

Laboratory System Improvement Program: Florida Assessment Report



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Bureau of Public Health Laboratories
Division of Disease Control and Protection
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Laboratory System Improvement Program: Florida Assessment

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INTRODUCTION

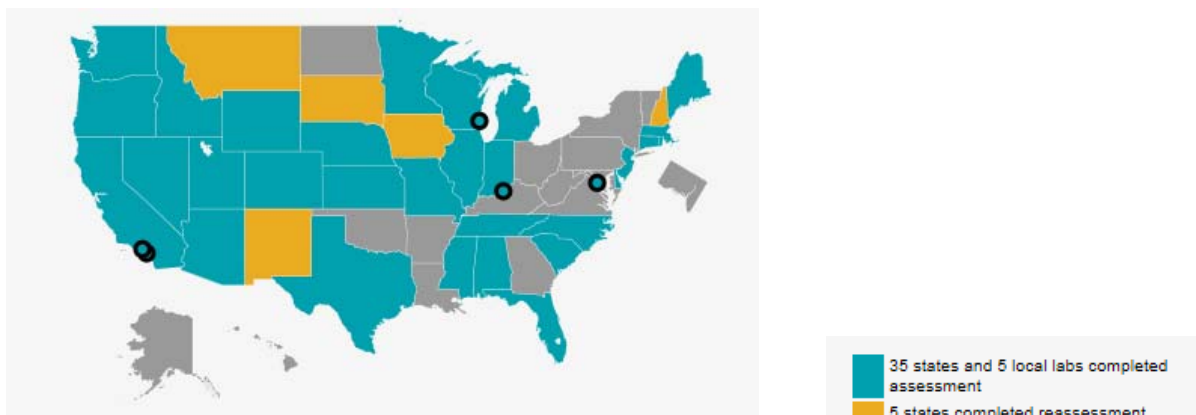
In 2002, the Centers for Disease Control and Prevention (CDC) established the National Public Health Performance Standards Program (NPHPSP) to identify and measure components of the public health system. Those efforts inspired the Association of Public Health Laboratories (APHL) and the CDC Division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

A critical component of the L-SIP is the assessment process that: (1) is based on the 10 Essential Public Health Services (2) incorporates all of the 11 Core Functions and Capabilities of State Public Health Laboratories, (3) focuses on the overall State Public Health (SPH) Laboratory System rather than a single organization, (4) measures PHL System performance against Model Standards, and (5) supports continuous improvement of the PHL System which includes all public, private and voluntary entities that define the system.

The concept of a “State Public Health Laboratory System” (SPH Laboratory System) is relatively new and is defined as “An alliance of laboratories and other partners within a state that supports the 10 Essential Public Health Services under the aegis of the state public health laboratory. The system members and stakeholders operate in an interconnected and interdependent way to facilitate the exchange of information, optimize laboratory services, and help control and prevent disease and public health threats.” Appendix A depicts how the SPH Laboratory System is intertwined with its partners.

SUMMARY

The Florida Department of Health’s (FDOH) Bureau of Public Health Laboratories (BPHL) conducted the L-SIP assessment on May 3, 2017, with 44 partners throughout the state. A diverse group of individuals came together to evaluate the Florida public health laboratory system against the national performance standards and to provide ideas on how we can improve Florida’s public health laboratory system. Florida used the tool “Laboratory System Improvement Program Performance Measurement Tool” developed by APHL in participation with CDC’s National Public Health Performance Standards Program (NPHPSP). Florida was the 34th state to complete the L-SIP assessment (see map below).



ASSESSMENT PROCESS



The 2017 Florida PHL System assessment was a day-long evaluation that gave partners and stakeholders the opportunity to assess the system's support of the 10 Essential Public Health Services at the state-level. Prior to the assessment, participants were provided with informational material describing the L-SIP process, the 10 Essential Health Services (Appendix B), and the 11 Core Functions and Capabilities of Public Health Laboratories (Appendix C). Upon check-in on the day of the assessment, each participant received the APHL "Laboratory System Improvement Program Performance Measurement Tool", color coded flash cards, State Health Laboratory System definition, agenda for the day, and a name badge.

The day began with an overview of the Bureau of Public Health Laboratories and the statewide PHL System. Goals of the assessment were reviewed and examples were presented illustrating how the Florida PHL System had been leveraged in recent years to provide critical public health services. These examples included response to emerging disease (i.e. Ebola and Zika), testing in support of routine disease surveillance, notification of public health threats using the Florida Health Alert Network, education and outreach surrounding leading testing, and comprehensive statewide monitoring of reportable conditions.

Following the overview, discussion of Essential Service #2 (Diagnose and Investigate Health Problems and Health Hazards in the Community) was facilitated. This initial session included all participants and provided a model for facilitation and discussion using the "Laboratory System Improvement Program Performance Measurement Tool." During this session, participants gained familiarity with Model Standards, Key Ideas, Points for Discussion, as well as the use of color coded cards for performance measurement. The group was also introduced to the concept of Parking Lot Issues and use of the Next Steps matrix.

Small-group discussions of the remaining nine Essential Services were facilitated by experienced facilitators during three breakout sessions. Each of the three break-out groups discussed and measured 3 Essential Services. Each break-out group included a representative from the Florida's BPHL that served as theme-taker as well as a BPHL Lab Director that could help answer questions during the assessment.

By the end of each break-out session, evaluation scores were tabulated, Parking Lot Issues were summarized, and next steps were identified. Following the afternoon break-out sessions, all results of the assessment were presented to participants.

