

Milwaukee's Laboratory System Improvement Program (L-SIP)

2018 Assessment & Next Steps

Sanjib Bhattacharyya, PhD

Laboratory Director
City of Milwaukee Health Department

Adjunct Faculty, Joseph J. Zilber School of Public Health
Clinical Associate Professor, College of Health Sciences
University of Wisconsin-Milwaukee



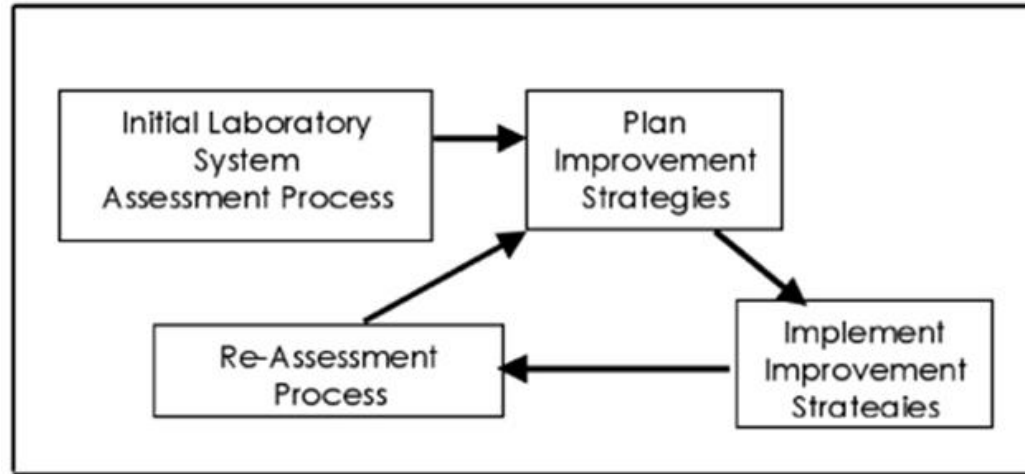
APHL QI Webinar
December 13, 2018

Objectives

- Overview of L-SIP
- Background on Milwaukee's 2010 Assessment & improvements
- Highlights of 2018 MHDL L-SIP Assessment
- Next steps



What is L-SIP?



To improve and assess performance of state and local public health laboratory systems, the **Association of Public Health Laboratories (APHL)**, in collaboration with the **Centers for Disease Control and Prevention (CDC)**, developed the **Laboratory System Improvement Program (L-SIP)**.

It is modeled on the proven performance standard assessment process used by local and state public health departments for the last decade.

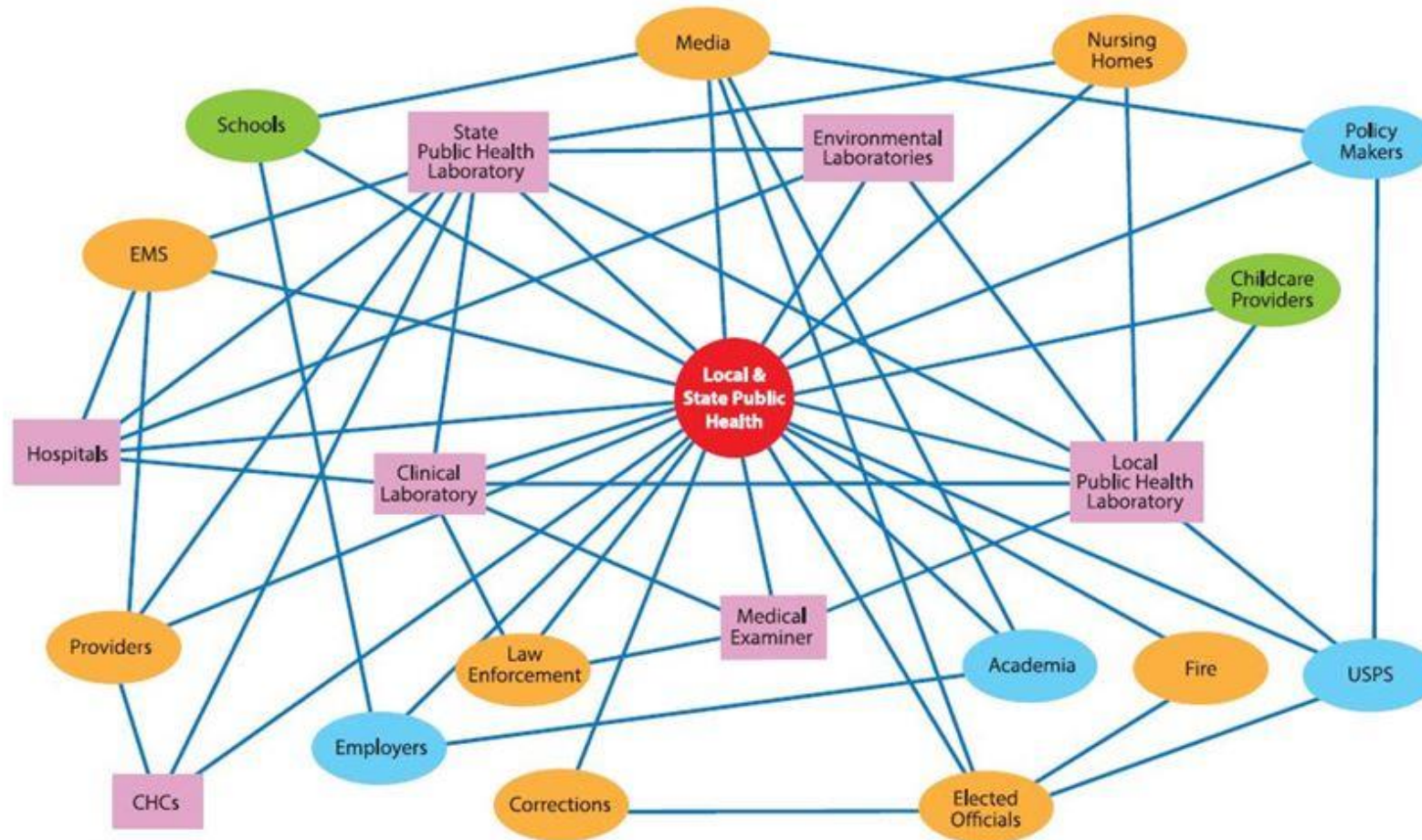
MISSION: To promote and support high performance levels of state and local public health laboratory systems through continuous quality improvement.

