne & Associates, LLC
- Definition of a state public health laboratory system document by APHL
- Meeting agenda
- L-SIP participant list
- L-SIP facilitator and theme taker introductory sheet
- Participant evaluation form
- MPHL testing services list
- color coded flash cards
- Name badge and tent.

Sixty-two system stakeholders representing 25 different partners convened to evaluate the Mississippi Public Health Laboratory System utilizing the L-SIP Performance Measurement Tool. Partners included clinical laboratory scientists, public water system operators, federal and state epidemiologists, MSDH courier service, law enforcement, animal control, first responders, environmental laboratory professionals, academicians, researchers, and state public health professionals. The meeting enabled the system partners to discuss public health from the perspective of a laboratory system and allowed partners from different background to network. The day began with an overview of the MPHL and the statewide PHL System. Goals of the assessment were reviewed and examples were presented illustrating how the Mississippi PHL System had been leveraged in recent years to provide critical public health services. Following the overview, discussion of Essential Service #2 (Diagnose and Investigate Health Problems and Health Hazards in the Community) was facilitated by Ms. Karen Breckenridge (Director, Quality Systems, APHL). Ms. Breckenridge’s session included all participants and provided a model for facilitation and discussion using the “Laboratory System Improvement Program Performance Measurement Tool.” During this session, participants gained familiarity with Model Standards, Key Ideas, Points for Discussion, as well as the use of color coded cards for performance

measurement. The group was also introduced to the concept of Parking Lot Issues and use of the Next Steps matrix. Small-group discussions of the remaining nine Essential Services were facilitated by APHL (Karen Breckenridge and Tina Su) and guest facilitators (Dr. Richard Steece, TN Department of Health and Dr. Leah Gillis, Florida Department of Health) during two breakout sessions with three small groups (group A, B and C). Each of three break-out groups discussed and measured 3 Essential Services as listed in Appendix B. Each breakout group included a representative from the Mississippi State Department of Health that served as theme-takers and as non-voting agency representatives that could help answer questions during the assessment.

By the end of each break-out session, evaluation scores were tabulated, Parking Lot Issues were summarized, and each Next Steps matrix was completed. Following the afternoon break-out session, all results of the reassessment were presented to participants. The following is a summary of results for the 2017 Mississippi PHL System reassessment.

**E. RESULTS Essential Service 1:
Monitor health status to identify community health problems**
(Overall Score: 69.5)

Key Idea 1.1.1. The SPH Laboratory System (SPHLS) identifies infectious disease and environmental sentinel events, monitors trends, and participates in state and federal surveillance systems.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- More electronic reporting
- Improve electronic access to state-wide data

Key Idea 1.1.2. The SPH Laboratory System monitors congenital, inherited, and metabolic diseases of newborns and participates in state and federal surveillance systems.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- Perform newborn screening at the public health lab
- Enhance provider and patient access to newborn screening results
- Improve access to data associated with deceased children

Key Idea 1.1.3. The SPH Laboratory System supports the monitoring of chronic disease trends by participating in state and federal surveillance systems.

Rated: Minimal Activity

Notes and Parking Lot Issues:

- Require additional screening of chronic diseases
- Improve chronic disease monitoring collaboration between hospitals and MSDH
- Develop a strategic plan to target citizens earlier in life
- Enhance MSDH county clinic capability to monitor chronic disease
- Develop MSDH partnerships with schools and school age populations to reduce chronic diseases

Key Idea 1.2.1. The SPH Laboratory System has a secure, accountable and integrated information management system for data storage, analysis, reporting, and exchange.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Enhance SPHLS knowledge of reportable diseases notification requirements
- MSDH programs need to be linked electronically
- MPHL needs to enhance ApolloLIMS to accept electronic orders and to provide electronic reports
- Develop process for sharing clinical, animal and environmental data with all partners

Key Idea 1.2.2. The SPH Laboratory System partners collaborate to strengthen electronic surveillance systems.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Expand environmental reporting between partners
- Enhance communication between farmers, Veterinarians, Veterinary Diagnostics Laboratory and the USDA.