Rating options consisted of No Activity, Minimal, Moderate, Significant, and Optimal and ranged from 0% to 100% in 25% increments with “None” signifying 0% or absolutely none of the performance described is met within the public health laboratory system and “Optimal” signifying greater than 75% of the performance described is met within the public health laboratory system.

ASSESSMENT RATINGS CATEGORIES	
Optimal Activity 4	Greater than 75% of the activity described within the question is met within the public health system
Significant Activity 3	Greater than 50% but less than 75% of the activity described within the question is met within the public health system
Moderate Activity 2	Greater than 25% but less than 50% of the activity described within the question is met within the public health system
Minimal Activity 1	Greater than 0% but less than 25% of the activity described within the question is met within the public health system
No Activity 0	0% or absolutely not activity

The following is a summary of results for the 2017 Florida BPHL System assessment.

SYSTEM PERFORMANCE										
Essential Public Health Service:										
	1	2	3	4	5	6	7	8	9	10
Optimal Activity		83.5	91.8				83.5			
Significant Activity	75.0			55.7	67.0					67.0
Moderate Activity						49.8		35.0	38.7	
Minimal Activity										
No Activity										

RESULTS

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

Overall Score = 75.0

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

Rated: Optimal Activity

Summary:

- Surveillance Systems exist and work sufficiently to alert professionals/public to a public health event. Below are some surveillance examples in Florida:
 - Sentinel surveillance
 - Water quality and beach monitoring
 - Influenza
 - Microbiological markers (DEP) – drinking water
 - BioWatch – detect the release of pathogens into the air as part of a terrorist attack
 - EpiCom – disease outbreak communication system
- However there are some gaps in the current surveillance system such as:
 - Lack of communication, working in silos and unable to link with the private sector's interface (system).
 - Sharing data is voluntary and not in statute/rule (apart from notifiable diseases) – We need to incentivize and provide a return on investment
 - Untouched outreach opportunities exist especially with large practice groups or hospitals (large hospital systems)
 - Integrate coalition – regional coalition (County Health Departments, Federal Qualified Health Centers, hospitals) try to integrate – peer pressure other groups “do the right thing”
 - Need to incorporate business intelligence and management practices – making it standard practice – part of what they do to be a good partner
 - The lab system has multiple methods of gathering laboratory data, particularly with reportable diseases.
 - Electronic Laboratory Ordering and Results (ELO/R) is utilized and is a growing data source.
 - The lab systems uses multiple methodologies to monitor foodborne outbreaks. PulseNet (CDC) and collaboration with system partners such as Florida & US Department of Agriculture and Florida's Department of Environmental Protection.
 - Gaps – expanding testing methodology, regulatory requirements versus public health goals (no control on this).
 - Electronic Reporting of environmental results is mostly paper.

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

Rated: Optimal Activity

Summary:

- Children’s Medical Services (CMS) provides NBS “Train the Trainer” in-service training to hospital staff to educate expecting parents. CMS provides the educational materials to the hospital.
- Current gaps are in the program are:
 - Prenatal education in not effective
 - Postnatal education is not sufficient
 - Education among hospital staff, particularly in smaller facilities is an issue
- CMS has contracts with Healthy Start and the New Steps programs.
- BPHL has reciprocity with Texas and an MOU with Michigan to conduct screenings in emergency situations.
- The DOH NBS Follow-up Program has contracts with 32 referral centers across the state. The referral centers are genetics, hematology, pulmonology, immunology, and endocrinology.
- Florida has a statewide Genetics and NBS Advisory Council. The council is made up of 15 members appointed by the State Surgeon General. The council recommend what new/additional tests should be considered.
- The Public Health Laboratory has a policy to store blood spots cards for six months.

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

Rated: Optimal Activity

Summary:

- The SPH Laboratory System traditionally has been focused on environmental issues and infectious diseases. The two chronic diseases that the lab system addresses are HIV and chronic hepatitis.
- However the FDOH’s Division of Public Health Statistics and Performance Management facilitates data monitoring and analysis for chronic disease surveillance.
- The Florida Department of Health’s Division of Public Health Statistics and Performance Management provides chronic public health data to state epidemiologist to identify high risk areas/populations.

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

Rated: Moderate Activity

Summary:

- There are multiple LIMS utilized by BPHL, depending on the program/agency. NBS utilizes Screening Center, Environmental Chemistry utilizes Sample Manager and the rest of the laboratory uses LabWare.
- Gaps – Public/private communication and environmental water (chemistry).
- BPHL has LabWare and Screening Center that have centralized databases. LabWare utilizes HL7, Snomed and LOINC data standards, which allows for almost real-time data exchange between

partners. The Screening Center database is accessed by the Follow Up Program and data is available in real time.

- These systems meet the DOH security and confidentiality requirements.
- Although limited, the lab has 2-way information exchange with most of the county health departments and has rolled out Newborn Screening ELO/ELR for some hospitals.

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

Rated: Moderate Activity

Summary:

- The lab system relies heavily on emergency funding.
- Not safe or efficient, the system is mostly reactive and not proactive.
- No systematic plan for maintenance or enhancement.
- Gap – system to link environmental testing (environmental chemistry and micro) results (currently all paper-based)

Priority Next Steps:

Develop a sustainable funding plan/program to link environmental samples & NBS program to lab.