Local Public Health Laboratory System

- The **Local Public Health Laboratory (LPHL) system** consists of all the organizations that participate in or otherwise support public health laboratory testing.
- The **LPHL system** includes those who initiate testing and those who ultimately use the test results.
- More than the MHDL
 - All public, private and voluntary entities that contribute to public health laboratory practice in the community
 - A network of entities with differing roles, missions, relationships and interactions.

Local Public Health Laboratory System

A public health laboratory system is an alliance of organizations and individuals that 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.



Gradus, S., et. al. (2013). Milwaukee Laboratory System Improvement Program (L-SIP). Public Health Reports. 128, Supplement 2: 40-48.

L-SIP Benefits

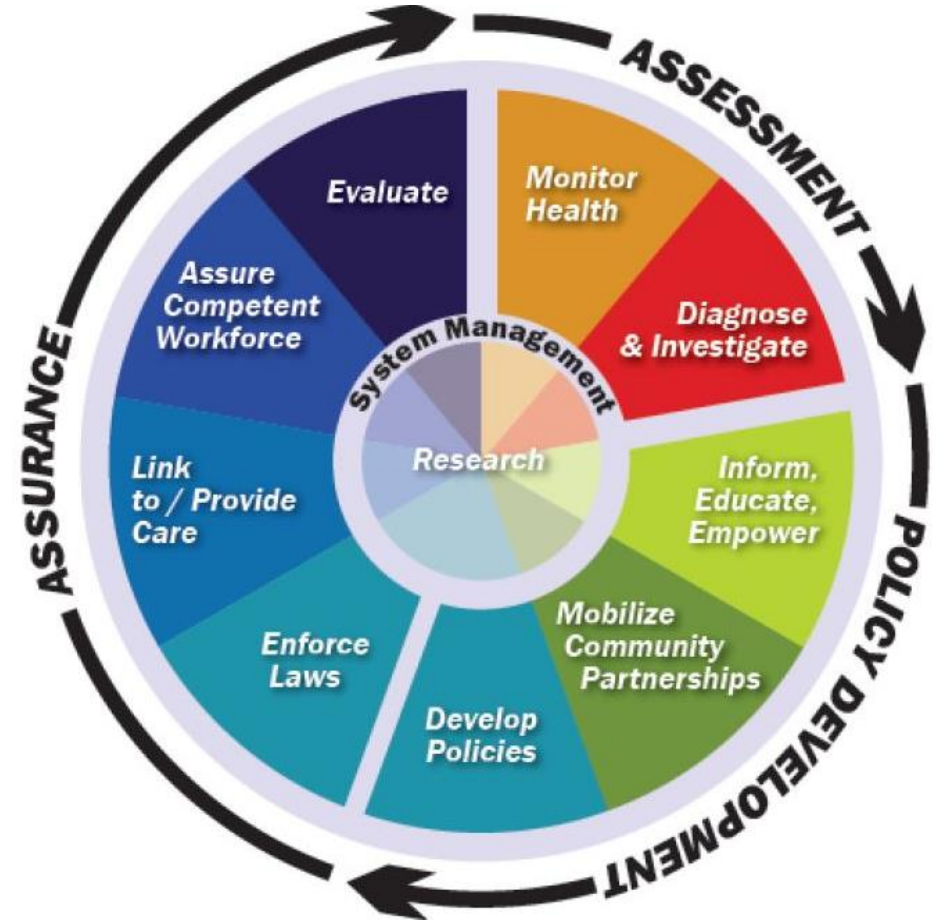
- Provides support for the accreditation of state and local public health departments by the Public Health Accreditation Board (PHAB).
- Provides a benchmark for public health laboratory system practice improvements, by setting a “gold standard” to which public health systems can aspire.
- Improves communication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

