After the Assessment: Examples of L-SIP Quality Improvement Activities

APHL ASSOCIATION OF
PUBLIC HEALTH LABORATORIES®

Introduction

Congratulations! You've completed an important step in strengthening your public health laboratory (PHL) system by convening a Laboratory System Improvement Program (L-SIP) assessment.

The next step is perhaps the most important, because it is at this stage that the convening organization and key partners discuss the results, identify challenges and opportunities, establish improvement plans and move forward with improvement efforts.

To assist L-SIP teams with this next phase of the assessment process, representatives from past L-SIP assessments compiled the examples of quality improvement activities to consider as you review your notes and prioritize issues identified during the assessment. We recommend that you convene a meeting within two to three months following the assessment to discuss results and improvement activities.

Feel free to contact APHL if you would like to discuss your post-assessment quality improvement activities.

DOMAIN	DOMAIN DESCRIPTION (EXAMPLES)	SUGGESTED ACTIVITIES
COMMUNICATION	Disseminate information to support an informed public health laboratory system	1. Create, develop and update newsletters and contact lists. 2. Share email alerts from APHL, CDC, health department that are relevant to stakeholders, i.e., hepatitis A outbreak specimens. 3. Initiate a campaign to encourage use of online communities, improve organization and content on the laboratory website and implement lab alerts to inform partners about changes in testing.
PARTNERSHIPS	Build and strengthen strategic relationships to promote a robust public health laboratory system to meet public health needs; establish MOUs with partner organizations or neighboring public health laboratory systems; establish or strengthen partnerships with academic institutions	1. Create MOUs for back up testing. 2. Continue strong support of partnerships with hospitals and clinics around the state. (e.g., The PHL is strengthening critical partnerships with clients of the Forensic Chemistry Section including the Office of the Attorney General, State's Attorney and law enforcement agencies around the state.) 3. Create in-state MOUs for back up testing. (e.g., MOU with Northern Plains Consortium and MOU with local college for West Nile Virus surveillance)
ACCESSIBILITY	Build an inclusive public health laboratory system; facilitate system growth to accommodate changing public health needs; develop informative web interface(s); improve access to critical services for underserved or at-risk populations; improve patient access to data	1. Improve organization and content on the laboratory webpage and implement electronic test ordering and results reporting to facilitate access to laboratory services. 2. Pilot and implement electronic test ordering with larger hospitals and provide a web portal for improved access to patient results.
OUTREACH & EDUCATION	Disseminate information to promote awareness and understanding both inside and outside the public health laboratory system; educate state officials and policymakers on the roles and importance of the laboratory system; improve use of social media	1. Conduct biosafety workshops that include didactic, small group and hands-on learning for clinical and public health partners. Plan additional workshops with infection control staff from state healthcare agencies. Continue site visits with clinical and public health partners. 2. Hold annual regional meetings for system partners and maintain ongoing outreach and education for public health system partners. (e.g., The Bureau of Laboratories and the Bureau of Population Health and Epidemiology hold statewide meetings and offer the opportunity for staff from system partners to receive training/updates, meet other partners and exchange information.) 3. Hold a laboratory open house with a guided tour stressing the importance of the PHL system in protecting the public. If possible, include the Governor, Lieutenant Governor and other elected officials on tour.

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TRAINING	Strengthen the public health laboratory system by ensuring familiarity with current guidelines and best practices; ensure partners are familiar with specimen collection, packaging and shipping and with laboratory biosafety	1. Continue to invest heavily in scientist training and development of subject matter expertise. (e.g., Staff in Medical Microbiology attend national and international meetings, participate in CDC workshops and serve on APHL committees, while staff in Forensic Chemistry attend workshops on blood alcohol analysis, drug testing and court room testimony.) Use these trainings to support local, state and regional partnerships. 2. Work with state partners to ensure that up-to-date guidelines and training opportunities are available. (e.g., Eagleson Institute Biosafety Workshops, packaging and shipping workshops and other opportunities to strengthen the public health laboratory system). 3. Dedicate staff to proactively train system partners in chemical threat response, biological threat response, biosafety and compliant packaging and shipping practices. (e.g., focus on specimen collection including packaging and shipping of laboratory specimens). 4. Attend national meetings, CDC workshops and peer-to-peer trainings. (e.g., BT wet workshop trainings can be provided to sentinel laboratories and other public health partners to promote current guidelines and best practices).
ENGAGEMENT	Proactively seek input from both inside and outside the public health system to promote and strengthen the system	1. Update the laboratory's website periodically. 2. Conduct periodic customer services surveys and seek recommendations. 3. Include a "comment box" on laboratory web page for external partner feedback. 4. Assess gaps in internal and external processes, and identify quality improvement projects, implement them and evaluate them. 5. Standardize purchasing process across the organization and create an inventory tracking system.
COLLABORATION	Promote a cohesive public health laboratory system where individual agencies and/or programs work closely and efficiently to meet the goals of the system	1. Reach out for collaborations or plan pilot studies to enact PH recommendations (i.e., screening of pregnant women for lead). 2. Work closely with our Communicable Disease Epidemiology section to promote best practices and to solicit specimens/isolates for surveillance purposes. (e.g., As part of the Antimicrobial Resistance Laboratory Network, we work with our regional PHL to conduct outreach and solicit resistant isolates from clinical laboratories).
SYSTEM DEVELOPMENT & ORGANIZATION	Convene a body of partners to guide development and organization of the public health laboratory system; develop a public health laboratory system strategic plan; define mission, vision and goal statements for the system	1. Form a Laboratory Systems Advisory Group (LSAG) to address issues identified during the L-SIP assessment. 2. Form a Laboratory Forum of PHL system partners to facilitate inter-laboratory communication, collaboration and cooperation. Leverage forum to address gaps identified during the L-SIP assessment and to promote quality laboratory practice across the system.

