



Laboratory System Improvement Program Report



**Indiana
Department
of
Health**



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1. Executive Summary

On Nov. 3, 2022, 57 Indiana public health laboratory system stakeholders from more than 20 agencies participated in the Laboratory System Improvement Program (L-SIP) assessment. Partners included the Indiana State Board of Animal Health, Indiana Department of Corrections, local health departments, the FBI, Indiana Department of Environmental Management, hospitals and community-based organizations.

The Indiana Department of Health is the sixth state to complete this second or reassessment L-SIP from the Association of Public Health Laboratories (APHL). The first assessment was completed by the Indiana Department of Health Laboratory in 2009 and had 36 participants.

The L-SIP assessment is designed to measure the capacity of the statewide laboratory system to fulfill Ten Essential Services (ES).¹ The Essential Services describe the model standard for each service, which are measured by one or more indicators.² The ES and model standards represent the capacities that must be present in a system to fulfill their essential duty to serve and protect the public. The Ten Essential Services are used because of their similarity to the 11 Core Functions of Public Health Laboratories.³ An APHL diagram of the 11 Core Functions of a Public Health Laboratory matched with the 10 Essential Services is shown below⁴:

Crosswalk of Essential Services and Core Functions of Public Health Laboratories

Essential Service	Core Function
1. Monitor health status to identify community health problems	1. Disease prevention, control and surveillance
2. Diagnose and investigate health problems and health hazards in the community	2. Integrated data management 3. Reference and specialized testing 4. Environmental health and protection 5. Food safety 8. Emergency response
3. Inform, educate and empower people about health issues	10. Training and education 11. Partnerships and communication
4. Mobilize partnerships to identify and solve health problems	11. Partnerships and communication
5. Develop policies and plans that support individual and community health efforts	7. Policy development
6. Enforce laws and regulations that protect health and safety	6. Laboratory improvement and regulation
7. Link people to needed personal health services and assure provision of health care when unavailable	3. Reference and specialized testing
8. Assure a competent public and personal health care workforce	10. Training and education
9. Evaluate effectiveness, accessibility, and quality of personnel and population-based service	3. Reference and specialized testing 6. Laboratory improvement and regulation
10. Research for new insights and innovative solutions to health problems	9. Public health-related research

Using the 10 Essential Services as a guide for the L-SIP process, the performance of the system is measured using the following five ratings:

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

Strengths identified for Indiana's statewide laboratory system included Essential Services:

1 - Assess and Monitor Population Health Status, Factors that Influence Health, and Community Needs and Assets.

5 - Create, Champion and Implement Policies, Plans and Laws that Impact Health

As a result of the L-SIP reassessment, the IDOH Laboratory will facilitate renewed strategic planning with statewide system stakeholders to ensure the system continues to provide the essential services. This process will address the areas of improvement and build upon the strengths identified through the L-SIP reassessment.

This will be accomplished by:

1. Launch an L-SIP Reunion within 1 year of completion of the assessment
2. Recruit members for a strategic advisory committee. Meet regularly with the advisory committee to develop an action plan to continue to strengthen the statewide public health laboratory system

Other areas that will be addressed specifically by IDOHL only:

1. Explore options for implementing a statewide courier system
2. Continue routine outreach and communications through the Indiana Laboratory System
3. Update the IDOHL website to reflect laboratory system updates

Forty-three participants completed the L-SIP Evaluation Form ([See Appendix G](#)). One hundred percent of respondents indicated that the L-SIP was a helpful tool and process and all, but one respondent indicated that they would participate in the process again.

2. Introduction

On Nov. 3, 2022, 57 Indiana public health laboratory system stakeholders from more than 20 agencies participated in the Laboratory System Improvement Program (L-SIP) assessment. Partners included the Indiana State Board of Animal Health, Indiana Department of Corrections, local health departments, the FBI, Indiana Department of Environmental Management, hospitals, and community-based organizations.

These primary stakeholders were charged with the task of using the L-SIP assessment to meet the following goals:

1. Assess system performance.
2. Plan for system improvements.
3. Implement improvement strategies.
4. Periodically evaluate and re-assess.

Looked at another way, the L-SIP reassessment is a way to answer the following questions (4):

The 10 Essential Services in English

Essential Service	Non-public Health Version
1	What's going on in my state? How healthy are we?
2	Are we ready to respond to health problems or threats in my state? How quickly do we find out about problems? How effective is our response?
3	How well do we keep all segments of our state informed about health issues?
4	How well do we really get people engaged in health issues?
5	What policies in both government and the private sector promote health in my state? How effective are we in setting healthy state policies?
6	When we enforce health regulations, are we technically competent, fair, and effective?
7	Are people in my state receiving the medical care they need?
8	Do we have a competent public health staff? How can we be sure that our staff stays current?
9	Are we doing any good? Are we doing things right? Are we doing the right things?
10	Are we discovering and using new ways to get the job done?

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The remainder of this report details the L-SIP reassessment day, the results, and potential next steps.

3. Background

The Indiana Department of Health Laboratory, formerly the Indiana State Department of Health (ISDH) Laboratory, contracted with Purdue's Healthcare Technical Assistance Program in 2009 to complete the first statewide L-SIP assessment. The primary goals of this assessment were to build the Laboratory's network, of both attending partners and beyond, and to better address the needs of the laboratory system throughout Indiana.

The assessment was conducted by a Purdue University, HealthcareTAP project team, under the direction of the Population Health Program Manager and Principal Investigator. On Oct. 23, 2009, the assessment was completed with 36 participants.

Participants identified 'defining the system; and formalizing the system with an Advisory Board as critical first steps to improving the statewide laboratory system. As a result, the IDOH Laboratory team began work on formalizing what became known as the Indiana Laboratory System.

The IDOH Laboratory team developed a brand for the Indiana Laboratory System, including a logo, mission, fact sheet, and strategic vision for the future. By definition, the ILS included all contributors to public health testing; including those who initiate testing and those who use results.⁶

The mission was: to increase awareness of existing and emerging conditions by fostering effective communication, enhanced partnerships, and educational opportunities for all laboratorians in Indiana to provide a healthier state for all Hoosiers.

The priorities of the ILS were to leverage and foster inter-agency partnerships, share educational opportunities, enhance communications, provide quality care for all Hoosiers, and promote a safer, more prepared Indiana.

The Indiana State Department of Health (ISDH) Laboratory performed a statewide laboratory system assessment in 2009. Partnership development and communications plans were two areas identified for improvement.³ Recommendations for next steps included relationship building, the use of websites, information sharing, and collaboration.³ Since 2009, many of these needs have been addressed with Indiana's clinical laboratories.⁶

To address the communications goals, IDOH launched collaboration and communication efforts with Indiana's clinical sentinel laboratories that included: the ISDH SharePoint website (<https://myshare.in.gov/ISDH/islabs/default.aspx>), an email listserv, and email address exclusive to the IDOH Lab Outreach Team (isdh-lab-info@isdh.in.gov). Clinical sentinel laboratories throughout the state became familiar with the communication and training format, however gaps still existed in reaching Indiana's non-clinical laboratories.⁶

Due to staffing changes, both at IDOHL and partner agencies, outbreaks, lack of urgency among stakeholders, and most recently, the COVID-19 pandemic, the work of the ILS slowly lost momentum.

However, during the COVID-19 pandemic, it was obvious that the work of the ILS and the greater statewide system needed to be revitalized, which led to the planning of the L-SIP reassessment in Fall 2022.

4. Reassessment Day

The IDOH Laboratory provided leadership for planning and implementing the L-SIP reassessment, which was held at the Indiana Government Center. The agenda can be found in Appendix E. Fifty-seven laboratory system stakeholders representing almost 20 agencies and departments participated in the assessment. Fifteen of the participants (including theme takers) represented IDOHL. Furthermore, 21 participants were from IDOH. The significant number of IDOH participants is due to the wide range of collaboration that must take place at the state level to support community health.