Core Functions of Public Health

1. Assessment
2. Policy development
3. Assurance

10 Essential Services

1. Monitor the health status of the community.
2. Investigate and diagnose health problems and hazards.
3. Inform and educate people regarding health issues.
4. Mobilize partnerships to solve community problems.
5. Support policies and plans to achieve health goals.
6. Enforce laws and regulations to protect health and safety.
7. Link people to needed personal health services.
8. Ensure a skilled, competent public health workforce.
9. Evaluate effectiveness, accessibility and quality of health services.
10. Research and apply innovative solutions.



Background: MHDL 2010 L-SIP Assessment

- In November 2010, Milwaukee became the **first local PHL** to conduct an L-SIP assessment
 - 73 system stakeholders from 40 agencies
- **Workforce Development** (ES #8) and **Research** (ES #10) subsequently targeted for improvement

[illegible]

Accomplishments & Improvement Activities

2011

- Formed Milwaukee Laboratory Advisory Committee (MLAC)

2012

- Developed Local L-SIP Action Plan

2013

- Conducted Laboratory Science Career Forum for HS & college students
- Received **2013 NACCHO Model Practice Award** for Milwaukee L-SIP
- Published article on **Milwaukee L-SIP** in **Public Health Reports**



2013 NACCHO Model Practice Award

PRACTICE ARTICLES

Milwaukee Laboratory System Improvement Program (L-SIP)

M. STEPHEN GRADUS, PhD,
D(ABMM)^a
SANJIB BHATTACHARYYA, PhD^a
AMY MURPHY, MPH^b
JULIE N. BECKER, BA^a
BEVAN K. BAKER, MHA, FACHE^a

ABSTRACT

The Laboratory System Improvement Program (L-SIP) of the Association of Public Health Laboratories aims to improve state public health laboratory (PHL) system performance through continuous quality improvement. We successfully applied this state assessment tool to a local PHL (LPHL) system by tailoring it to reflect local system needs and created an LPHL system definition explaining how a local system differs from, yet complements, a state system.

On November 18, 2010, 75 stakeholders from 40 agencies assessed the Milwaukee, Wisconsin, PHL system, capturing themes, strengths and weaknesses of the system, and scores for each of the 10 Essential Public Health Services. A Laboratory Advisory Committee analyzed assessment results to identify a strategic focus of research and workforce development and define an action plan, which is now being carried out. Milwaukee's L-SIP process is effectively improving LPHL system research and workforce development while raising community awareness of the system.

