LABORATORY SYSTEM IMPROVEMENT PROGRAM (L-SIP) ASSESSMENT REPORT

April 19, 2018

DEPARTMENT OF GENERAL SERVICES

DIVISION OF CONSOLIDATED LABORATORY SERVICES

DCLS

Contents

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The Association of Public Health Laboratories provided funding, resources, and training to support the success of this meeting.

The District of Columbia Department of Forensic Services provided two facilitators to assist with the breakout groups.

The Division of Consolidated Laboratory Services provided a facilitator, theme takers, coordinators, and volunteers to ensure the efficiency of the day's assessment activities.

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Introduction

The laboratory is one component of a state public health (SPH) laboratory system. The SPH laboratory system contains both the laboratory and its stakeholders, with stakeholders being defined as any partner whose policies can affect the business and functioning of the laboratory or can be similarly affected by the laboratory's policies. As members of a SPH laboratory system, the goal is to strengthen our partnerships to better coordinate activities and resources to ensure the health of the public.

The first step of improving the system and the quality of services to the public is to assess the current functionality of the system. The Office of Disease Prevention and Health Promotion within the United States Department of Health and Human Services defined the 10 essential public health services. The essential services provide a national framework for voluntary public health assessment and accreditation (CDC, 2014). Recognizing a need to make the 10 essential services more tangible and specific for public health laboratories, the Association of Public Health Laboratories (APHL) promulgated in 2000, and later revised in 2014, the core functions of a public health laboratory. The 11 core functions of the public health laboratory describe how state public health laboratories best support the 10 essential public health services (APHL, 2014).

The Association of Public Health Laboratories, in conjunction with the Centers for Disease Control created the Laboratory System Improvement Program (L-SIP) assessment. L-SIP provides a foundation upon which to facilitate interactions amongst SPH laboratory system stakeholders and collaboratively establish baseline SPH laboratory system performance, identify potential system improvements, implement improvement strategies, and evaluate the effectiveness of the strategy. L-SIP further recommends reassessing the system performance periodically to confirm the maintenance of long-term system improvements and to identify new opportunities to improve the system (APHL, 2013).

On April 19, 2018, the Division of Consolidated Laboratory Services (DCLS) convened its first L-SIP assessment with approximately 40 partners. This report documents the activities preceding the assessment, assessment day activities, and findings from the assessment. Findings are described as strengths of the SPH system, in addition to any noted opportunities for improvements and action items discussed. The document concludes with a summary of the evaluation given to the attendees at the conclusion of the meeting to assess the effectiveness of L-SIP.

L-SIP Assessment Process

Pre-Assessment Activities

The DCLS Director selected two coordinators to manage the planning process. This included one person from the senior administration team and the quality manager. Initially, the coordinators met monthly beginning in November 2017 to discuss L-SIP planning activities, but eventually met weekly leading up to the event. The coordinators used the suggested timeline provided by APHL with some minor modifications to accommodate DCLS needs. Over the next 5 months, the coordinators created a budget; guided the process of identifying stakeholders; secured a facility to accommodate the target number of attendees (57), guided the process of stakeholder recruitment; selected and trained facilitators and individuals to take notes, theme takers, with the assistance of APHL; acquired food vendors; and prepared resources for the meeting. Of all these activities, stakeholder identification, communication, and follow-up was the most challenging and is discussed in more detail below.

To identify a diverse group of stakeholders, the coordinators solicited input from each of the 13 work group managers and also the senior management team, who were educated on the L-SIP process by the coordinators. The coordinators initially used email to notify the managers about the process. Subsequently, managers were provided both electronic training resources and in-person education about L-SIP at the weekly management team meeting. They were given the link to the L-SIP user guide and asked to develop a list of stakeholders using a spreadsheet template. The template captured the name, affiliation, phone number, email, and role of the stakeholder. Initially, the managers and senior management team supplied a list of 94 stakeholders, after duplications were removed. Next, the senior management team and the coordinators met to further edit this list and target 57 participants. Invitations were initially sent by email, with responses monitored and recorded. Additional contact by email and phone were made by the coordinators to non-respondents. These activities occurred through the week of the meeting. The coordinators frequently received requests to invite additional attendees. To maintain a good ratio of diverse participants and be in compliance with space limitations, a waitlist was created for these requests. These requests were used to backfill cancellations and spaces occupied by non-respondents. Confirmed attendees were provided with monthly updates and details about the purpose of L-SIP, date and time of the assessment, meals, and meeting expectations. The coordinators regularly responded to inquiries from the participants throughout the planning process.