While every effort was made to include a broad range of system partners, it should be noted that the results in this report reflect the perspective of the participants that attended the assessment day.

In addition, four partners participated in both the 2009 and 2022 assessments. A full list of the participating agencies can be found in Appendix F.

Before arrival at the L-SIP reassessment, registered participants were sent an introductory email including the following documents:

- L-Sip Fact Sheet ([Appendix A](#))
- IDOH Laboratory Introduction Poster ([Appendix B](#))
- Meet the Facilitators ([Appendix C](#))
- Meet the IDOH Laboratory Team ([Appendix D](#))
- L-SIP Agenda ([Appendix E](#))

Upon arrival at the L-SIP reassessment day, participants were given a folder with the printed versions of the same documents and a printed copy of the L-SIP tool, which can be found on the APHL website at: <https://www.aphl.org/aboutAPHL/publications/Documents/QS-2022-LSIP-Toolkit.pdf>. After checking in, the participants participated in the opening session.

The opening plenary session included welcome remarks from the State Health Commissioner Dr. Kris Box, and Laboratory Director and Assistant Commissioner Dr. Lixia Liu. After welcoming the participants and encouraging their honest feedback in the process, the microphone was passed over to Association of Public Health Laboratories Manager of Quality Systems and Analytics Tina Su to begin the formal assessment process. Once the entire group of participants was oriented to the assessment process, Su facilitated discussion on Essential Service #2: Investigate, Diagnose and Address Health Problems and Health Hazards Affecting the Population.



Above: Dr. Kris Box welcomes the L-SIP participants on the morning of November 3rd, 2022.

Participants were encouraged to share honest feedback on each of the key points for discussion, respond to their colleagues' comments, and suggest possible areas for improvement. At the conclusion of the discussion, each participant was asked to rate the system's performance from "None" to "Optimal." Through Su's facilitation, the group came to consensus on both of the Key Ideas for Essential Service #2.



Above: Dr. Lixia Liu, the Laboratory Director, addresses the L-SIP participants on the morning of Nov. 3, 2022.

After completing Essential Service #2, participants were then directed to their smaller breakout groups to discuss the remaining Essential Services.



Above: Tina Su from APHL introduces the L-SIP process and begins facilitation on ES #2.



A breakout group votes to rate the laboratory system's performance on a key indicator during the L-SIP reassessment.

At the end of the day, the large group got back together to go over the results of the breakout group work and provide an opportunity for further comment on the results. Participants were then thanked for their participation and encouraged to complete an evaluation before leaving for the day.



A breakout group discusses the laboratory system's performance on a key indicator during the L-SIP reassessment.

5. Results

SUMMARY OF SCORES

The 2022 L-SIP reassessment used the following rating options for the Ten Essential Public Health Services:

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

The results for the 2022 reassessment are on the chart below:

L-SIP Scoresheet		Score
Essential Service #1		
Key Idea 1.1.1	Optimal	
Key Idea 1.1.2	Optimal	
Key Idea 1.1.3	Significant	
Essential Service #2		
Key Idea 2.1.1	Significant	
Key Idea 2.1.2	Significant	
Essential Service #3		
Key Idea 3.1.1	Significant	
Key Idea 3.1.2	Significant	
Essential Service #4		
Key Idea 4.1.1	Moderate	
Essential Service #6		
Key Idea 6.1.1	Significant	
Key Idea 6.1.2	Significant	
Essential Service #7		
Key Idea 7.1.1	Significant	
Key Idea 7.1.2	Optimal	
Essential Service #8		
Key Idea 8.1.1	Significant	
Key Idea 8.2.1	Significant	
Key Idea 8.2.2	Moderate	
Essential Service #9		
Key Idea 9.1.1	Significant	
Key Idea 9.2.1	Significant	
Key Idea 9.2.2	Moderate	
Essential Service #10		
Key Idea 10.1.1	Significant	
Key Idea 10.1.2	Significant	
Key Idea 10.1.3	Significant	

The remainder of this report will detail the results from the reassessment.

A. ESSENTIAL SERVICE #1

Assess and Monitor Population Health Status, Factors that Influence Health, and Community Needs and Assets.

Score	Key Idea	Notes
Optimal	Key Idea 1.1.1: The System identifies infectious disease and environmental sentinel events, monitors trends, and participates in state and federal surveillance systems.	Strengths: • Environmental health sentinel surveillance; water testing for private citizens; collaboration with IDEM for surface water testing; partnership with epidemiologist at the state level; partnership with DOC; team flexibility and communication with rabies testing; quick TAT; communication between stakeholders when animal specimens involved. • Quote: "The IDOHL looks for individual solutions for each unique case of rabies." Opportunities for Improvement: • Lacking procedures to get specimens sent in a timely manner; shipping slowing down results; pharyngeal swabs; IDOHL electronic records do not connect to EHRs; commercial labs will pick up specimens/have own courier system; cost of testing; inability to cross-reference test results with DOH NBS to prevent duplicate testing for hep C. Next steps: • Investigate feasibility of a courier system • Investigate HIV viral load testing

		- Investigate pharyngeal testing for CT/GC - Investigate connectivity possibilities between LimsNet and EHRs; LimsNet and IDOH NBS
Optimal	Key Idea 1.1.2: The system monitors congenital, inherited and metabolic diseases of newborns and participates in state and federal surveillance systems.	Strengths: - Newborn screening program is contracted out to IU Health; no representatives from program at L-SIP reassessment; having program contracted gives IDOH more control over deliverables and increases accountability. Opportunities for Improvement: - None at this time Next steps: - None at this time
Significant	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	Strengths: LIMS system; responsiveness and availability of LIMS Help Desk; movement log in process to Access Indiana (increased security); LimsNet is user-friendly; easy to use; DOC partnership; HL7 bidirectional electronic communications; PH12 update will increase capabilities; working to get reporting function to submitters by end of calendar year; ability of LIMS team to create new user groups for specific staff needs.

	to strengthen electronic surveillance systems.	Opportunities for Improvement: • Out of date/lack of training materials for LimsNet; LimsNet does not connect to EHRs to order tests or report results; lack of functionality to pull more targeted reports; inability to pull demographic info from NBS; lack of functionality to run queries (can only do this by type of test); cannot export results to excel - must go into each submission; cannot funnel results by color (red or green); no dashboard feature; hand scanning; glitch with ordering HIV and Hep B &C testing. Next Steps: • Investigate functionality/possibility of creating the following in LimsNet: ◦ A dashboard ◦ Connection to EHRs (should be able to by next year via PH12 integration) ◦ Targeted reports/queries ◦ Demographic information, past test positivity from NBS ◦ Export results to Excel ◦ Push button option for CDR reporting to be sent directly to DIS • Investigate LimsNet button option to send results directly to county to report CDR conditions
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		- Investigate if LimsNet can query NBS to see if individual has already been confirmed positive of Hep C (prevent duplication of testing) - Investigate glitch where if you order HIV and Hep C on the same specimen, you must all order Hep B to get LimsNet to recognize the required questions - Update training resources for LimsNet & explore creating new training materials based on L-SIP feedback
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B. ESSENTIAL SERVICE #2

Investigate, Diagnose and Address Health Problems and Health Hazards Affecting the Population

Score	Key Idea	Notes
Significant	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.	Strengths: DOC receives timely communication from IDOHL; quick TAT, IDEPD partnership with IDOHL; availability of information on testing and results; improved lab capacity during COVID-19 by creating partnerships; IDOHL willingness to cover after hours as needed; IDOHL handling special requests.