Essential Service 2:
Diagnose and Investigate Health Problems and Health Hazards in the Community
Overall Score = 83.5

Key Idea 2.1.1 The SPH Laboratory System assures the effective provision of services at the highest level of quality to assist in the detection, diagnosis, and investigation of all significant health problems and hazards.

Rated: Optimal Activity

Summary:

- There are many ways the SPH Laboratory System ensures quality testing. Many of the state laboratories (BPHL, Agriculture, and DEP) have licenses and/or are certified by accrediting bodies.
 - BPHL has CLIA & AHCA licensure and EPA accreditation.
 - Department of Agriculture and Consumer Services' (DACS) labs are ISO certified.
- The labs use CAP surveys and Proficiency Testing to measure testing accuracy.
- Personnel licensing and competency assessments ensure a competent staff/employees.
- Continuing education on new techniques and technology allows staff/employees to stay up-to-date with methods.
- Staff's interaction and training with lab vendors on upcoming lab technology.
- Partners can easily ship specimens to where testing is offered.
- Partners communicate well with public health laboratory.
- NBS has amazing communications with the lab and hospital; NBS contract with providers they report back.
- The clinical lab asks for advice about suspicious results.
- Tuberculosis (TB) reporting is timely, ELR works good. Central Office calls county and TB doctors.
- Epidemiology case management gets samples from clinical lab to public health lab consistently.
- CHDs have good communications with all three labs (BPHL) and the lab system is very responsive to acute cases.
- Acute HIV calls to report & results so treatment is started quickly.
- All BPHL locations have Biosafety Level 3 laboratories (BSL3) and operate 24/7. DACS also has BSL3 capacity.
- Clinical labs have BSL2 and additional Personal Protective Equipment (PPE).
- Epi calls after hours; Epi has liaisons that are housed at the lab to help with communications.
- The Zika response included partners from the CDC, county health departments, and state agencies. There were a lot of agencies working together to respond to Zika.
- Lessons learned from Zika – electronic results different data from Lab Corp. vs. PH lab.
- TB positive cultures – smears and culture are important for contact investigations.
- Investigations start faster due to ELR.
- ELR for Zika – Miami lab became Zika triage center.
- Additional surge creating policies on the fly.
- Lab works with lots of environmental partners to support investigations.
 - Well monitoring for nitrates, (Agriculture)
- Clinical tests notify PH lab of trends of finding specific organisms

Parking Lot Issues:

- There is a lack of understanding of how information is shared within the lab system.
- Grant funding, must purchase large amounts of supply that may or may not be used (i.e. emergency preparedness)
- 1st responders are happy with quick results but they have high turnover so communications is broken with the lab system
- Interoperability between LIMS is an opportunity. Unfortunately, only few partners within the system have it (DOH CHDs and one hospital system with NBS).
- Lack of continuation & loss of skill.
- Clinical labs loses ability to culture organisms. PCR becoming norm & losing culture.
- New technology impacts testing may create gaps.
- Low pay causes us to lose staff and experience.
- No good system for identifying poisoning such as Tylenol
- ELR non-existent for Environmental
- State to state communications could not analyze data (Deepwater Horizon- stopped/waited for who was funded)
- Opportunity for improvement: Chemistry parts don't talk to each other (Agriculture, Environmental Protection, and Health) silos need to be broken down. Need to consolidate and improve communications between the labs.

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

Rated: **Significant Activity**

Summary:

- The SPH Laboratory System has the capacity to test unknown chemical & biological covered, however it depends on scope of event.
- Capacity is an issue.
 - For the Zika virus, we had ability but not the capacity; the system did contract with Lab Corp quickly.
 - The system was able to redirect resources for oil spill
- NBS and CMS COOP plans did not match; currently updating the MOU.
- Comprehensive Lab Response Plan identifies Radiology, Agriculture, Environmental Protection and Health as lead organizations
 - Not being used effectively – not everyone knew about it – needs further distribution.
 - This is not a COOP plan – only identifies roles and capacity.

Parking Lot Issues:

- Establish contract for surge capacity (outsource) with commercial labs.
- Barriers
 - Can't bring staff from out of state to help (licensing)
 - License can be waived in declared emergency
 - Political element influences capacity (e.g. test all women for Zika)
- Public Health Lab system could only use My Florida Market Place (MFMP) contract agency – who did not have lab technologists
- Public Health Methodology (lab developed test) may not be the same as FDA approved tests.

- Financial issues – if no insurance – did not go to Lab Corp, they went to PH lab.
- No ability to test for mold.
- Extends reporting time when sent to CDC.
- We don't know where some samples need to go
 - Cow's milk – goes to Agriculture or DOH?
- Fish & Wildlife
- Opportunity – list of who to refer phone calls for testing.

Essential Service 3:
Inform, Educate, and Empower People about Health Issues
Overall Score = 91.8

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

Rated: Optimal Activity

Summary:

- The SPH Laboratory System has a variety of communication mechanisms (email, newsletters, and protocols) to release information.
- However there are some potential gaps in communications such as:
 - Community messages may be received but are not evaluated on effectiveness
 - Relationship with the media
 - Should be delivered more proactive.
- Strong presence in professional organizations and community partners (i.e. CDC, Association of Public Health Laboratories, Florida Public Health Association).
- There is plenty of outreach happening. The lab serves as a professional resource to CHDs.
- This is done primarily through the County Health Departments – Social media, printed pamphlets and outreach staff.
- The Florida Department of Health's Bureau of Public Health Laboratories has an external web-site with public health laboratory services.
- The Florida Department of Health has an Office of Communications that ensures clear communication between Department of Health employees, and between the agency and its many partners.