The Virginia Department of Health is a significant member of the SPH laboratory system and representation from many of their programs was essential. Therefore, they comprised 23% of the invitee list. The remaining invitees were highly diverse and included representation from the courier and commercial carrier services, a wide variety of state agencies (law enforcement, fire, corrections, recreation, etc.), hospital and commercial laboratories, nurses and midwife associations, FBI, a local scientific association, community advocates, universities, and consumers of SPH laboratory system services.

Assessment Day Activities

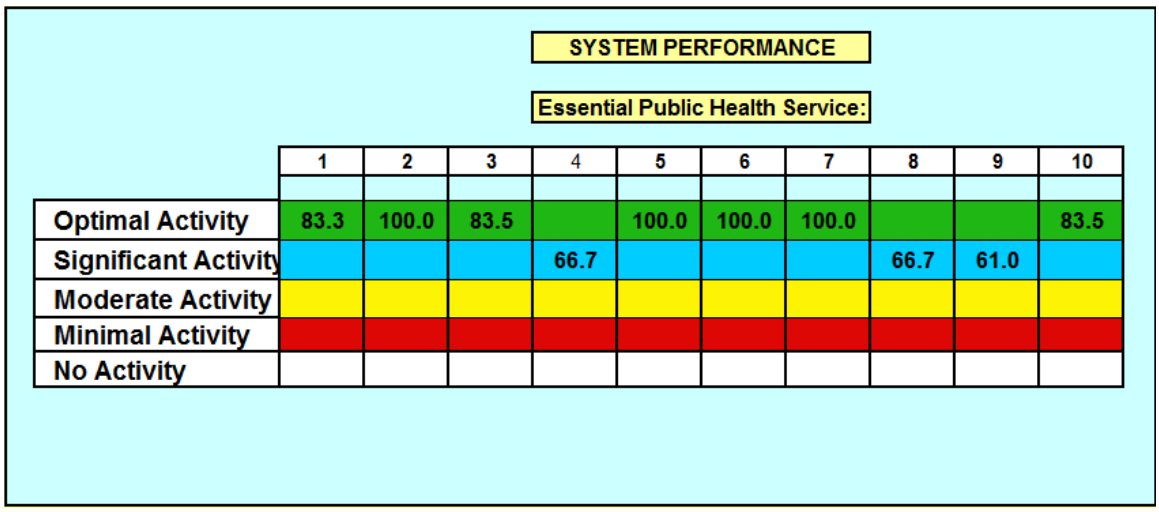
After breakfast, the DCLS Director welcomed the attendees and introduced the coordinators, facilitators, and theme takers. One of the coordinators provided an overview of the day's agenda and the expectations and goals of the meeting, encouraging the attendees to participate freely and actively in all discussions. The coordinator further explained details about the discussion, voting and scoring processes. The second coordinator opened the plenary with essential service number two, where she demonstrated the role of the facilitator. Participants observed the discussion and were actively engaged in the voting and scoring processes in preparation for the three breakout sessions. The plenary additionally provided tangible practice for the theme takers, who documented discussion from the plenary and utilized the scoring tool at its completion.

After the plenary, one breakout session occurred before and two occurred after lunch, with a break between the last two. Facilitators guided the discussion of the remaining nine essential services and their associated key ideas amongst the stakeholders. Theme takers documented key discussion items, assisted with the voting process and recorded the score and overall ranking for each essential service. There were no instances of stalled discussion and comments were shared freely, honestly, and professionally. The SPH laboratory, as demonstrated in the discussion below, obtained constructive feedback relating to our strengths and opportunities for improvement. The theme takers recorded items in a "parking lot" when further investigation and discussion was needed that would exceed the allotted time. When possible, the teams documented potential action items to improve the system. The day ended with an overview of the rankings from each breakout session. Attendees were provided an opportunity to provide any last minute comments and complete an optional evaluation of the day's activities.