	Opportunities for Improvement: - Funding challenges - ELC money organized by pathogens; items are competing for the same resources - how does the system prioritize limited resources; lack of funding to cover testing/instrumentation availability currently at the IDOHL; lack of clarity on cut-off times for shipping at various couriers/no centralized courier system; IDOHL does not receive specimens on Saturdays; difficulty of maintaining scientific expertise at IDOHL/staff turnover; updating website and communications to reflect methods/tests that are no longer available; mpox response - response and communications were delayed and 2 step process to get results led to issues (CDC sometimes rejecting specimens). Next Steps: - Investigate feasibility of statewide courier system or regional PHL facilities - Update IDOHL website and other communications materials that are outdated/reflect testing/methods no longer done at the laboratory - Investigate staff retention best-practices to implement at IDOHL
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Significant	Key Idea 2.1.2: The System has the necessary capacity and authority in place to rapidly respond to public health events.	Strengths: • IDOHL response - agile and able to specialize for individual needs; IDOHL staff expertise and customer service; LRN-B and LRN-C funding; clinical laboratories participating in LPX proficiency testing exercises. Opportunities for Improvement: • Communication between LHDs and IDOHL employees; statewide system does not have a COOP; lack of reliable funding - specifically for radiochemistry and food testing. Next Steps: • Test IDOHL COOP • Investigate ability to create/collaborate on a statewide COOP • Investigate how to expand network of labs that participate in LPX proficiency testing • Investigate how to improve communication among system partners
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C. ESSENTIAL SERVICE #3

Communicate Effectively to Inform and Educate People about Health Issues, Factors that Influence It, and How to Improve It

Score	Key Idea	Notes
Significant	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.	Strengths: • Communication on website/LimsNet; customer service; LimsNet customer service when needing to add other modules to customer accounts. Opportunities for Improvement: • Lack of public awareness on the scope of public health laboratories; information availability within LimsNet (shipping instructions, specimen instructions, other testing options, test availability); SEO limited on IDOH website - you must have exact phrase to get correct information. Next Steps: • Investigate LimsNet functionality - can positive results populate with information on what to do next (i.e. CDR directions with reporting timeframes, reporting from within LimsNet) • Explore updating the specimen instructions to include an A-Z index (Full list of what IDOHL offers), each page having the same formatting, include pricing information,

		appropriate submission forms (Communications designed for the smaller agencies that don't do testing regularly) direct information/connection from test submission to specimen instructions (shipping, specimen collection, supplies required, TAT/stipulations) • Clarify communications regarding LimsNet order forms and how to get them added to your account • IDOHL - Launch laboratory outbreak response line ◦ Investigate functionality to incorporate Epi to better respond to questions, improve customer service • Write directions - how do smaller agencies (who don't test as often) calculate when to ship a specimen (use real world examples and demo/create flyer) • Work with Epi on Call to Update 'The Binder'
Significant	Key Idea 3.1.2: The System creates and provides educational opportunities to community partners.	Strengths: • Launch of Indiana Laboratory System Partner Webcast; Provider Calls; LHD calls; GovDelivery newsletter subscription; outreach events (like Celebrate Science, working to expand network); IDOHL tours and field trip availability again post COVID; information available in multiple languages; website update forthcoming; availability of

		communications specialist specifically for IDOHL. Opportunities for Improvement: • Availability of information in Burmese and Urdu; lack of public awareness/knowledge about laboratory systems or public health laboratories; availability of photos for laboratory communications. Next Steps: • Create more collateral for the Indiana Laboratory System, continue webcasts and current outreach • Further develop the ILS brand - who are we, who is the customer, why do we exist? • Update IDOHL website to reflect Indiana Laboratory System activities and role
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D. ESSENTIAL SERVICE #4

Strengthen, Support and Mobilize Communities and Partnerships to Improve Health

Score	Key Idea	Notes
Moderate	Key Idea 4.1.1: Partners in the System develop and maintain relationships to	Strengths: • Internal partnerships; IDOHL/EPI partnership; ILS webcast; quarterly meetings with TB units; Epi partnership with IU to

	formalize and sustain an effective system.	assist with investigations and support LHDs; steering committee for healthcare-associated infections; IDOHL hosts fellowships and internships; leveraging of existing partnerships; outlook on frequency of meetings and structure within IDOH among division directors. Opportunities for Improvement: • Lack of partnerships outside of the state and with external labs; lack of academic partnerships; targeted outreach to disproportionately impacted groups; no established steering committee; difficulty in defining contracts; MOUs within agency; IDOH Finance division can cause delays in MOU process. Next Steps: • Implement a Steering Committee for the Indiana Laboratory System • Investigate possibility of informal MOUs with strategic partners
Moderate	Key Idea 4.2.1: System members communicate in regular, timely, and effective ways to support collaboration.	Strengths: • Availability of communication avenues; existing communications resources; IHAN alert system; ILS Partner Webcasts; LabInfo Email; IDOHL Customer Satisfaction Survey; IDOH Communications Staff; Barb the Bot

		on IDOH website during COVID-19; LHD webcasts and clinician webcasts. Opportunities for Improvement: - Only 3,500 subscribers to IHAN alerts; difficult to maintain accurate contact information database; solicitation of public communication and feedback, confusing communication pathways at IDOHL; lack of clarity on system primary points-of-contact; lack of emergency communications infrastructure. Next Steps: - Continue to grow subscriber network via GovDelivery and direct subscribers to IHAN - Investigate ways to clarify appropriate POCs at the laboratory level and determine how best to communicate this to partners - Prepare communications for potential emergencies and outbreaks
Moderate	Key Idea 4.3.1: The PH Laboratory System works together to share existing resources and identify new resources to address health issues.	Strengths: Governor's Public Health Commission policy proposal may improve public health funding across the state.

		Opportunities for Improvement: - Existing partnerships, collaborations, and/or resources are not always communicated to the entire system; funding, grant writing is a large time commitment; lack of staff and surge capacity. Next Steps: - Investigate strategies for workforce recruitment and retainment
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E. ESSENTIAL SERVICE #5

Create, Champion and Implement Policies, Plans and Laws that Impact Health

Score	Key Idea	Notes
Optimal	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.	Strengths: - Policies and plans for testing work well; DOC collaboration with IDOH; customer service from IDOHL and IDEPD; IDOHL partnership with IDOH Office of Legislative Affairs. Opportunities for Improvement: - Confusing changes in CDR. Next Steps:

		• Explore ways to better communicate changes to the CDR • Explore ways to build additional partnerships with the System
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F. ESSENTIAL SERVICE #6

Utilize Legal and Regulatory Actions Designed to Improve and Protect the Public's Health

Score	Key Idea	Notes
Significant	Key Idea 6.1.1: The System is actively engaged in the review and revision of laws and regulations pertaining to laboratory practice.	Strengths: • Regular review of regulations; CDR updates; no state licensure currently required; comments/updates engage all populations; communication and notification regarding regulatory changes; state legislature more agile to regulatory changes. Opportunities for Improvement: • Difficult to implement federal mandates; increase in testing volume above laboratory capacity; FDA mandates; price of water testing insufficient to cover cost of testing; overall undercharging of public services; systemic issues with billing for services.