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

Rated: Significant Activity

Summary:

- The SPH Laboratory System outreaches to community, leaders, students, health officers, and first responders.
- Community education is relegated to CHD but the laboratory serves as a professional resource and is a contributing partner.
- The CHDs use multiple ways to communicate with the community (i.e. website, flyer, etc.) to educate the community and partners regarding health issues.
- Yes, staff participate in science fairs as judges, student tours of the lab, the rest of the outreach is by CHDs.
- Gaps:
 - how are the messages/communication received? Possible Communication fatigue – inundated with too much information (i.e. everything is an emergency) and lack of evaluation.
 - Media = not proactive (i.e. Zika we were reactive)

- System is prohibitive/restrictive to utilize media and hence makes bring proactive impossible.

Parking Lot Issues:

- Lack of time/staffing prevent growth in this element.
- In some cases, communication can be restrictive due to the political environment (process).

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

Rated: Optimal Activity

Summary:

- Yes as a system and through local groups, advocacy groups and CHDs.
- The SPH Laboratory System is part of a Preparedness group that meets quarterly and includes multiple laboratories.
 - They periodically meet face to face (once a year)
 - Topics cover more than just the lab
- Not a direct community partner but works with providers and stakeholders.
- Concerns about eligibility and affordability
- We don't provide direct clinical services to the public but we do provide direct environmental services such as water & microbiology.

Essential Service 4:
Mobilize Community Partnerships to Identify and Solve Health Problems
Overall Score = 55.7

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

Rated: Significant Activity

Summary:

- There are quarterly interagency calls (i.e. Quarterly Interagency Calls)
 - Calls are specific to preparedness.
 - DEP, Agriculture, DOH, and civil support (military) participate.
- Genetic and Newborn Screening Advisory Council meet twice a year and includes doctors, parents, laboratory and CMS.
- The comprehensive laboratory response plan defines roles and responsibilities. This plan will be disseminated to specific laboratory system partners
- There is an informal process that identifies key constituents and partners among member organizations.
- The Association of Public Health Laboratories (APHL) helps with partnership development.
- Individual groups/councils have a charter with mission, vision and values (i.e. NBS).
- Coalitions can help bring organizations together for similar missions, vision and values.

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

Rated: Significant Activity

Summary:

- The SPH Laboratory System is part of the Laboratory Response Network (LRN) whose purpose is to share The lab system provide information through the following ways:
 - Health alert network (HAN)
 - Person to person network
 - Email blasts; newsletter; conference calls
- Email survey link (is available but not utilized much by partners or public).
- Strategic plan (BPHL) shared and on web-site
- Department of Health headquarters has Public Information Officer (PIO) and gets messages out.
- Everbridge system is used for DOH
- DACS does not use Everbridge but communicates with other DACS laboratories nationwide
- BPHL sends blast emails to sentinel laboratories

Key Idea 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.

Rated: Moderate Activity

Summary:

- The SPH Laboratory System shares resources but in limited capacity.
 - o Hospitals have MOU in place
 - o Only share resources in an emergency
 - o TB Coalition shares doctors and patient information
- The lab system is working to build effective academic partnerships.
- Whole Genome Sequencing (WGS) worked with University of Florida to help understand data applied research and shares database with state.
- Discussed with DACS lab about best practices with WGS.
- Hospitals have defined process of bringing needs to coalition which rates needs and funds them.



Essential Service 5:
Develop Policies and Plans that support Individual and Community Health Efforts
Overall Score = 67.0

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

Rated: Significant Activity

Summary:

- State employees are prohibited from lobbying state representatives; can propose rule changes.
 - We have invited lawmakers to “educate” on policies activities.
- Rulemaking includes a step to solicit input from external stakeholders (public comment).
- Bill analysis is performed by the agency as requested.
- Policies are generally consistent in certification as other states, but not necessarily in licensure which can be a stumbling block.
- Expedited licensure for Zika response is an example of prioritization to address pressing health needs.
- Statewide efforts to reduce HIV infection is an example of meeting community needs; implementing rapid HIV testing and NAAT assay.
- Also, there was feasibility study to evaluate number of state labs in Florida.

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

Rated: Significant Activity

Summary:

Promote state policies that are consistent with federal policies, regulations, and plans?

- Examples of consistency with federal policies:
 - Florida notifiable disease list generally matches federal list
 - Testing algorithms are generally consistent (HIV gen 4 testing).
- Existing lab data are used to inform policy making (e.g., USF students going to Tallahassee to discuss PH issues).
- Lab procedures and tests are validated scientifically before use.
- Programs work closely to provide policy input.