Results

Overall Results

OVERALL ESSENTIAL SERVICE SUMMARY



ESSENTIAL SERVICE AND KEY IDEA SUMMARY

Essential Service #1: Monitor Health Status	
1.1 Monitoring Community Health Stat	66.7
1.2 Surveillance Information Systems	100.0
Overall Score	83.3

Essential Service #2: Diagnose & Investigate	
2.1 Appropriate & effective testing	100.0
Overall Score	100.0

Essential Service #3: Inform, Educate & Empower	
3.1 Outreach to Partners	100.0
3.2 Empower Partners	67.0
Overall Score	83.5

Essential Service #4: Mobilize Partnerships	
4.1 Partnership Development	100.0
4.2 Communication	33.0
4.3 Resources	67.0
Overall Score	66.7

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

Essential Service #6: Enforce Laws & Regulations	
6.1 Laws & Regulations	100.0
6.2 Enforcement of Laws & Regulations	100.0
Overall Score	100.0

Essential Service #7: Link People to Services	
7.1 Provision of Lab Services	100.0
Overall Score	100.0

Essential Service #8: Competent Workforce	
8.1 Defined Scope of Work & Practice	100.0
8.2 Recruitment & Retention of Staff	33.0
8.3 Assuring a Competent Workforce	67.0
Overall Score	66.7

Essential Service #9: Evaluation of Effectiveness	
9.1 System Mission & Purpose	33.0
9.2 System Effectiveness & Accessibilit	89.0
Overall Score	61.0

Essential Service #10: Research	
10.1 Planning & Financing Research	67.0
10.2 Implementation & Evaluation	100.0
Overall Score	83.5

Essential Service #1: Monitor Health Status to Identify Community Problems

Essential Service #1	Optimal
1.1: Monitoring Community Health Status	
1.1.1: The SPH Laboratory System identifies infectious disease and environmental sentinel events, monitors trends, and participates in state and federal surveillance systems	Optimal
1.1.2: The SPH Laboratory System monitors congenital, inherited, and metabolic diseases of newborns and participates in state and federal surveillance systems.	Optimal
1.1.3: The SPH Laboratory System supports the monitoring of chronic disease trends by participating in state and federal surveillance systems.	None
1.2: Surveillance Information Systems	
1.2.1: The SPH Laboratory System has a secure, accountable and integrated information management system for data storage, analysis, retrieval, reporting and exchange.	Optimal
1.2.2: The SPH Laboratory System partners collaborate to strengthen electronic surveillance systems.	Optimal

STRENGTHS

- The rabies testing team and VDH work well together. Electronic transmission of laboratory information into the VDH databases facilitates data analysis and transmission to the CDC.
- The laboratory provides prompt notification for unacceptable samples.
- DCLS has increased efforts to improve communication with midwives for the Newborn Screening Program.
- Result reporting to the Department of Corrections (DOC) is prompt.
- Edits to electronic laboratory reports can be made in real-time, when required.

OPPORTUNITIES FOR IMPROVEMENT

- Private drinking water wells perform testing to obtain permit, but no follow-up testing is required. This is a gap in policy.
- Identify additional funding opportunities to increase services.
- Increase testing menus to include more testing that is comparable across laboratories.
- Facilitate access to DCLS test results, when possible, for the purposes of public health research. Utilizing DOC test results to monitor the opiate epidemic was presented as an example.
- Create a way to flag high priority, high consequence samples. Tuberculosis in children and drug resistant tuberculosis cases were presented as examples.
- There is no way to notify parents when newborns require additional testing. A more effective parent tracking mechanism is desired.
- DCLS should create an annual report of testing lab-wide to inform public and stakeholders about services in the laboratory.

ITEMS REQUIRING ADDITIONAL DISCUSSION

- Collaborate with SPH laboratory system partners to pursue legislation for ongoing surveillance of private wells.

ACTION ITEMS

- None.

Essential Service #2: Diagnose and Investigate Problems and Health Hazards in the Community

Essential Service #2	**Optimal**
2.1: Appropriate and Effective High Quality Testing	
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.	Optimal
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.	Optimal

STRENGTHS

- DCLS consistently exhibits professionalism and is highly transparent when quality issues arise.
- DCLS provides high quality training.
- 24/7 emergency communication is excellent.
- Provides high quality training for the use of chemical event collection kits with Virginia State Police and other first responders.

OPPORTUNITIES FOR IMPROVEMENT

- FBI desired increased communication regarding high priority sample testing.
- DCLS should seek accreditation for additional environmental testing services.
- Increase the number of annual tabletop exercises focused on urgent, high priority events with relevant stakeholders, including DCLS.
- Increase testing capability for community exposures to suspected chemical and radiological events.
- Continuity of operations plans for VDH should include DCLS.