		Next Steps: • Advocate for cost changes to testing services
Significant	Key Idea 6.1.2: The System promotes compliance by all laboratories with regard to applicable laws and regulations.	Strengths: • Communication efforts to spread information on regulatory practices to the system; IHAN partnership; system maintains successful compliance assessments and various accreditations; routine CLIA inspections; drinking water certification program; system helps to provide resources for compliance; resources for specimen shipping. Opportunities for Improvement: • Lack of COVID compliance to CLIA regulations; lack of regulatory education for waived testing; laboratories not following manufacturer testing instructions; labs not reporting results; sustainability of communications beyond COVID-19 funding; lack of compliance to CLIA regulations; barcode scanning errors; dated technology. Next Steps: • None at this time

G. ESSENTIAL SERVICE #7

Assure an Effective System that Enables Equitable Access to the Individual Services and Care Needed to Be Healthy

Score	Key Idea	Notes
Significant	Key Idea 7.1.1: The System identifies laboratory service needs and collaborates to fill gaps.	Strengths: • IDOHL is quick to collaborate to fulfill testing needs; communication when there is a backlog at the lab; biothreat and radioactivity training available at hospitals. Opportunities for Improvement: • Courier system; UPS doesn't get samples to the lab on time and has lost specimens; biohazard sticker causes confusion when using UPS/FedEx/Postal Service; delay in getting some sample results due to backlog at the lab; confusion on how to handle new outbreaks; need to make it easier to find right information on IDOH website; increase transparency between IDOH and partners; lack of clarity on who is POC; hospitals and LHDs don't have great relationship; the system seems siloed. Next Steps: • Investigate feasibility of statewide courier system • Investigate feasibility of training program for couriers

		• Investigate ways to better communicate within the system • Investigate ways to increase partner trust, reduce 'silos'
Optimal	Key Idea 7.1.2: The System provides timely and accessible quality services.	Strengths: • Lab schedule, supplies and staff Opportunities for Improvement: • IDOH website; emergencies/outbreaks cause unanticipated delays and issues; embed link within LimsNet to the specimen shipping instructions; lack of equity in water testing; poor customer service of IDOHL receiving. Next Steps: • Investigate feasibility of linking specimen shipping instructions within LimsNet • Investigate ways to better recruit and retain staff • Investigate ways to make water testing more equitable for those in poverty and rural areas • Investigate resources for phlebotomy training

		Investigate ways to improve customer service in IDOHL receiving and provide phone number to call if partners are running late/hit traffic
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H. ESSENTIAL SERVICE #8

Build and Support a Diverse and Skilled Public Health Workforce

Score	Key Idea	Notes
Significant	Key Idea 8.1.1: The System maintains an environment to attract and retain diverse and highly qualified staff.	Strengths: - New policies and benefits have been implemented for state employees including increased wages, remote work, educational reimbursement; applicant pool has increased; IDOHL fellowship and internships; IDOHL outreach events and school field trips/tours; initiatives in place to increase diversity in workforce with health equity counsel and training modules agency-wide; implementation of low-income outreach via Celebrate Science and metropolitan school districts. Opportunities for Improvement: - Rebuilding and retaining qualified staff after COVID; barrier of qualification for some areas regulated by CLIA; system does not address contractor positions appropriately; difficult to compete with private sector; changing job descriptions is long, difficult process; attracting

		certain pools of applicants is challenging; system does not necessarily strategically target diverse workforce. Next Steps: • Continue outreach efforts (events, tours, and field trips) through IDOHL • Explore best practices for attracting and retaining diverse laboratory staff • Explore ways to better market job opportunities through laboratory/agency communications
Significant	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.	Strengths: • Availability of training and cross-training; quality of training curriculum; breadth of statewide training opportunities. Opportunities for Improvement: • Lack of community training opportunities; competency gaps in all sectors; difficult to maintain continuity with staff turnover/sickness; lack of time for staff development; lack of clarity of career progression within the system; inability to move or change positions within the system; employees lost to private sector; internships can be very short and unpaid.

		Next Steps: • None at this time
Moderate	Key Idea 8.2.2: The System identifies and addresses current and future workforce shortage issues	Strengths: • Outreach activities; established partnerships; IDOHL hosts field trips, tours; Partnerships between State divisions and local universities. Opportunities for Improvement: • Med Tech shortages; lack of information on potential shortages; future lab directors must go through CPEP program; lack of focus for hiring activities; low volume of outreach activities/lack of systemic support; state agencies lack of voice in hiring directives/outreach; certain resources unavailable for assisting outreach. Next Steps: • None at this time

I. ESSENTIAL SERVICE #9

Improve and Innovate Public Health Functions Through Ongoing Evaluation, Research and Continuous Quality Improvement

Score	Key Idea	Notes
Significant	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.	Strengths: • Kickoff meetings for various projects; IDOHL properly certified to conduct needed testing; IDOHL Drinking Water Certification Program; COVID-19 pandemic efforts; IDOHL sends out a biennial customer satisfaction survey to all email addresses in their customer/submitter database. Opportunities for Improvement: • No evaluation for statewide laboratory system; some tests are not included in the Indiana Health Information Exchange (IHIE); not all samples include race and ethnicity data; inability of IDEPD to see lab testing metrics; lack of process at IDOHL to review/add/delete tests done at laboratory. Next Steps: • Investigate options for statewide laboratory system evaluation • Complete a statewide laboratory system evaluation • Investigate ways to increase information on IHIE

		• Investigate ways to increase race and ethnicity data reported to IDOHL • Investigate ways to share testing metrics with partners • Investigate ways to expand available information in the IDOHL customer database
Significant	Key Idea 9.2.1: The system has adequate expertise and capacity to plan research and innovation activities.	Strengths: • Collaboration among system partners; innovation within ELC funding; IDOHL Advanced Molecular Diagnostics efforts; receptiveness to new ideas and tests. Opportunities for Improvement: • Lack of research being done; process for MOAs and MOUs is cumbersome; limited funding. Next Steps: • None at this time
Moderate	Key Idea 9.2.2: The System promotes research and innovative solutions.	Strengths: • Innovation during mpox outbreak; use of Animal Disease Diagnostic Lab partnership during outbreaks. Opportunities for Improvement:

		• Lack of communication with partners about IDOHL poster presentations and research. Next Steps: • Investigate ways to share research with lab system partners • Investigate ways to increase the amount of research and published works from the lab system
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K. ESSENTIAL SERVICE #10

Build and Maintain a Strong Organization Infrastructure for Public Health

Score	Key Idea	Notes
Significant	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.	Strengths: • Rapid Response Team processes (After Action Reports); BioWatch MOU with DHS; current educational efforts; packaging and shipping training; Biothreat workshops; IDEM SSLAP MOU successful. Opportunities for Improvement: • Collection of feedback from more than just management for After Action Reports; lack of MOUs with colleges/universities; difficulty moving funds from one state agency to another; lack of available resources to empower/support/maintain

		beneficial relationships within the state laboratory system; lack of strategic plan. Next Steps: • None at this time
Significant	Key Idea 10.1.2: The system's leadership acts ethically and strategically and communicates proactively to the public through different mechanisms.	Strengths: • ERC and IDOHL partnership on planning, grant writing and testing; routine ethics training for state employees; statewide whistleblower policy; IDOHL sections meet with customers on a quarterly or annual basis; communication avenues already in place (including Listserv, IHAN, ILS Monthly Partner Webcasts); IDOH Social Media outreach. Opportunities for Improvement: • Lack of systemic approach across lab system for collaboration; out-of-date information on IDOHL website; increase lab information in agency-wide media. Next Steps: • Develop a systemic approach that includes a report of the following: tests available at IDOHL, tests available with system partners, number of outbreaks investigated by IDOH • Evaluate information available on IDOHL website and update as necessary

Significant	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.	Strengths: - Recent statewide wage increase; COVID-19 funding; improvements in communication with submitters/IDOHL; IDOHL facility, security and maintenance; IDOHL grant funding through ELC and PHEP. Opportunities for Improvement: - Pace of finance processing/staffing issues; instrument interface with statewide networks does not often work causing security risks by some devices; older equipment; lab staffing; lack of funds to upgrade to new mold testing method; limited state funding; limited space in IDOH Laboratory; lack of needs assessment for statewide laboratory system. Next Steps: - None at this time
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6. Participant Evaluation

The L-SIP assessment evaluation was returned by 43 of 44 participants.