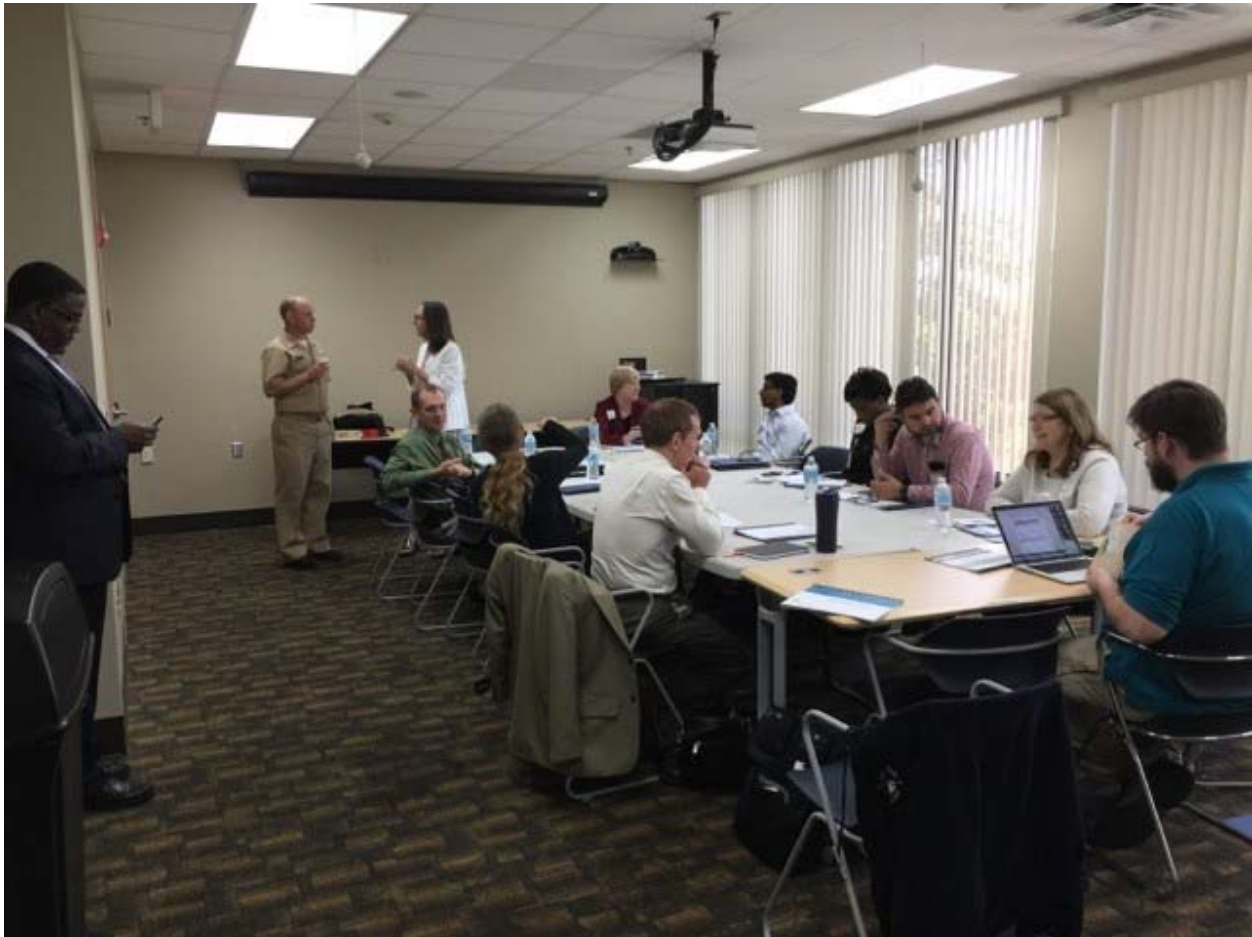
Key Idea 5.3.1 The plans and policies that affect the SPH Laboratory System are routinely evaluated, updated and disseminated.

Rated: Significant Activity

Summary:

- Notifiable disease lists are regularly updated with appropriate changes.
- Updates are included in clinical lab SOPs.
- Environmental policies regarding permissible limits of toxins regulated through DEP are updated and disseminated.
- Florida Administrative Code changes require public comment.

- Have good interface with outside agencies when compared with other states.
- We have written guidance documentation (e.g., for Ebola and Zika) and provide to external partners. These are reviewed and updated regularly.
- Lab policies, SOPs, COOP plans, etc. are reviewed annually. Out-of-date documents are archived.



Essential Service 6:
Enforce Laws and Regulations That Protect Health and Ensure Safety
Overall Score = 49.8

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

Rated: Moderate Activity

Summary:

- The SPH lab system reviews state law about lab licensure as it impacts staff/employees. However updating rules or statutes are very complicated and hard to revise.
- When asked the lab system has provided recommendations for new regulations and revision of regulations. The process is cumbersome.
- Policies/regulations are climate dependent – specific to what legislatures want to address.
- In DACS, issues/recommendations funnel up to the commissioner and he decides.
- The system does not evaluate existing and proposed laws - out of scope/reach.

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

Rated: Significant Activity

Summary:

- The labs (BPHL, DACS) have a Quality Assurance Department that ensures they are in compliance with all laws and regulations pertaining to laboratory practices.
- Hospitals have a quality improvement department that address compliance.
- There are two trainings offered by the labs: Packing & Shipping and Sentinel Laboratory training. These address many laws and regulations.
- Department of Environmental Protection has training on how to collect water samples.
- The labs work with other agencies to improve compliance such as 1st responders maintaining chain of custody and doctor's office regarding reportable diseases.
- National Environmental Laboratory Accreditation Conference (NELAC) with certifying other laboratories.
- Agency for Health Care Administration (AHCA), Centers for Medicare and Medicaid Services (CMS), and Environmental Protection Agency (EPA) for internal compliance.
- The labs are regulated by the federal agency Centers for Medicare and Medicaid Services (CMS), EPA, and/or AHCA requirement.

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

Rated: Moderate Activity

Summary:

- For laboratory certification and environmental chemistry.
- Lab Certification can issue citations.
- Can share information with AHCA, FBI, and law enforcement.
- However the system has limited budget and staff to support effective and timely enforcement. Reference workforce section – retaining experienced staff is a huge.