ITEMS REQUIRING ADDITIONAL DISCUSSION

- DCLS needs more testing expertise and knowledge in carbapenemase resistant Enterobacteriaceae (CRE).
- Investigate the ability to test environmental swabs from restaurant investigations.
- Prepare DCLS equipment contracts in a manner that allows use by other state agencies.
- Explore using the FBI community planning committee meetings for trainings.
- Collaborate with other stakeholders to request increased funding for drinking water testing.
- Need to better define the role of the sentinel lab for emergency trainings in response to urgent public health events.
- Provide training to DCLS staff on the continuity of operations plans.

ACTION ITEMS

- DGS Central Procurement Director can facilitate the request to make DCLS equipment contracts accessible to other stakeholders.

Essential Service #3: Inform, Educate, and Empower People about Health Issues

Essential Service #3	Optimal
3.1: Outreach to Partners	
3.1.1: The SPH Laboratory System creates and delivers consistent information to community partners about relevant health issues associated with laboratory systems.	Optimal
3.1.2: The SPH Laboratory System creates and provides education opportunities to health and non-health community partners	Optimal
3.2: Empower Partners	
3.2.1: Relationship-building opportunities are employed to empower community partners.	Significant

STRENGTHS

- Updates to website are excellent and it is more user friendly.
- SPH laboratory system partners proactively communicate messages to media regarding outbreaks, when necessary.
- The DCLS Director serves on multiple boards and this is an excellent way to share experiences and collaborate.
- DCLS has increased its visibility using tours for stakeholders and internship opportunities for students to learn about careers in the summer.
- The Virginia Biotechnology Association (VaBio) has the ability to quickly distribute information about public health and the sciences to pertinent groups including teachers and lawmakers.
- The Newborn Screening Program provides rural outreach, an area previously overlooked.

OPPORTUNITIES FOR IMPROVEMENT

- VDH can assist with promoting DCLS services on their website.
- A representative from VaBio suggested working together more collaboratively with VaBio to promote public health and the SPH laboratory system services.
- Utilize more consistent email etiquette. Examples included always including a subject line, denoting whether follow-up was required, and appropriate usage of the “To” and “CC” fields.
- Invite financing committees and agencies to tour the stakeholder agencies to assist in their understanding of the services provided and their importance to public health. This can be used as an opportunity to advocate for increased funding.
- Explore additional funding sources.
- Agencies should collaborate in developing outreach experiences to promote SPH laboratory system services and why the work is critical.

ITEMS REQUIRING FURTHER DISCUSSION

- DCLS should update stakeholders and lawmakers about laboratory services using community partners that already have existing relationships.
- Brainstorm our message to the public. What do we want the public to know about the SPH laboratory system?

ACTION ITEMS

- DCLS will participate in National Bring Kids to Work Day.
- Expose citizens of Virginia to National Lab Week by way of a Governor's proclamation.
- Increase interactions with VaBio to increase community exposure to the SPH laboratory system.

Essential Service #4: Mobilize Community Partnerships to Identify and Solve Health Problems

Essential Service #4	Significant
4.1: Partnership Development	
4.1.1: Partners in the SPH Laboratory System develop and maintain relationships to formalize and sustain an effective system.	Optimal
4.2: Communication	
4.2.1: The SPH Laboratory System members communicate effectively in regular, timely, and effective ways to support collaboration.	Moderate
4.2: Resources	
4.3.1: The SPH Laboratory System works together to share existing resources and to identify new resources to assist in identifying and solving health issues.	Significant

STRENGTHS

- The SPH laboratory system responds and communicates well for high priority public health events (ie. Ebola).
- Lead Scientists at DCLS are knowledgeable and accessible. They are capable of explaining information in a way that is easy to understand.
- DCLS actively seeks creative ways to find funding and provides more services than they are funded to do.
- The laboratory possesses experienced laboratorians to address HAMAT situations and has been instrumental in the firefighter study.