For the following statements, the participants scored the assessment an average between a 4-5 rating (Note: a rating of a 3 denotes 'Good' and a rating of a 5 denotes 'Superb'):

- Stated objectives of the meeting were met
- Dialogue was useful
- I support the efforts being made
- Next steps are clear
- Meeting was a good use of my time

Meeting arrangements:

- Advance notice
- Accommodations
- Advance materials were useful and received with enough time to review

Flow of meeting:

- Started on time
- Clear objectives for the meeting
- Agenda was followed or appropriately amended
- The "right people" were at the meeting
- The facilitators were knowledgeable about the material and kept the dialogue flowing

Other metrics of note:

- Scored an average of 4.56 for the statement 'Participation in the assessment was appropriate for someone in my position.'
- Forty-two of 43 respondents stated that they would participate in the process again.
- All respondents stated that the assessment was a helpful tool and process.

Notable Quotes:

- When asked what worked well, participants cited a variety of items including: working as a group on Essential Service #2, using break out groups to facilitate discussion, the consensus building process, the facilitators and theme takers, the agenda, accommodations, and the advance materials.

Quotes from participants include:

- "It takes a lot of dedication, integrity, and courage to plan and implement a program like this. Kudos to everyone involved for their hard work. Thank you!"
- "The lab employees present were fantastic! Open to suggestions and genuinely interested in solving issues. Great!"
- "All participants felt at ease and spoke freely."
- "The team did their best to get the right people here."
- "I think small groups dialogue was extremely effective in facilitating discussion. I was impressed with the knowledge and contributions of every attendee and felt it was a great privilege to hear from so many different lab partners from widely different places."

Feedback on areas of improvement:

It is clear from the written feedback in the participant evaluations that the group desired more time to work on "Next Steps." Participants noted challenges when developing action plans during the sessions due to time constraints and wanted more time to summarize and document the next steps. One participant noted, "I wish we had more time to re-address and propose new 'next steps.' I think we might have been able to accomplish developing frameworks for next steps if more time had been given."

Additionally, participants wished that the main assessment room and breakout rooms would have been laid out in a circle, to facilitate better discussion. The L-SIP planning team was unable to accommodate this due to the size of the group.

The absence of certain system partners was noted as a limitation to the discussion.

A copy of the participant evaluation form can be found in [Appendix G](#).

ESSENTIAL SERVICE #1

- Investigate feasibility of a courier system
- Investigate HIV viral load testing
- Investigate pharyngeal testing for CT/GC
- Investigate connectivity possibilities between LimsNet and EHRs; LimsNet and IDOH NBS
- Investigate functionality/possibility of creating the following in LimsNet:
 - A dashboard
 - Connection to EHRs (should be able to by next year via PH12 integration)
 - Targeted reports/queries
 - Demographic information, past test positivity from NBS
 - Export results to Excel
 - Push button option for CDR reporting to be sent directly to DIS
- Investigate LimsNet button option to send results directly to county to report CDR conditions
- Investigate if LimsNet can query NBS to see if individual has already been confirmed positive of Hep C (prevent duplication of testing)
- Investigate glitch where if you order HIV and Hep C on the same specimen, you must all order Hep B to get LimsNet to recognize the required questions
- Update training resources for LimsNet & explore creating new training materials based on L-SIP feedback

ESSENTIAL SERVICE #2

- Investigate feasibility of statewide courier system or regional PHL facilities
- Update IDOHL website and other communications materials that are outdated/reflect testing/methods no longer done at the laboratory

- Investigate staff retention best-practices to implement at IDOHL
- Test IDOHL COOP
- Investigate ability to create/collaborate on a statewide COOP
- Investigate how to expand network of labs that participate in LPX proficiency testing
- Investigate how to improve communication among system partners

ESSENTIAL SERVICE #3

- Investigate LimsNet functionality - can positive results populate with information on what to do next (i.e. CDR directions with reporting timeframes, reporting from within LimsNet)
- Explore updating the specimen instructions to include an A-Z index (Full list of what IDOHL offers), each page having the same formatting, include pricing information, appropriate submission forms (Communications designed for the smaller agencies that don't do testing regularly) direct information/connection from test submission to specimen instructions (shipping, specimen collection, supplies required, TAT/stipulations)
- Clarify communications regarding LimsNet order forms and how to get them added to your account
- IDOHL - Launch laboratory outbreak response line
- Investigate functionality to incorporate Epi to better respond to questions, improve customer service
- Write directions - how do smaller agencies (who don't test as often) calculate when to ship a specimen (use real world examples and demo/create flyer)
- Work with Epi on Call to Update 'The Binder'
- Create more collateral for the Indiana Laboratory System, continue webcasts and current outreach

- Further develop the ILS brand - who are we, who is the customer, why do we exist?
- Update IDOHL website to reflect Indiana Laboratory System activities and role

ESSENTIAL SERVICE #4

- Implement a Steering Committee for the Indiana Laboratory System
- Investigate possibility of informal MOUs with strategic partners
- Continue to grow subscriber network via GovDelivery and direct subscribers to IHAN
- Investigate ways to clarify appropriate POCs at the laboratory level and determine how best to communicate this to partners
- Prepare communications for potential emergencies and outbreaks
- Investigate strategies for workforce recruitment and retainment

ESSENTIAL SERVICE #5

- Explore ways to better communicate changes to the CDR
- Explore ways to build additional partnerships with the System

ESSENTIAL SERVICE #6

- Advocate for cost changes to testing services

ESSENTIAL SERVICE #7

- Investigate feasibility of statewide courier system
- Investigate feasibility of training program for couriers
- Investigate ways to better communicate within the system
- Investigate ways to increase partner trust, reduce 'silos'

- Investigate feasibility of linking specimen shipping instructions within LimsNet
- Investigate ways to better recruit and retain staff
- Investigate ways to make water testing more equitable for those in poverty and rural areas
- Investigate resources for phlebotomy training
- Investigate ways to improve customer service in IDOHL receiving and provide phone number to call if partners are running late/hit traffic

ESSENTIAL SERVICE #8

- Continue outreach efforts (events, tours, and field trips) through IDOHL
- Explore best practices for attracting and retaining diverse laboratory staff
- Explore ways to better market job opportunities through laboratory/agency communications

ESSENTIAL SERVICE #9

- Investigate options for statewide laboratory system evaluation
- Complete a statewide laboratory system evaluation
- Investigate ways to increase information on IHIE
- Investigate ways to increase race and ethnicity data reported to IDOHL
- Investigate ways to share testing metrics with partners
- Investigate ways to expand available information in the IDOHL customer database
- Investigate ways to share research with lab system partners
- Investigate ways to increase the amount of research and published works from the lab system

ESSENTIAL SERVICE #10

- Develop a systemic approach that includes a report of the following: tests available at IDOHL, tests available with system partners, number of outbreaks investigated by IDOH
- Evaluate information available on IDOHL website and update as necessary

9. References

The IDOH Laboratory would like to recognize:

- Indiana Department of Health State Health Commissioner Dr. Kris Box for her support of the L-SIP reassessment, providing opening remarks, and continued support of the Laboratory's implementation of the L-SIP results.
- The Association of Public Health Laboratories (APHL) and Quality Systems Manager, Tina Su, for providing funding, resources, and support to IDOHL to successfully plan and implement the L-SIP reassessment.
- L-SIP Facilitators, Dr. Katie Seely, LeAnne Burns, and N. Myron Gunsalus, Jr., for taking the time out of their schedules to receive training on L-SIP facilitation and traveling to Indianapolis to facilitate the L-SIP breakout groups.
- L-SIP theme takers, Joey Hunt, Chris Grimes, Amanda Berlon, Alisha Aschenbrenner, Derek Sebold, and Erik Ohannesian, for taking detailed and deliberate notes on the rich discussion throughout the reassessment.
- IDOHL staff and their passion for continuous improvement. We especially would like to thank the planning committee for the L-SIP assessment including Mark Glazier, Janet Kent, and Amanda Berlon. The L-SIP reassessment would not have been possible without the support of the Laboratory Director and Assistant Commissioner, Dr. Lixia Liu. Thank you for going above and beyond to offer welcoming remarks to the participants.
- Finally, the diverse group of Indiana laboratory system stakeholders for their time, interest, and active participation during the L-SIP reassessment. We look forward to your dedicated partnership to improve the system moving forward.