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

Overall Score: 83.5

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

Rated: **Significant Activity**

Summary:

- Lab services are attentive to quality, timeliness/availability and accessibility.
- Assessment more is spotty/limited/absent.
- Gaps – timeliness of samples that have been referred out/ HIV genotyping needed (ETA – being explained) results spread between providers.
- Future capacity projections are made with specific programs such as NBS and TB.
- In emergencies, the lab system partners works with each other to fill gaps in laboratory services. Zika is a good example.
- Specimen transport is well coordinated across the board.
- Expectations are clear and disseminated to collection sites.
- However there are some gaps such as:
 - A great need for universal courier (3 day holiday weekend, regular mail, overnight)
 - Lab personnel changes interfere with timeliness of results
 - Fed Ex (weather in Memphis affects us!)

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

Rated: **Optimal Activity**

Summary:

- The lab system provides human, water, feed and veterinary testing services by, BPHL, DEP and DACS.
- Yes, for partner we distribute a comprehensive lab response plan that catalogues lab capability in Agriculture, Health, and Environmental Protection. For the public, websites from each of the state laboratories.
- The state system does not have a universal courier service.

- The labs have expertise available to consult.
- Lab results are timely with some gaps related to electronic lab results.
- The laboratory system covers the whole state of Florida, regardless of population type.

Essential Service 8:
Assure a Competent Public Health and Personal Healthcare Workforce
Overall Score = 35.0

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

Rated: Significant Activity

Summary:

- Position are defined and have minimum requirements/qualifications, but there are problems:
 - No evaluation of how positions should be classified.
 - Hospital does market survey and adjusts, while government doesn't.
- There are established KSAs in position descriptions (PD) for all lab staff.
 - Need to create an evaluation system
 - Separate from People First (HR Management System)
- Other Person Services (OPS) staff do not have to have PD.
- There are no requirements for personnel who perform testing in non-traditional laboratory setting. Below are a few examples:
 - Environmental Health testing at the pool
 - Disease interventionist – do rapid test in field
 - Supplier provides training but not defined in PD
- Lab assess annual employee competencies and evaluations with smart expectations.
- Hospitals use the Joint Commission, AHCA, and annual evaluation.

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

Rated: Minimal Activity

Summary:

- The lab system offers tuition reimbursement/waiver (free tuition).
- The state offers regular webinars/trainings.
- DACS has interns and BPHL has student rotations.
- Emergency payroll – not well known but needs to be understood and utilized.
- The state labs allow flex time scheduling and the hospital has shift differentials.
- Some staff can work from home.
- No current market evaluation are done to determine competitive pay scale.
- Need to form workgroup to address workforce issues (retaining staff) by reviewing best practices.
- No on membership to professional membership in organizations.
- Employees are responsible for fees to maintain licensure, renewals and continuing education.

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

Rated: Moderate Activity

Summary:

- Most labs have personal development plan and annual employee competencies.
- Hospital pay for licenses and training; state may want to encourage this.
- The BPHL works with academia but it is not formalized and not at the system level. Some labs have college students complete their lab practicums/rotations at their location.
- Training opportunities are available to staff such as Packing & Shipping and Laboratory Response Network training. Also there are Proficiency Tests (PTs) that employees complete. These are reviewed by accrediting bodies and shared with staff.
- Training with CEU is offered almost weekly to staff through webinars.

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

Rated: Moderate Activity

Summary:

- The lab system is aware of the general workforce trends.
- Members of the lab system collaborate with APhL on succession planning and leadership development. A number of BPHL staff have gone through their leadership development program.
- BPHL participates as judges in local science fairs. DACS participates in “Take your sons & daughters to work” program.
- A number of college students rotate through the state lab system for their practicum.

Parking Lot Issues:

- It is hard to retain staff and find qualified applicants.
- There is a shrinkage in levels of experience – no succession plan.
- Salary are not adequate to attract or retain staff.
- Difficult to send staff to training due to funds.
- Hospital competition for employees (higher pay).
- Employees have to pay for license – state does not support.

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

Overall Score = 38.7

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

Rated: Moderate Activity

Summary:

- The SPH lab system doesn't have a Mission. That is why we are here today.
 - Follow up, how will these sessions actually be used?
 - Workgroup for lab issues
 - Turnover of leadership impacting the system, need clarity for mission
 - What metrics can be used to evaluate success (of the system)? How to quantify?
- There is no formal method to review lab scope of services, however the lab is aware of frequently requested tests not offered.
- Opportunities for improvement are communicating test results to clinical partners.
- Harmonizing best practices for lab testing (e.g., antibiotic resistance testing and reporting) amongst all labs.
- Understanding where PH labs fit together with clinical labs. Where do they intersect and divest?
- Don't feel that there's a good evaluation process going on currently.
- LRN is a cross-cutting example of a system that is evaluated and could serve as a model for evaluation.

Parking Lot Issues:

- Workgroup to define metrics for success

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

Rated: Moderate Activity

Summary:

- Proficiency testing as a method of evaluation of quality
 - Accuracy, timeliness
- Chemical terrorism exercise, hurricane preparedness exercise are opportunities that include the lab system.
- Council to Improve Foodborne Response tracks various lab data (e.g., Turn Around Time (TAT)), not sure if any improvements or discussion has been made because of it.
- Generally (providers) are happy with TAT of state labs; communication on a daily basis is good.
- No state courier system, this potentially can impact TAT and can cause an inconvenience.
 - RERAs have been used for high priority specimens (white powders, Ebola, MERS)
- TATs are not publicized well especially when utilizing other labs.
- Stresses between different partners during emergency response (e.g., Zika, Ebola) may have been an abnormality given the situation.
 - Breakdown between personal communications caused issues.