OPPORTUNITIES FOR IMPROVEMENT

- The SPH laboratory system needs a mutual understanding of the expectations, roles, and goals of each stakeholder in the system.
- Create formal agreements for funded work to clearly define roles and responsibilities.
- Create a shared mission statement that encompasses the entire SPH laboratory system.
- Overcome language barriers that may complicate interactions and understanding.
- Create a collaborative emergency response/continuity of operations plan.
- Overall, the SPH laboratory network is complicated and involves many parties. A flow chart to describe the flow of information and necessary contacts may be helpful.
- Increase knowledge of community resources that are available to the SPH laboratory system and use them. There is no need to “recreate the wheel.”
- Ensure end user receives all required information.
- Ensure bidirectional communication.
- Review, annually, how communications are performed to determine whether adjustments are needed.
- Reinitiate routine laboratory director meetings.

- Increase and improve education for sentinel hospitals regarding disease reporting regulations.
- Hire an outreach coordinator to promote laboratory services to hospitals or other stakeholders. Hospitals were using reference labs to perform work that could be done at the public health laboratory. District of Columbia used the Tennessee outreach coordinator as a template for their outreach coordinator role.
- Work collaboratively to write procurement contracts that are accessible across agencies so that localities may benefit from reduced costs.
- Seek opportunities to increase collaboration with universities (i.e. internships, projects, research).

ITEMS REQUIRING FURTHER DISCUSSION

- **NOTE**: There were a tremendous number of conflicting comments within Essential Service #4, particularly with communication. For this reason, conflicting comments from the partners are listed in this section for items requiring further discussion.
- In some instances, the SPH laboratory system lacks formalized partnerships. However, another partner clarified that formalization occurs fluidly in real-time based on testing needs.
- Some partners believed communication was excessive and redundant, while others did not consider it to be sufficient.
- There is a need to explore communication networks within the SPH laboratory system and create procedures for efficient communication.

ACTION ITEMS

- Central Procurement Unit Director restated a commitment to ensuring vendor contracts for the SPH laboratory system can be universally used by other state agencies.

Essential Service #5: Develop Policies and Plans that Support Individual and Community Health Efforts

Essential Service #5	Optimal
5.1: Partnerships in Public Health Planning	
5.1.1: The SPH Laboratory System obtains input from diverse partners and constituencies to develop new policies and plans and modify existing ones.	Optimal
5.2: Role in Laboratory-Related Policy Making	
1.2.1: The SPH Laboratory System and partners contribute their expertise and resources using science and data to inform and influence policy.	Optimal
5.3: Dissemination and Evaluation	
5.3.1: The plans and policies that affect the SPH Laboratory System are routinely evaluated, updated, and disseminated.	Optimal

NOTE: The overall score for Essential Service #5 did not correlate with the comments during the session.

STRENGTHS

- DCLS contributes to policy development by providing scientifically relevant information to VDH.
- High priority event-driven information dissemination is optimal (i.e. Zika, Ebola, MERS).

OPPORTUNITIES FOR IMPROVEMENT

- The SPH laboratory system should seek to more actively disseminate information and share it in a more meaningful way.
- The laboratory creates large volumes of data routinely, but does not possess a data analytics team to look at various metrics (ie. retest rates, screening vs. confirmation rates, cut-off values, rejection rates).
- Data is frequently requested but not always informed on how the information is used for policy decisions.
- Initiate quarterly stakeholder calls.
- Create fillable forms on website to facilitate sample submission.
- Post a courier schedule on the website with the approximate arrival times for locations.
- Utilize website more efficiently to promote training courses and outreach.
- Enhance the testing catalog to include environmental and food testing.
- Include a section on the website to solicit feedback from customers.
- Utilize website to promote trending hot topics. Hot topics are included on the DCLS website, but there may be an opportunity to do the same on the websites of the stakeholders.
- Post a submission form on the website that highlights the required fields.

ITEMS REQUIRING FURTHER DISCUSSION

- DCLS is only sought out to inform on policy by partners, but does not have active representation for the Division. Therefore, the position of the laboratory is communicated to indirectly to policy makers by partners.

ACTION ITEMS

- None.

Essential Service #6: Enforce Laws and Regulations that Protect Health and Ensure Safety

Essential Service #6	Optimal
6.1: Laws and Regulations	
6.1.1: The SPH Laboratory System is actively involved in the review and revision of laws and regulations pertaining to laboratory practice.	Optimal
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.	Optimal
6.2: Enforcement of Laws and Regulations	
6.2.1: The SPH Laboratory System has the appropriate resources to provide or support enforcement functions for laws and regulations.	Optimal

NOTE: Few stakeholders in this session had enforcement responsibilities. Discussion regarding Key Idea 6.2 was minimal.