9. References

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10. Appendices

Appendix A. L-SIP Fact Sheet



LABORATORY SYSTEM IMPROVEMENT PROGRAM

MISSION

To promote and support high performance levels of state and local public health laboratory systems through continuous quality improvement.

PROGRAM OVERVIEW

National emergency preparedness efforts have provided a basis for developing and refining public health systems at the national, state and local levels, and for assuring that those systems are as consistent, integrated and seamless as possible. Experience with preparedness has demonstrated that inclusion of partners and stakeholders in a systems approach improves public health outcomes.



Public health laboratories, as critical members of public health systems, are often not fully recognized except when extraordinary circumstances put them in the spotlight. The anthrax terrorist attacks of 2001, the 2009 H1N1 influenza pandemic, recurring food chain outbreaks, and major floods are examples of the need for public health responses in which the critical role of laboratories emerge. These nationally significant events bring deeper appreciation and recognition for highly effective systems in public health laboratories. To consolidate these gains, there is a need to advocate and show improvements and refinement of laboratory systems on a continuous basis.

To improve and assess performance of state and local public health laboratory systems, the Association of Public Health Laboratories (APHL), in collaboration with the US Centers for Disease Control and Prevention (CDC), developed the [Laboratory System Improvement Program \(L-SIP\)](#). It is modeled on the proven performance standard assessment process used by local and state public health departments for the last decade.

PROGRAM BENEFITS

L-SIP produces the following benefits for state and local public health laboratories:

- Provides support for the accreditation of state and local public health departments by the Public Health Accreditation Board (PHAB).
- Provides a benchmark for public health laboratory system practice improvements, by setting a “gold standard” to which public health systems can aspire.
- Improves communication and collaboration by bringing partners (e.g., public health, environmental and other laboratories, first responders and key constituencies) together.
- Educates stakeholders about the public health laboratory system and the interconnected activities that lead to collaborative system solutions.
- Strengthens the diverse network of partners throughout the federal, state and local systems, leading to cohesive partnerships and better coordination of activities and resources.
- Identifies strengths and gaps that can be addressed in laboratory system quality improvement efforts.

“Doing a reassessment in our state allowed our partners and stakeholders to realize how important their participation in the system is for continuous improvement. Most appealing was comparing results from the initial assessment to the reassessment.”

— New Hampshire L-SIP reassessment



ABOUT THE LABORATORY SYSTEM IMPROVEMENT PROGRAM

PROGRAM RESOURCES

The **L-SIP Assessment** is a user-friendly process that includes an assessment tool for establishing a baseline measure of performance for continuous improvement. Visit APHL's [L-SIP website](#) to access the resources below and more.

L-SIP Assessment Tool

The assessment is based on the following framework and concepts:

- The [10 Essential Public Health Services](#)
- The [11 Core Functions and Capabilities of Public Health Laboratories](#)
- A system focus
- Measurement against gold standards using a scoring matrix
- A commitment to continuous improvement.



Meeting with our partners at the L-SIP assessment helped us all to learn that we are part of a laboratory system. We now feel ready to move forward with the vision of developing capacity to meet or exceed national performance standards."

— Montana L-SIP assessment

L-SIP User's Guide

The User's Guide includes a description of the program and its framework; explanation of the process; recommendations of partners to invite; guidelines for facilitators, theme takers and coordinators; and much more. The guide contains sample materials, including letters, agendas and a template for the final report.

Other Resources

Technical assistance is available via multimedia trainings for assessment coordinators, facilitators and theme takers.

APHL's [Member Resource Center](#) is a collection of documents created and reviewed by APHL and peers in the public health laboratory field and is intended to give members ready access to shared practices, communications, protocols, quality improvement tools, etc.

A **mentoring program** provides support and guidance for those planning an assessment from state or local systems that have completed an L-SIP assessment.

The [Quality Improvement Forum](#) is a community of public health laboratory professionals who share continuous system improvement activities and assist each other in the development of performance management projects.



Personally, I really found it helpful to meet and interact with diverse departments of the City and State Health Departments."

— City of Milwaukee L-SIP assessment

LEARN MORE

If you are interested in participating in this program, need technical assistance or would like more information about the L-SIP mentoring program, visit aphl.org/L-SIP or contact Tina Su, MPH, at 240.485.2729 or bertina.su@aphl.org.



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8515 Georgia Avenue, Suite 700, Silver Spring, MD 20910 | www.aphl.org/L-SIP | 240.485.2745

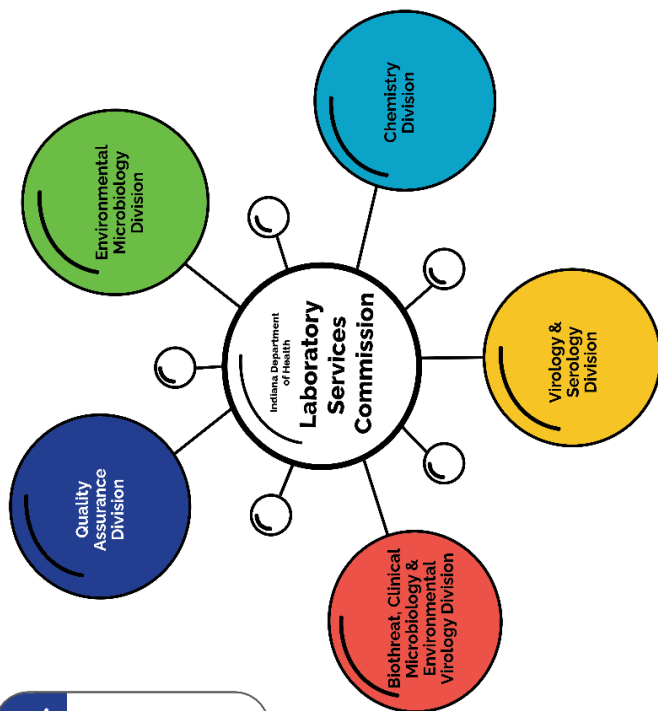
Introduction to the Laboratory Services Commission

Indiana Department of Health

One Commission - Many Collaborations



Laboratory Services
Commission



Quality Assurance Division

- Customers:**
- o Drinking Water Certification Program
 - o Participating Laboratories
 - o IDOH Laboratory Divisions
- Partners:**
- o Various AB
 - o ISO
 - o NILLAP
 - o CMS
 - o CLIA
 - o EPA
 - o FDA
 - o USDA
 - o USDHS

Biothreat, Clinical Microbiology & Environmental Virology Division

- Customers:**
- o Clinical Laboratories
 - o Hospitals, PCPs, & FQHCs
 - o Local Health Departments
 - o Private Citizens
 - o Veterinary Clinics, Humane Societies, & Animal Control
- Partners:**
- o ARLN
 - o APHL
 - o Environmental touchpoints
 - o First Responders
 - o FERN - Botulism
 - o FBI
 - o Local Law Enforcement
 - o LRN - Biological
 - o USDHS