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PROGRAM DEVELOPMENT	Build and strengthen components of the public health laboratory system to include clinical, environmental, preparedness, chronic disease, newborn screening, One-Health and biomonitoring programs, among others; implement or expand monitoring and surveillance activities	1. Be at the table for grant planning with program partners or external agencies. (e.g., PHL works with state partners to develop a cutting edge forensic chemistry program that includes specimen collection, shipping, testing and reporting appropriate to courtroom testimony). 2. Implement electronic laboratory reporting with PHL to benefit laboratory system partners with enhanced results reporting (e.g., newborn screening results). 3. Expand monitoring and surveillance for Hospital Acquired Infection (HAI) and antimicrobial resistance by working closely with the HAI program coordinator.
WORKFORCE DEVELOPMENT	Promote a competent workforce capable of providing services to support a strong public health laboratory system	• Use CDC competency guidelines to create a monthly calendar to address the laboratory's priority areas for improvement (MMWR: Competency Guidelines for Public Health Laboratory Professionals). • Have PHL staff attend national meetings, CDC workshops, and peer-to-peer trainings to increase knowledge and technical skills. (e.g., create an individualized competency binder for each staff member to keep track of required competency documentation). • Create a laboratory career ladder based on the MMWR: Competency Guidelines for Public Health Laboratory Professionals.
STAFFING	Build and maintain a public health laboratory system with surge capacity to manage emerging, resurging and highly infectious disease agents; promote staff retention through improved compensation	• Devise a plan to cross-train staff, especially in public health emergencies. • Perform a compensation study based on peer laboratories to make a case for improving salaries. • As a Laboratory Response Network laboratory, work closely with Communicable Disease Epidemiology and Public Health Emergency Preparedness to identify potential public health threats. • Ensure MOUs are in place both in-state and with neighboring state PHLs. • Hold weekly "Disease Meetings" to enhance communication between public health programs and monthly lab PHEP meetings to ensure plans are familiar and up-to-date.
PLANNING & PREPAREDNESS	Ensure the public health laboratory system has continuation of operations and succession plans; build and strengthen the sentinel laboratory system to ensure robust response to biological, chemical and radiological events	• Meet with internal and external partners at least annually to re-assess needs for laboratory COOP and share COOP through working groups. • Hold monthly meetings to ensure Continuity of Operations plans are familiar and up-to-date. • Perform drills to exercise plans, both internally and with external partners.

DOMAIN	DOMAIN DESCRIPTION (EXAMPLES)	SUGGESTED ACTIVITIES
FUNDING & FINANCES	Find additional financial support for the public health laboratory and laboratory system; fully leverage federal cooperative agreement and grant funds; define a more appropriate financial model than the "fee-for-service" model for public health laboratories and laboratory system	• Build relationships with budget office staff members so that billing options can be assessed; contact peer laboratories to obtain ideas. • Explore additional sources of funds including small one-time grants and support from other state agencies. Continue to advocate for ongoing financial support from the state and/or local government.
POLICIES & POLICY DEVELOPMENT	Share policies, regulations or legislation that impact public health; involve partners in policy development when appropriate	• Have the laboratory director meet and engage with state and local administrators, policy makers and legislators to expand their knowledge of the public health system. • Share and/or review policies and regulations with other state programs as appropriate, such as Communicable Disease Epidemiology, Public Health Preparedness, and Food and Consumer Safety.
DATA MANAGEMENT & SHARING	Advance electronic systems capable of managing large data sets; create interface(s) that allow data sharing; develop data analysis to support decision making	• Meet with program staff at least annually to discuss data needs; assign project manager to address identified needs. • Fully implement a functional, usable laboratory information management system (LIMS). • Use a laboratory data coordinator to implement electronic test ordering and result reporting (ETOR) with a larger clinical laboratory and the state or local PHL. The coordinator can also manage electronic lab reporting (ELR) connections with CDC programs and other PHLs.

**Additional terms or themes repeatedly discussed in L-SIP assessment reports include newsletters; laboratory accreditation; proficiency testing; local, state, and federal regulations; courier or transport systems; tribal relations; gap analysis; return on investment analysis; media day and promotion; and research.

Acknowledgments