Next Steps:

- Develop a data sharing process for all partners
- Improve electronic access to state-wide data

Essential Service #2:

Diagnose and investigate health problems and health hazards in the community

(Overall Score: 83.5)

Key Idea 2.1.1. The SPH Laboratory 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.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Work on more collaboration between Public Health Lab and partners
- Create more Public Health Lab presence in the lab community
- Speed up laboratory resulting time through enhanced informatics capability

Key Idea 2.1.2. The SPH Laboratory System has the necessary system capacity, authority, and preparations in place to rapidly respond to emergencies that affect the public's health

Rated: Significant Activity

Notes and Parking Lot Issues:

- Increase SPHLS electronic laboratory orders and resulting capability
- Develop biological-related drills that involve all SPHLS partners, including sentinel laboratories
- Resources not equally available to all partners
- State funding available for SPHLS is limited

- Large volume of unknown contaminants that the state does not have the capability to test and identify
- Create a better coordination of testing supplies

Next Steps:

- Create in-state reference centers for specialized testing
- Pre-identify SPHLS partners for specific agents/issues
- Enhance state's ability to identify unknown contaminants

Essential Service #3:

Inform, educate, and empower people about health issues

(Overall Score: 83.5)

Key Idea 3.1.1. The SPH Laboratory System creates and delivers consistent information to community partners about relevant health issues associated with laboratory services.

Rated: Significant Activity

Notes and Parking Lot Issues:

- MSDH Office of Epidemiology shares statistical data via the Health Alert Network, Annual Summaries, website and via conference calls
- The MSDH TB program and laboratories communicate well
- Add a link to MPHL on the Mississippi Hospital Association website
- Promote communication avenues within primary and secondary schools
- Increase collaborations with partners
- Enhance MSDH presence at APIC meetings
- Enhance communication regarding available training opportunities

Key Idea 3.1.2. The SPH Laboratory System creates and provides education opportunities to health and non-health community partners.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Use MPHL data as resource for education
- MPHL needs to create and disseminate laboratory science advocacy information
- Promote collaboration with nursing schools throughout the state
- Enhance education availability to high school medical program

Key Idea 3.2.1. Relationship-building opportunities are employed to empower community partners.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Promote community involvement through quarterly educational events sponsored by the MSDH

Next Steps:

- Improve outreach

Essential Service #4:

Mobilize community partnerships to identify and solve health problems

(Overall Score: 35)

Key Idea 4.1.1. Partners in the SPH Laboratory System develop and maintain relationships to formalize and sustain an effective system.

Rated: Minimal Activity

Notes and Parking Lot Issues:

- Need more feedback and communication
- Lack of communication between all partners
- Need more clarification on who are SPH laboratory system partners

Key Idea 4.2.1. SPH Laboratory System members communicate effectively in regular, timely, and effective ways to support collaboration.

Rated: Significant Activity

Notes and Parking Lot Issues:

- More effective communication between partners
- Enhance electronic communication
- Expand distribution list to include all partners for all information
- Confirm that stakeholders are receiving the information wanted
- The SPHLS does have communication mechanisms in place that include various formats (Public Health Information Office, Twitter, and Facebook).
- Non-government partners need to be included in emergency event notification
- Better linkages between partners for response information

Key Idea 4.3.1. The SPH Laboratory works together to share existing resources and to identify new resources to assist in identifying and solving health issues.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- More focus on outreach efforts, encouraging stakeholders to meet more often and partners to form advisory committees
- Collaborate more with all partners, sponsor a monthly call between partners and host an annual meeting
- Develop Memorandums of Agreement between partners for staff training and resource sharing
- Funding limitations affect resource sharing capability
- State budget limitations

Next Steps:

- Create a SPHLS coalition

Essential Service #5:

Develop policies and plans that support individual and community health efforts

(Overall Score: 89)

Key Idea 5.1.1. The SPH Laboratory System obtains input from diverse partners and constituencies to develop new policies and plans and modify existing ones.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Policies govern everything (BMBL, CLIA, EPA...)
- Policies are reviewed annually
- SPHLS has a strong response to emergencies
- SPHLS have an extensive monitoring and training in place
- Partner involvement in policy development

Key Idea 5.2.1. The SPH Laboratory System and partners contribute their expertise and resources using science and data to inform and influence policy.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- Create an inter-agency SPHLS task force
- MPHLS Policy updates and lab data are sent out annually to clinical laboratory partners
- State Chemical Laboratory monitors and provides data on pesticide
- Annual MSDH Epidemiology report provided to partners
- Annual MSDH Tuberculosis report provided to partners
- MSDH reports state-wide data to federal partners
- The State Health Officer reports to the governor
- SBOH approves change suggestions