Virology & Serology Division

- Customers:**
- o Clinical Laboratories
 - o Department of Corrections
 - o Hospitals/PCPs/FQHCs
 - o Local Health Departments
 - o STD Testing Centers
- IDOH Divisions:**
- o Epidemiology Resource Center
 - o APHL
 - o CDC
- Accreditation:**
- o CLIA

- KEY:**
- AB - Accrediting Bodies
 - APHL - Association of Public Health Laboratories
 - ARLN - CDC's Antibiotic Resistance Laboratory Network
 - BDOH - Indiana State Board of Animal Health
 - CDC - U.S. Centers for Disease Control and Prevention
 - CLIA - Clinical Laboratory Improvement Amendments
 - CMS - U.S. Centers for Medicare and Medicaid Services
 - DNR - Indiana Department of Natural Resources
 - EPA - U.S. Environmental Protection Agency
 - FBI - U.S. Federal Bureau of Investigation
 - FDA - U.S. Food and Drug Administration
 - FQHC - Federally Qualified Health Center
 - ISO - International Organization for Standardization
 - LRN - CDC's Laboratory Response Network
 - NILLAP - EPA's National Lead Laboratory Accreditation Program
 - PCP - Primary Care Provider
 - USDHS - U.S. Department of Health and Human Services
 - USDHS - U.S. Department of Homeland Security
 - USDHS - U.S. Department of Environmental Management

Environmental Microbiology Division

- Customers:**
- o Businesses
 - o Clinical Laboratories
 - o Food Manufacturing & Processing Plants
 - o Hospitals, PCPs, & FQHCs
 - o Local Health Departments
 - o Private Citizens
 - o Public Water Systems
 - o Soil & Water Conservation Districts
 - o State Owned Educational Facilities & Parks
- IDOH Divisions:**
- o Emergency Preparedness
 - o Environmental Public Health
 - o Epidemiology Resource Center
 - o Food Protection
- Partners:**
- o APHL
 - o BOAH - Meat & Dairy
 - o CDC
 - o DNR
 - o FDA
 - o FERN
 - o IDEM
- Accreditation:**
- o CDC
 - o CLIA
 - o FDA
 - o USDA

Chemistry Division

- Customers:**
- o BOAH - Meat & Dairy
 - o DNR
 - o Hospitals, PCPs, & FQHCs
 - o IDEM
 - o Indiana Department of Homeland Security
 - o Local Health Departments
 - o Pediatric Clinics
 - o Private Citizens
 - o Soil & Water Conservation Districts
- IDOH Divisions:**
- o Environmental Public Health
 - o Chronic Disease
 - o Food Protection
 - o Lead & Healthy Homes
- Partners:**
- o APHL
 - o CDC
 - o EPA
 - o FERN
 - o FDA
 - o LRN - Chemical
 - o LRN - C
 - o USDA
- Accreditation:**
- o BOAH - Meat & Dairy
 - o CDC
 - o EPA
 - o FERN
 - o FDA
 - o LRN - C
 - o USDA

Appendix C. Meet the Facilitators



Tina Su

Manager of Quality Systems

Quality Systems and Analytics

Association of Public Health Laboratories

Bertina.Su@APHL.org

Tina Su is the Manager of the Quality Systems side of the Quality Systems and Analytics program at the Association of Public Health Laboratories (APHL). She's been at the organization for 14 years, and in her role, she is focused on quality improvement-related activities and linking APHL members to quality-related resources. This happens in several ways: connecting members, providing funding opportunities for public health laboratories to use for quality-related projects, and working with members to create resources that would be helpful to the membership.



LeAnne Burns

Laboratory Quality Improvement Manager

Georgia Public Health Laboratory

Georgia Department of Public Health

LeAnne.Burns@DPH.GA.gov

Getting laboratories compliant and "audit ready" have been true passions of LeAnne Burns for over 17 years. With a BS in Chemistry, she has honed her skills from the start as an analyst on the bench to upper management of laboratory operations and quality across multiple disciplines. Her specialty is in developing, implementing, and strengthening quality management systems in laboratories that are compliant with a variety of accreditations and requirements such as CLIA, CAP, ISO, TNI, EPA, FDA, USDA, AIHA, state, etc. in a short period of time. Currently, Ms. Burns serves as the Laboratory Quality Improvement Manager for the Georgia Public Health Laboratory (GPHL) and Waycross Public Health Laboratory (WPHL). She is working to build a single, cohesive quality system for both laboratories to operate under that is CLIA, CAP and state public health agency compliant. The completion will mark the 8th and 9th laboratories where she has successfully implemented a quality management system (QMS).



N. Myron Gunsalus, Jr., MS

Director

Kansas Health & Environmental
Laboratories

Myron.Gunsalus@KS.gov

Myron Gunsalus is currently the Director of Laboratories at the Kansas Department of Health and Environment. He received his bachelor's degree from Asbury College and a Master of Science in Analytical Chemistry from the University of Kentucky. Having worked in a variety of commercial laboratories as a laboratory director, quality assurance manager and chemist, he joined the Kansas Health and Environmental Laboratories in 2012 as the Quality, Certifications and Preparedness Section Chief. In May of 2014, he became Director of Laboratories, with oversight for all aspects of the state public health and environmental laboratories and certification programs. Mr. Gunsalus has over 29 years of laboratory and management experience



Katie Seely, Ph.D., HCLD (ABB)

Director

Glen F. Baker Public Health Laboratory
Arkansas Department of Health

Katie.Seely@Arkansas.gov

Katie Seely, PhD, HCLD (ABB) completed her BS in Biology from Christian Brothers University in Memphis, Tennessee and her PhD in Toxicology from the University of Arkansas for Medical Sciences in Little Rock, Arkansas. She joined the Arkansas Department of Health - Public Health Laboratory in 2011 as a Chemist in the Chemical Terrorism laboratory, a member of the LRN and FERN. She has held several positions within the Arkansas Public Health Laboratory including Laboratory Manager and Branch Chief of the Environmental Laboratories. In 2020, she was appointed as Laboratory Director of the Arkansas Public Health Laboratory.



Marie Earley, Ph.D.

Quality and Safety Systems Branch

Division of Laboratory Services

Centers for Disease Control and
Prevention

Mee9@CDC.gov

Dr. Earley received her Ph.D. in Genetics and Molecular Biology from Emory University and started at the CDC as a fellow in the Newborn Screening Quality Assurance Program. In 2000, she converted to a CDC employee as a research microbiologist in the Newborn Screening Quality Assurance Program where she managed the proficiency testing programs for molecular cystic fibrosis newborn screening and for hemoglobinopathies including sickle cell anemia. In 2015, Dr. Earley joined the Quality and Safety Systems Branch as a health scientist. Her work includes development of CLIA regulations and guidance, implementing CLIA Advisory Committee recommended projects for next generation sequencing, and serving as a technical monitor for the APhL cooperative agreement.