- Solution-oriented
- Evaluation in terms of After-Action Review

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

Rated: Moderate Activity

Summary:

- Availability of services vs. awareness of services (e.g., well water testing)
 - How can communication and awareness be remedied?
 - Fighting with consolidation of services, too. Model going toward reference labs.
 - Economic influences on this: fees going to certain labs, can't compete with commercial labs
- Public health (population) vs. commercial (patient) driven testing
- Utilization is regularly reviewed
 - Better at evaluating internally (DOH) vs. externally (commercial/clinical labs) → could be better
 - Complicated by decline of test utilization (esoteric testing)
- Don't have a good process to identify other lab capacity
 - Except TB services through academia, hospitals
 - Not good for environmental either
 - Potential need for identifying other labs and their services (hospitals, academia, etc.)

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

Rated: Significant Activity

Summary:

- Individual labs are evaluated for quality but not the system.
- TB control as a good example of communication between hospital and public health lab.
- Good proactive response from state labs in preparation for Ebola (training, guidance, etc.) and TB.
- Good communication internally between DOH agencies
- Evaluation of systems state by state
- Defining metric to say 'what is good' and to be able to distribute best practices.

Essential Service 10:
Research for Insights and Innovative Solutions to Health Problems
Overall Score: 67.0

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

Rated: Significant Activity

Summary:

- TB control and BPHL-Jacksonville are piloting Quantiferon results comparison studies.
- BPHL-Tampa on USF campus so they work closely with their academic partners.
- Molecular typing of *Salmonella*, comparison of different Zika testing, testing algorithms
- Using preexisting data from labs to inform student doctoral projects at USF, 'value of descriptive data [available in labs] can't be underestimated'.
- Workforce development through APHL DrPH program.
- US Naval Academy internships at BPHL-Miami and epi/lab exchange for CHDs near labs.
- Emerging Pathogens Institute at UF supports state goals in terms of research.
- Publications is a new indicator for State Health Improvement Plan.
- More collaborations between academia, but need to be cognizant of the difference between public health and academic partners.
- PHAB guidelines lacking detailed requirements on lab system.
- Can't share biological specimens with other organizations which limits opportunities to participate in research (or presents opportunities to partner with outside organizations to bring them in).
- Grants through other agencies, DOD, APHL, etc. can result in evaluated research and deliverables.
- Getting other programs to write letters of support.
- Staff to identify grant/funding opportunities and teams to write/apply for grants.
- DOH has a Florida IRB that provide protection for human research subjects.
- Most research in lab is reactive or consequential to operations; need to be more proactive.
- There are few advantages/incentives to publish within DOH.

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

Rated: Significant Activity

Summary:

- The SPH Laboratory System is more about 'moving the science forward' than publishing.
- Staff were involved with developing innovative solutions to work place issues/emergencies. This was demonstrated in the 2016 Zika response.
- Implementation often stifled by bureaucracy.
 - Uninformed decisions can negatively impact ability to operate or innovate (e.g., IT policies and decisions).
- The lab system produces many publications, presentation and guidance documents. For example the Zika urine study (MMWR) of implementing innovation downstream (urosveys)
- The lab system has limited engagement with medical technologist programs and other academic institutions.

Florida Laboratory System Improvement Plan

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

- 1) Identify state public/private partners that did not participate in the L-SIP assessment and invite to the next lab system workgroup meeting by December 31, 2017.
- 2) Convene lab system workgroup to address data sharing gaps and needs by March 31, 2018.
- 3) Develop funding plan to link environmental samples and NBS program to the lab by December 31, 2018. **(PENDING PRIORITY)**

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

- 1) Develop a list of testing by agency and disseminate to State Laboratory System Partners by March 31, 2018.
- 2) Convene lab system workgroup to review partners' COOP plan by June 30, 2018. Address central data repository for lab results by December 31, 2018 **(PENDING PRIORITY)**

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

- 1) Develop a process that allows cross training between laboratory partners by December 31, 2018.

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

- 1) Establish an L-SIP Coordinating Committee by March 31, 2018.
 - a. Develop mission, vision and values for state laboratory system.
 - b. Define the system
- 2) Share Comprehensive Laboratory Response Plan with appropriate partners by December 31, 2017.

Essential Service 5: Develop Policies and Plans that support Individual and Community Health Efforts **(PENDING PRIORITY)**

- 1) Establish a Policy subcommittee by June 30, 2018 that will:
 - a. Review statutes and policy impacting the lab system
 - b. Strategize to insert lab input earlier in the process.
- 2) Identify best practices with federal/national trends by September 30, 2018.
 - a. Evaluate HR policies to quickly onboard staff or policy/agreement to have standing surge staff available

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

Essential Service 7: Link People to Needed Personal Health Services and Assure the Provision of Healthcare When Otherwise Unavailable (PENDING PRIORITY)

- 1) Assess current courier service and determine if a universal courier service is needed by June 30, 2018.