Key Idea 5.3.1. The plans and policies that affect the SPH Laboratory System are routinely evaluated, updated and disseminated.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- More efficient communication and guidance from both lab and partners
- Explore a total laboratory system notification process
- Need to monitor effectiveness of policies across all partners
- Processes in place for policy evaluation, updating and release

Next Steps:

- Partners should work together to ensure consistent sample submission
- Use the NHSN facility survey to determine what testing is not being performed at each hospital facility and may need to be performed at the Public Health Laboratory
- Enforce Public Health Laboratory policies consistently

Essential Service #6:

Enforce laws and regulations that protect health and ensure safety

(Overall Score: 67)

Key Idea 6.1.1. The SPH Laboratory System is actively involved in the review and revision of laws and regulations pertaining to laboratory practice.

Rated: Moderate Activity

Notes and Parking Lot Issues

Key Idea 6.1.2. The SPH Laboratory System encourages and promotes compliance by all laboratories in the system with all laws and regulations pertaining to laboratory practice.

Rated: Moderate Activity

Key Idea 6.2.1. The SPH Laboratory System has the appropriate resources to provide or support enforcement functions for laws and regulations.

Rated: Moderate Activity

Next Step:

- Create an inter-agency SPHLS task force
- Enhance partner involvement in policy development

Essential Service #7:

Link people to needed personal health services and assure the provision of healthcare when otherwise unavailable

(Overall Score: 50)

Key Idea 7.1.1. The SPH Laboratory System identifies laboratory service needs and collaborates to fill gaps.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- MSDH has good after-hour structure for water
- Survey other laboratories to determine testing needs
- The MPHL should meet with MSDH program staff more often
- Enhance collaboration within laboratory network to include local, state and federal partners
- Promote Public Health Lab testing
- Develop a specimen transportation policy for MSDH programs
- MSDH clinic closures have limited access to courier and MPHL testing

Key Idea 7.1.2. The SPH Laboratory System provides timely and easily accessed quality services across jurisdictions.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Mississippi Alliance of Emergency Preparedness Laboratories
- MSDH courier system is available when health department clinics are open
- Improve communication between MSDH and infection control staff
- MPHL needs to improve communication regarding TAT
- Utilize telemedicine programs
- Enhance outreach to disparate populations

Next Steps:

- Send a laboratory newsletter to all partners

Essential Service #8:

Assure a competent public health and personal health care workforce

(Overall Score: 39.1)

Key Idea 8.1.1. All laboratories within the SPH Laboratory System identify position requirements and qualifications; assess competencies; and evaluate performance for all laboratory workforce categories across the entire scope of testing.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Labs that are certified meet this requirement to maintain certification.

Key Idea 8.2.1. The SPH Laboratory System maintains an environment to attract and retain highly qualified staff.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Lab size and funding affects staff attraction and retainment.

Key Idea 8.3.1. The SPH Laboratory System works to assure a competent workforce by encouraging and supporting staff development through training, education, and mentoring.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- A public health lab system needs standards for personnel and competency assessment. Standards for clinical lab testing are set at the national level.

Key Idea 8.3.2. The SPH Laboratory System identifies and addresses current and future workforce shortage issues.

Rated: Minimal Activity

Notes and Parking Lot Issues:

- More promotion and leadership opportunities
- Perform a needs assessment
- Less students graduating from Clinical Laboratory Science Program
- Reach out to elementary and middle schools to promote laboratory science
- Reach out community colleges to promote laboratory science
- Sponsor science fairs and science clubs (biology and chemistry)
- Sponsor science workshops

Next Steps:

- Promote science with the youth of MS

Essential Service #9: Evaluate effectiveness, accessibility, and quality of personal and population-based services

Key Idea 9.1.1. The SPH Laboratory System range of services, as defined by its mission and purpose, is evaluated on a regular basis.