MHDL 2018 L-SIP Assessment

Date: Thursday, May 10th, 2018

Time: 8:00 am – 4:30 pm

Location: Milwaukee County War Memorial

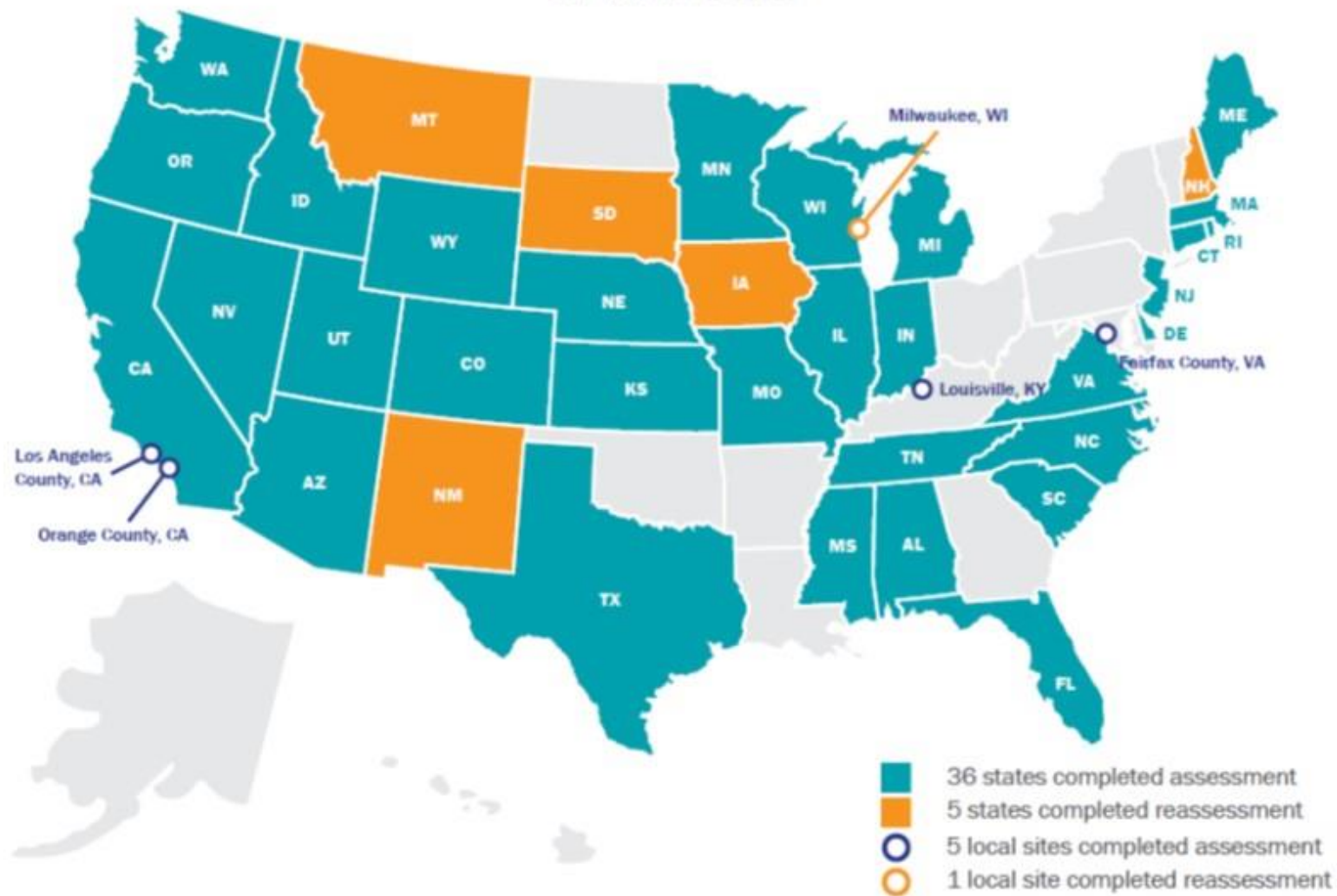
Participants: Nearly **50 system stakeholders** from about **25 different agencies**, including:

- **9** academic/research institutions
- **7** health care organizations
- **5** local & state health departments
- **4** law enforcement & regulatory agencies
- **3** local governmental agencies



L-SIP PARTICIPATION MAP

SPRING 2018



Meeting Overview



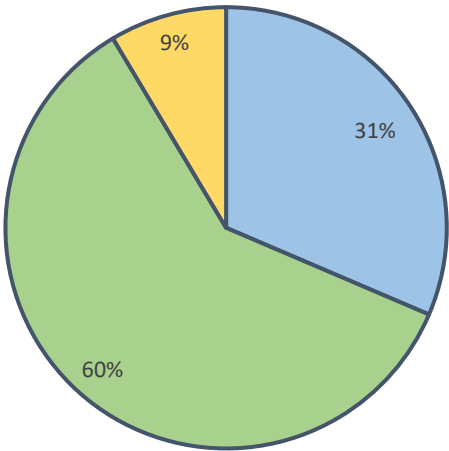
- Assessment day began with an introduction to L-SIP followed by a plenary session to evaluate the performance of Milwaukee's LPHL system in **Essential Service #2: Diagnose and investigate health problems and health hazards in the community.**
- Stakeholders were then divided into 3 work groups to assess the remainder of the **10 Essential Public Health Services** as follows:
 - Work Group A (Essential Services 1, 3 and 7)
 - Work Group B (Essential Services 5, 9 and 10)
 - Work Group C (Essential Services 4, 6 and 8)