STRENGTHS

- The Food Emergency Response Network program at DCLS has a wide scope of services.
- DCLS has an excellent understanding of the Federal Select Agent Program, including its regulations, violations, and potential legal enforcement ramifications.
- Users have access to all applicable laws.
- Regulations are clearly written and communicated.
- DCLS is comfortable with law enforcement evidenced by prompt communication of potential issues, even when issues may negatively impact DCLS.
- DCLS exceeds requirements to ensure proper chain of custody.
- DCLS readily attends meetings, when requested, to address any potential regulatory issues in advance before problems arise.

OPPORTUNITIES FOR IMPROVEMENT

- Conduct an annual select agent status review for the FBI.
- Consider a full time educator/outreach coordinator for each agency.

ITEMS REQUIRING FURTHER DISCUSSION

- None.

ACTION ITEMS

- None.

Essential Service #7: Link People to Needed Personal Health Services and Assure the Provision of Healthcare when Otherwise Unavailable

Essential Service #7	**Optimal**
7.1: Provision of Laboratory Services	
7.1.1: The SPH Laboratory System identifies laboratory service needs and collaborates to fill gaps.	Optimal
7.1.2: The SPH Laboratory System provides timely and easily accessed quality services across the jurisdiction.	Optimal

STRENGTHS

- Laboratory closely monitors turnaround times and promptly informs customers when time will be exceeded.
- SPH laboratory system partners are available after hours for outbreak and other urgent situations.
- Subject matter experts are available for consultation, when required.
- DCLS employees clearly articulate results.
- Tours of the laboratory provided opportunities to meet key personnel.
- The laboratory director sets the tone of the organization
- Increased communication between DCLS and agriculture labs demonstrates commitment to idea sharing across the SPH system.
- Laboratorians are excited to communicate activities at DCLS.

OPPORTUNITIES FOR IMPROVEMENT

- Expand courier use outside of DCLS, VDH locations, hospitals, and corrections. Stakeholders expressed interest in using the DCLS courier (ACE) for other purposes, not related to laboratory testing. This usage will require the interested stakeholders to establish a contract with ACE
- Clarify courier cost allocation amongst the sites.
- Include non-laboratory stakeholders when the determining new methods or laboratory testing needs.

ITEMS REQUIRING FURTHER DISCUSSION

- None.

ACTION ITEMS

- None.

Essential Service #8: Assure a Competent Public Health and Personal Healthcare Workforce

Essential Service #8	Significant
8.1: Defined Scope of Work and Practice	
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.	Optimal
8.2: Recruitment and Retention of Qualified Staff	
8.2.1: The SPH Laboratory System maintains an environment to attract and retain highly qualified staff	Moderate
8.3: Assuring a Competent Workforce	
8.3.1: The SPH Laboratory System works to assure a competent workforce by encouraging and supporting staff development through training, education, and mentoring.	Significant
8.3.2: The SPH Laboratory System identifies and addresses current and future workforce shortage issues.	Significant

STRENGTHS

- VDH has a training program to promote knowledge, skills, and abilities (KSA's).
- DCLS is an excellent employer for entry-level scientist positions.
- DCLS clearly articulates KSA's within the training program.
- All laboratory partners have an excellent understanding of CLIA and apply those same standards to CLIA-waived and exempt testing.
- DCLS provides excellent training opportunities to the community.
- DCLS participates in career days at schools to promote interest in science at an earlier age.
- DCLS initiated an intern program to expose college students to public health laboratory science.

OPPORTUNITIES FOR IMPROVEMENT

- Onboarding is variable and can be challenging within the state system.
- Rewrite state positions to attract qualified personnel.
- Consider a policy that restricts transfer or promotion within the agency within the first year.
- It is difficult to compete with private industries due to salaries. Investigate compensation practices and advocate for increased salaries.
- Develop innovative strategies that simultaneously meet the needs of the organization and engage personnel.
- Consider partnering with local clinical laboratory science organizations for training opportunities.
- Consider bonuses for onboarding and retention.
- Consider a relocation assistance policy to promote countrywide recruitment.

- Consider career development planning to promote non-competitive advancement.
- Consider a management track and non-management track training programs to encourage employee engagement.
- Offer education reimbursement as a benefit to current employees.
- Collaborate with academia to recruit talent.
- Improve continuing education opportunities for internal staff.
- Partner with STEM programs to bring students to the lab for small projects.