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

- 1) Establish a Public Health and Laboratory Workforce subcommittee by June 30, 2018.
 - a. Will conduct salary/market survey
 - b. Review other state's succession plan
 - c. Help guide position reclassification
- 2) Develop standard competencies for similar job position by December 31, 2018

Essential Service 9: Evaluate Effectiveness, Accessibility and Quality of Personal and Population-Based Services. (PENDING PRIORITY)

- 1) Establish a Quality Improvement subcommittee by June 30, 2018.
 - a. Develop quality metrics for the lab system
 - b. Help identify plausible data sources
- 2) Start monitoring lab system quality projects by September 30, 2018
 - a. Track statewide events (CT, BT exercises, hot washes, after action reports etc.)
 - b. Disseminate and share results with partners.

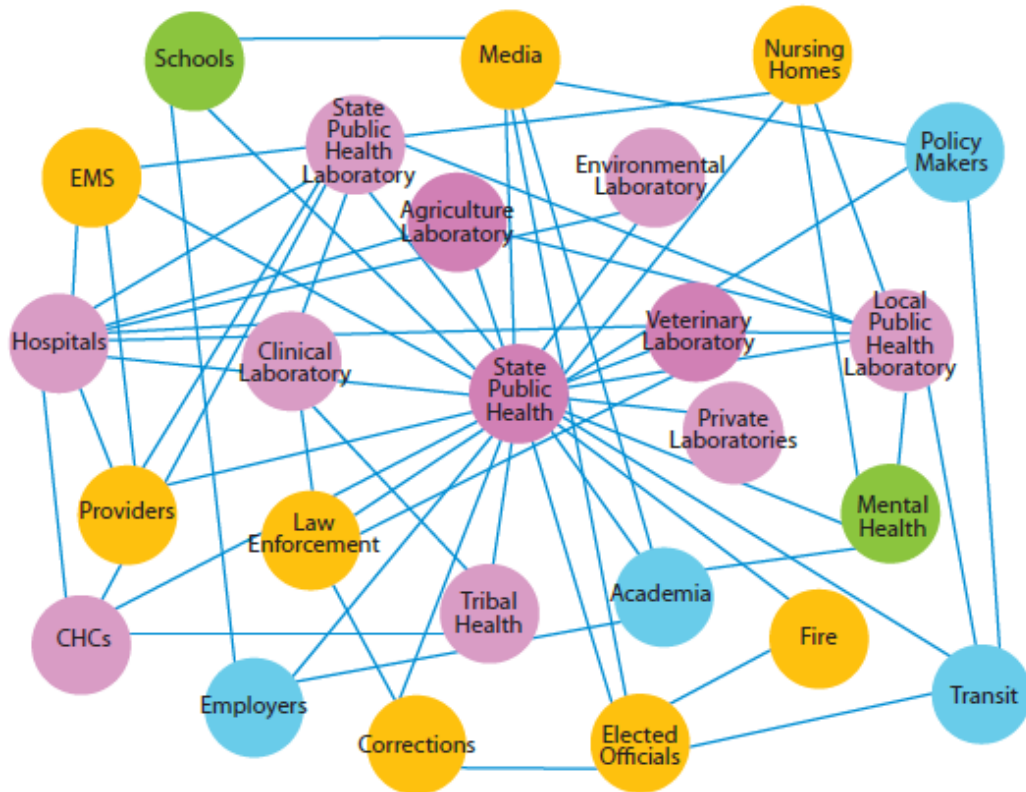
Essential Service 10: Research for Insights and Innovative Solutions to Health Problems (PENDING PRIORITY)

- 1) Establish a Research and Academia subcommittee by June 30, 2018.
- 2) Develop a policy to track publications/presentation by lab system members by September 30, 2018.
- 3) Schedule a grant writing training for lab system partners by December 31, 2018.

PENDING PRIORITY – These objectives' timeline will be revised by the L-SIP Coordinating Committee based on resources.

APPENDIX A

State Public Health Laboratory System



APPENDIX B

10 Essential Public Health Services

Essential Public Health Services

- Monitor health status to identify community health problems
- Diagnose and investigate health problems and health hazards in the community
- Inform, educate, and empower people about health issues
- Mobilize community partnerships to identify and solve health problems
- Develop policies and plans that support individual and community health efforts
- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services and assure the provision of health care when otherwise unavailable
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services
- Research for new insights and innovative solutions to health problems



Source: <http://www.health.gov/phfunctions/public.htm>

Adopted: Fall 1994, Source: Public Health Functions Steering Committee, Members (July 1995): American Public Health Association•Association of Schools of Public Health•Association of State and Territorial Health Officials•Environmental Council of the States•National Association of County and City Health Officials•National Association of State Alcohol and Drug Abuse Directors•National Association of State Mental Health Program Directors•Public Health Foundation•U.S. Public Health Service --Agency for Health Care Policy and Research•Centers for Disease Control and Prevention•Food and Drug Administration•Health Resources and Services Administration•Indian Health Service•National Institutes of Health•Office of the Assistant Secretary for Health•Substance Abuse and Mental Health Services Administration

APPENDIX C

11 Core Functions and Capabilities of State Public Health Laboratories

THE ELEVEN CORE FUNCTIONS OF STATE PUBLIC HEALTH LABORATORIES

- Disease Prevention, Control and Surveillance
- Integrated Data Management
- Reference and Specialized Testing
- Environmental Health and Protection
- Food Safety
- Laboratory Improvement and Regulation
- Policy Development
- Public Health Preparedness and Response
- Public Health Related Research
- Training and Education
- Partnerships and Communication

Source: APHL

http://www.aphl.org/AboutAPHL/publications/Documents/COM_2010_CoreFunctionsPHLs.pdf