Rated: Significant Activity

Notes and Parking Lot Issues:

- Create mission/vision statement for MPHL
- MPHL guide is available on-line and reviewed annually
- MPHL assistance/training available on-line and by phone
- Enhance partner mission communication

Key Idea 9.2.1. The effectiveness of the personal and population-based laboratory services provided throughout the state is regularly evaluated.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Lack of resources for tracking public health outcomes
- MPHL batch testing approach delays reporting and negatively affects SPHLS turn-around-time
- Correlate services between hospital laboratories and MPHL
- Enhance collaboration between SPHLS partners

Key Idea 9.2.2. The availability of personal and population-based laboratory services throughout the state is regularly evaluated.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- MPHL should consider getting an advisory board
- Tests are routinely evaluated
- Test ROI is monitored by each facility
- MPHL should meet with partners to define state-wide testing needs and capacity

Key Idea 9.2.3. The quality of personal and population-based laboratory services provided throughout the state is regularly evaluated.

Rated: Optimal Activity

Notes and Parking Lot Issues:

- Quality of work is good
- MPHL is the state reference laboratory
- Improve on customer satisfaction

Next steps:

- Better communication of services
- MPHL should optimize partnerships
- Develop collaborations to address gaps in testing.

Essential Service #10: Research for insights and innovative solutions to health problems

Overall Score: 72.3

Key Idea 10.1.1. The SPH Laboratory System has adequate capacity to plan research and innovation activities.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Chemical Laboratory Director must be a tenured employee of a state university
- 4% of the State Chemical Laboratory’s budget is dedicated to research
- MSU veterinary diagnostics laboratory collaborates with the MPHL
- Enhance communication regarding SPHLS research opportunities
- Increase research-based collaboration between SPHLS partners
- Innovate clinical services or grant writing

Key Idea 10.2.1. The SPH Laboratory System promotes research and innovative solutions.

Rated: Moderate Activity

Notes and Parking Lot Issues:

- Enhance innovation between partners

Next Steps:

- Increase participation of the MSDH with external partners
- Create a MSDH group to release information regarding new research

F. PERFORMANCE SUMMARY GRID

	Essential Public Health Service									
	1	2	3	4	5	6	7	8	9	10
Optimal Activity		83.5			89.0					
Significant Activity	69.5		67.0			67.0			72.3	67.0
Moderate Activity				35.0			50.0	39.7		
Minimal Activity										
No Activity										

Essential Service #1: Monitor Health Status	
1.1 Monitoring Community Health Status	89.0
1.2 Surveillance Information Systems	50.0
Overall Score	69.5

Essential Service #2: Diagnose & Investigate	
2.1 Appropriate & effective testing	83.5
Overall Score	83.5

Essential Service #3: Inform, Educate & Empower	
3.1 Outreach to Partners	67.0
3.2 Empower Partners	67.0
Overall Score	67.0

Essential Service #4: Mobilize Partnerships	
4.1 Partnership Development	5.0
4.2 Communication	67.0
4.3 Resources	33.0
Overall Score	35.0

Essential Service #5: Develop Policies & Plans	
5.1 Partnerships in Public Health Planning	67.0
5.2 Role in Laboratory Policy Making	100.0
5.3 Dissemination & Evaluation	100.0
Overall Score	89.0

Essential Service #6: Enforce Laws & Regulations	
6.1 Laws & Regulations	67.0
6.2 Enforcement of Laws & Regulations	67.0
Overall Score	67.0

Essential Service #7: Link People to Services	
7.1 Provision of Lab Services	50.0
Overall Score	50.0

Essential Service #8: Competent Workforce	
8.1 Defined Scope of Work & Practice	67.0
8.2 Recruitment & Retention of Staff	33.0
8.3 Assuring a Competent Workforce	19.0
Overall Score	39.7

Essential Service #9: Evaluation of Effectiveness	
9.1 System Mission & Purpose	67.0
9.2 System Effectiveness & Accessibility	77.7
Overall Score	72.3

Essential Service #10: Research	
10.1 Planning & Financing Research	67.0
10.2 Implementation & Evaluation	67.0
Overall Score	67.0

G. RECOMMENDATIONS

Participants in the 2017 L-SIP reassessment identified numerous opportunities for PHL System improvement. The highest priority opportunities, as determined at the assessment, include: improve communication within the SPHL System, build and strengthen partnerships between SPHL System members, implement or improve electronic laboratory systems, and develop a public health laboratory support plan for the SPHLS.

H. NEXT STEPS

The Next Steps suggested during the 2017 L-SIP reassessment are currently being refined to improve laboratory system communication, partnerships, and electronic systems.