ITEMS REQUIRING FURTHER DISCUSSION

- Recruitment and retention of long-term, qualified personnel.
- Public health laboratories are losing expertise due to retirement, salary, and engagement.
- Certification, education, and training make staffing difficult.
- Explore training and career development opportunities to recruit and retain a highly qualified workforce.
- Request budget increases or search for grants to fund external training opportunities (ie. national meetings) across all levels of personnel.

ACTION ITEMS

- None.

Essential Service #9: Evaluate Effectiveness, Accessibility, and Quality of Personal and Population-Based Services

Essential Service #9	Significant
9.1: System Mission and Purpose	
9.1.1: The SPH Laboratory System range of services, as defined by its mission and purpose, is evaluated on a regular basis.	Moderate
9.2: System Effectiveness, Accessibility and Quality	
9.2.1: The effectiveness of the personal and population-based laboratory services provided throughout the state is regularly evaluated.	Significant
9.2.2: The availability of personal and population-based laboratory services throughout the state is regularly evaluated.	Optimal
9.2.3: The quality of personal and population-based laboratory services provided throughout the state is regularly evaluated.	Optimal

STRENGTHS

- The SPH laboratory system routinely evaluates the scope of services.
- DCLS clearly describes laboratory capability to epidemiologists.
- The laboratory responds quickly to laboratory testing needs for urgent public health matters.
- DCLS is a highly diverse laboratory that is committed to ensuring quality.
- DCLS completes a yearly management review to assess processes internally.
- DCLS is receptive to changes and changes scope of work to meet the needs of the clients.
- The current Governor is highly supportive of environmental testing initiatives.
- Outbreak response times are tracked and used when applying for grants.
- Test utilization is assessed yearly to promote cost containment.
- The laboratory has rigorous quality policies in place to ensure integrity of testing performed.

OPPORTUNITIES FOR IMPROVEMENT

- Develop a yearly survey for clients to identify testing needs.
- Meet with clients routinely to discuss new methods, initiatives, testing needs, and funding opportunities.
- Share results of management review with other SPH laboratory system partners.
- Standardize methods across laboratories within the SPH laboratory system to improve comparability of data.

ITEMS REQUIRING FURTHER DISCUSSION

- Collaborate with academic partner to assess laboratory contribution to improved health outcomes over time.
- Seek and utilize metrics numerically represent the effectiveness of the SPH laboratory system and convey the statistics in a meaningful way.

ACTION ITEMS

- DCLS will establish a management-level position dedicated to system improvements, efficiency, and training.

Essential Service #10: Research for Insights and Innovative Solutions to Health Problems

Essential Service #10	Optimal
10.1: Planning and Financing Research Opportunities	
10.1.1: The SPH Laboratory System has adequate capacity to plan research and innovation activities.	Significant
10.2: Implementation, Evaluation, and Dissemination	
10.1.1: The SPH Laboratory System promotes research and innovative solutions.	Optimal

STRENGTHS

- DCLS has an internship program which educates students on new techniques, laboratory science and provides mentoring support.
- Internship program is one way to demonstrate the laboratory's mission to the community.
- DCLS is the backbone of the Chesapeake Bay Program, providing high quality testing support and efficient collaboration.
- DCLS is innovative and assists with developing operating procedures for standard practices.
- The SPH laboratory system creates an environment that promotes sharing of ideas.
- DCLS is a leader in evaluating newly published research and clearly articulates information with partners.

OPPORTUNITIES FOR IMPROVEMENT

- Consider a way to promote the research, method validation and implementation occurring within the system.
- DCLS lacks an internal review board (IRB), but may collaborate with VDH or the universities when needed.
- Increase peer-reviewed journal publications to promote work at DCLS and secure funding opportunities.
- Initiate a DCLS poster day to promote the research and other activities taking place at DCLS.
- Create a newsletter to disseminate information to partners.

ITEMS REQUIRING FURTHER DISCUSSION

- Increase collaborations for publication.
- Request laboratory representation on IRB at VDH.
- Consider epidemiological research and statistical analysis of drug testing data to inform on the opiate epidemic.

ACTION ITEMS

- None.