Appendix D. Meet the IDOH Laboratory Team

Meet the Indiana Department of Health Laboratory Team

	Lixia Liu, Ph.D., MP(ASCP), D(ABMM)	<i>State Laboratory Director & Assistant Commissioner</i> LLiu@health.IN.gov (317) 921-5832
	Ryan Gentry, MPH	<i>Environmental Microbiology Division Director</i> RGentry@health.IN.gov (317) 921-5850
	Mark Glazier	<i>Biothreat, Clinical Microbiology & Environmental Virology Division Director</i> MGlazier@health.IN.gov (317) 921-5842
	Chris Grimes	<i>Quality Assurance and Internal Training Director</i> CGrimes@health.IN.gov (317) 921-5805
	Mary Hagerman, MS	<i>Chemistry Division Director</i> MHagerma@health.IN.gov (317) 921-5553
	Brian Pope	<i>Virology & Serology Division Director</i> BPope1@health.IN.gov (317) 921-5555

Appendix E. Agenda

L-SIP Agenda – Thursday, November 3 rd , 2022		
Event	Time	Location
Registration/Check-in	7:45am – 8:00am	Outside of Conference Room C
Coffee & Refreshments Available	8:00 - 8:15am	Refreshments Available Outside of Conference Room C
Welcome and introductions	8:15am	Conf C
Overview of the assessment day	8:30am	Conf C
Plenary: Essential Service (ES) #2- Investigate, diagnose, and address health problems and hazards	9:15am	Conf C
Break	10:15-10:30am	Refreshments Available Outside of Conference Room C
Breakouts:	10:30am	
Group A- ES #1- Monitor health		Conf 4
Group B- ES #9- Evaluation, research, and continuous quality improvement		Conf 5
Group C- ES #8- Workforce		Conf F
Lunch Break (Provided)	11:30-12:30pm	Conf C
Breakouts:	12:30pm	
Group A- ES #7- Assure an effective system that enables equitable access		Conf 4
Group B- ES #10- Infrastructure		Conf 5
Group C- ES #4- Strengthen, support, and mobilize communities and partnerships		Conf F
Break	1:30- 1:40pm	Refreshments Available Outside of Conference Room C
Breakouts:	1:40pm	
Group A- ES #3- Inform and educate people about health		Conf 4
Group B- ES #5- Create, champion, and implement policies, plans, and laws that impact health		Conf 5
Group C- ES #6- Utilize legal and regulatory actions		Conf F
Break	2:40-2:45pm	Refreshments Available Outside of Conference Room C
Summary, Evaluation and Next Steps	2:45pm	Conf C
Final Remarks & Evaluation	4:15-4:30pm	Conf C
Adjourn	4:30pm	Conf C

Appendix F. Participants Agency & Job Title

Participant Agency	Participant Job Title
Allen County Health Department	Director of Clinical Services and Case Management
APHL	Quality Systems Manager
Arkansas Public Health Laboratory	Laboratory Director
CDC	Health Scientist
Community Hospital	Laboratory Manager
Elwood Health Living	MDS Coordinator, Restorative Nurse, A.L. Oversight
FBI	Special Agent/WMD Coordinator
Georgia Department of Public Health	Laboratory Quality Improvement Manager, Georgia Public Health Laboratory
Indiana Board of Animal Health	Field Veterinarian
Indiana Department of Corrections	Epidemiologist
Indiana Department of Corrections	Executive Director of Physical Health
Indiana Department of Environmental Management	Assistant Commissioner, OWQ
Indiana Department of Environmental Management	Section Chief
Indiana Department of Environmental Management	Senior Environmental Manager
Indiana Department of Environmental Management	Senior Environmental Manager Supv
Indiana Department of Health	Chief Data Officer
Indiana Department of Health	Chief of Staff
Indiana Department of Health	CIO
Indiana Department of Health	CLIA Program Manager
Indiana Department of Health	Deputy Health Commissioner / State Epidemiologist
Indiana Department of Health	Deputy State Epidemiologist
Indiana Department of Health	Director - Food Protection
Indiana Department of Health	Director, Immunization Division
Indiana Department of Health	Planning & Preparedness Manager
Indiana Department of Health	Rabies Epidemiologist
Indiana Department of Health	State Public Health Veterinarian
Indiana Department of Health	Field Epi Director Representative
Indiana Department of Health	Finance Manager
Indiana Department of Health	Lead Director
Indiana Department of Health	Public Health Administrator - Environmental Public Health
Indiana Department of Health	Rapid Response Team/Produce Safety Program Manager
Indiana Department of Health	Senior Enteric Epidemiologist
Indiana Department of Health	Sr IT Project Manager
Indiana Department of Health	Tuberculosis (TB) Epidemiologist II
Indiana Department of Health - Laboratory	Administrative Assistant
Indiana Department of Health - Laboratory	Assistant Commissioner/State Laboratory Director
Indiana Department of Health - Laboratory	Biosafety Officer
Indiana Department of Health - Laboratory	Biothreat, Clinical Microbiology Division Director
Indiana Department of Health - Laboratory	Communications Specialist
Indiana Department of Health - Laboratory	Director, Chemistry Division
Indiana Department of Health - Laboratory	Environmental Microbiology Division Director
Indiana Department of Health - Laboratory	Laboratory Program Advisor
Indiana Department of Health - Laboratory	QA Director
Indiana Department of Health - Laboratory	QA Specialist
Indiana Department of Health - Laboratory	Virology and Serology Division Director
Indiana Department of Health - Laboratory	Communications Specialist
Indiana State Board of Animal Health	Chief Milk Plant Supervisor
Indiana State Board of Animal Health	Director Meat and poultry inspection
Indiana State Board of Animal Health	District 10 Field Veterinarian
Indiana State Police/FBI JTTF	A/WMD TFO for JTTF
Kansas Department of Health and Environment	Director of Laboratories, Kansas Health and Environmental Laboratories
Memorial Hospital	Director - Laboratory Services
Northern Indiana Maternal & Child Health Network, Inc.	Executive Director
Northern Indiana Maternal & Child Health Network, Inc.	Director of Family Planning & Revenue Manegment
Positive Resource Connection	Biomedical Prevention Coordinator
Purdue College of Veterinary Medicine	Animal Disease Diagnostic Laboratory Director

Appendix G. Participant Evaluation

PARTICIPANT FEEDBACK FORM

Please enter your responses in the form field or check box after the appropriate selection. (Optional)

Name: _____ Title: _____

Agency: _____

Part I: Rating of the Meeting

Please rate, on a scale of 1 to 5, your overall assessment of the event relative to the statements provided below, with 1 indicating a poor rating and 5 indicating a superb rating.

Assessment Factor	Poor	Good	Superb
Utility of Meeting:			
Stated objectives of meeting were met.	1	2	3 4 5
Dialogue was useful.	1	2	3 4 5
I support the efforts being made.	1	2	3 4 5
Next steps are clear.	1	2	3 4 5
Meeting was a good use of my time.	1	2	3 4 5
Meeting Arrangements:			
Advance notice of the meeting.	1	2	3 4 5
Meeting room accommodations.	1	2	3 4 5
Advance materials for meeting were useful.	1	2	3 4 5
Advance materials were received with time to review.	1	2	3 4 5
Flow of meeting:			
Started on time.	1	2	3 4 5
Clear objectives for the meeting.	1	2	3 4 5
Agenda followed or appropriately amended.	1	2	3 4 5
The "right" people were at the meeting.	1	2	3 4 5
Final thoughts:			
The facilitators were knowledgeable about the material, kept the dialogue on target, and were sensitive to group dynamics.	1	2	3 4 5
Participation in the assessment was appropriate for someone in my position.	1	2	3 4 5
Would you participate in this process again?			Yes or No
Do you see this as a helpful tool and process?			Yes or No

Part II: Participant Feedback

What worked?

What could be improved?

Is there anything else you would like to add?

THANK YOU!

Appendix H. Glossary of Abbreviations

APHL – Association of Public Health Laboratories
CDC – Centers for Disease Control and Prevention
CLIA – Clinical Laboratory Improvement Amendments
COOP – Continuity of Operations Plan
Epi – Epidemiologist
ES – Essential Service
HL7 – Health Level Seven International
ICS – Incident Command Structure
IDEM – Indiana Department of Environmental Management
IDOH – Indiana Department of Health
IDOHL – Indiana Department of Health Laboratory
LHD – Local Health Department
LIMS – Laboratory Information Management System
LimsNet – IDOHL’s web-based submission and reporting system
LRN – Laboratory Response Network
L-SIP – Laboratory System Improvement Program
MOA – Memorandum of Agreement or cooperative agreement
MOU – Memorandum of Understanding
PH – Public Health
POC – Point of Contact
STI – Sexually Transmitted Infection