Conclusions

DCLS routinely evaluates laboratory operations. This includes, but is not limited to weekly management meetings, monthly work group meetings, and yearly management review. However, evaluating the SPH laboratory as part of a system was a unique concept. Assembling all partners in one place to provide open and honest feedback was worthwhile. Throughout the course of the day, significant discussion occurred and some major themes were evident.

The first theme was communication. Additional discussion is needed to clearly assess how well the SPH laboratory system handles communication for various reasons (ie. outbreak management, promoting laboratory services, high priority event communication with law enforcement). Secondly, all partners had significant interest in recruitment and retention of highly qualified personnel. Some of the most innovative opportunities for improvement were born from these discussions, including non-competitive promotion and management track training to engage employees. Third, innovative strategies to bridge the funding gaps were frequently discussed. All partners communicated a need to accomplish more deliverables with fewer resources. Fourth, the SPH laboratory system should collaborate more fluidly and possibly even create a shared mission to disseminate to the public we serve. Finally, the public health laboratory's website has improved significantly, but the laboratory should leverage its power to promote the activities of the system as a whole and encourage user interaction.

Program participants were given a survey to assess the day's activities and accommodations. Thirty seven partners, facilitators, theme takers, or other volunteers returned the evaluation (Appendix A). The responses were overwhelmingly positive for the utility of the meeting, meeting arrangements, and flow of the meeting. However, organizers could improve the explanation of the objective of the meeting and next steps. Of the 37 respondents, one would not participate in this assessment in the future and all found this to be a helpful tool and process to evaluate the SPH laboratory system. Selected comments can also be found in Appendix A.

References

Association of Public Health Laboratories. 2013. Laboratory System Improvement Program User's Guide. Retrieved from https://www.aphl.org/programs/quality_systems/Documents/LSIP_2013Apr_Users_Guide.pdf on June 20, 2018.

Association of Public Health Laboratories. 2014. *The Core Functions of Public Health Laboratories*. Retrieved from https://www.aphl.org/aboutAPHL/publications/Documents/APHLCoreFunctionsandCapabilities_2014.pdf#search=core%20functions on June 20, 2018.

Centers for Disease Control and Prevention. 2014. *The 10 Essential Public Health Services*. Retrieved from https://www.cdc.gov/stltpublichealth/publichealthservices/pdf/essential-phs.pdf on June 20, 2018

Appendix A: Evaluation Summary

We appreciate your feedback and take your suggestions seriously. Please rate your responses on a 5-point scale by placing an "x" in the applicable cell.

Utility of the meeting	**Poor**		**Good**		**Superb**
	1	**2**	**3**	**4**	**5**
Stated objectives of meeting were met			1	13	25
Dialogue was useful			1	5	32
I support the effort being made				2	39
Next steps are clear		2	7	15	12
Meeting was a good use of my time			9	10	19
Meeting arrangements	**Poor**		**Good**		**Superb**
	1	**2**	**3**	**4**	**5**
Advance notice of meeting		1	1	5	32
Meeting room accommodations			2	6	31
Advance materials for meeting were useful			1	7	27
Advance materials were received with time to review			1	9	27
Flow of the Meeting	**Poor**		**Good**		**Superb**
	1	**2**	**3**	**4**	**5**
Started on time				6	31
Clear objectives		1		9	27
Agenda followed or amended				4	34
Facilitation was effective			2	8	27
The "right" people were at the meeting			4	12	20

What worked? See next page.

What could be improved? See next page.

	Yes	No
Would you participate in this process again?	36	1
Do you see this as a helpful tool and process?	37	

What worked?

- "Having knowledgeable facilitators was valuable. Having DCLS staff present in the group was very beneficial. Keeping to the agenda and having the "parking lot" option for thoughts and ideas outside the scope of the topic."
- "Good mix of stakeholders in the group led to informative discussion."
- "Good dialogue within the group. Instructions were clear, facilitators well versed on their role, great organization of a complicated process."
- "Mix of individuals from various agencies."
- "People were willing to share their opinions – good and bad."
- "Facilitator for Group A was excellent."

What could be improved?

- "Tell us in advance not to print since they are provided."
- "Not being an entire day."
- "More input from DCLS on some questions would have been helpful."
- "Pre-meeting reminder of date, time, location, and agenda."
- "Could be more honest with assessments. Some comments seemed to be a bit of a stretch to show conformance to a standard. A more honest assessment is probably more useful. If you have to stretch to find an answer, maybe the answer was no or not done."
- "Development of next steps."