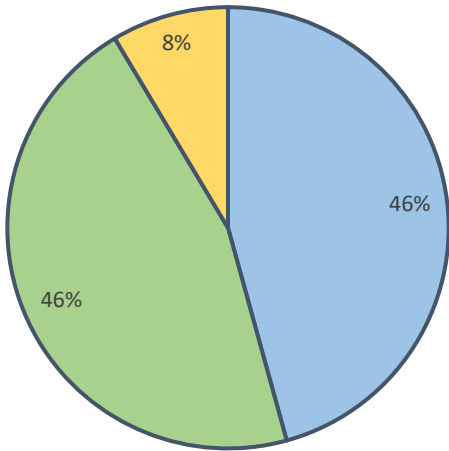
Meeting Evaluation: Utility of Meeting



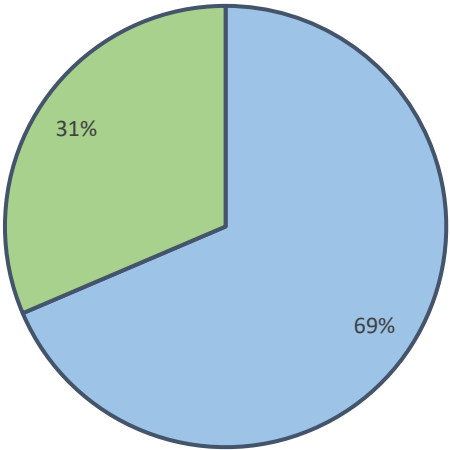
Stated objectives of meeting were met



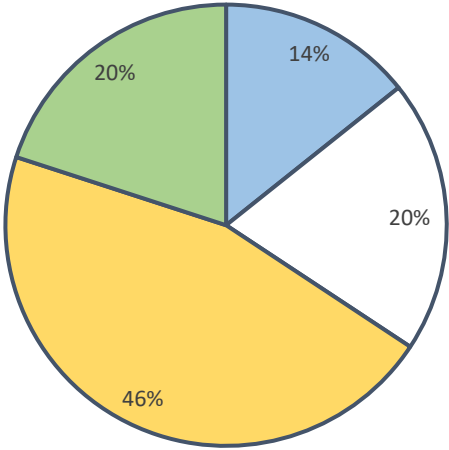
Dialogue was useful



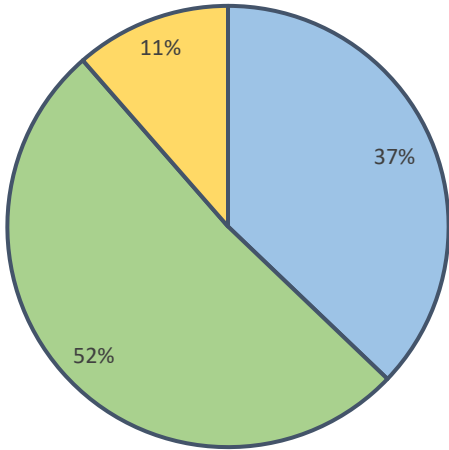
I support the efforts being made



Next steps are clear



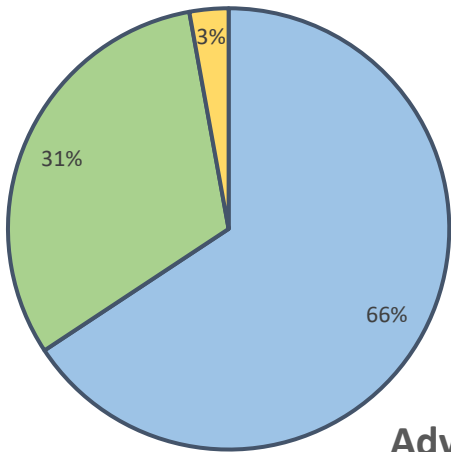
Meeting was a good use of my time



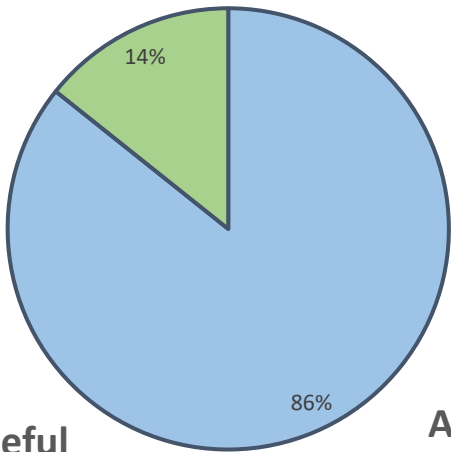
Meeting Evaluation: Meeting Arrangements



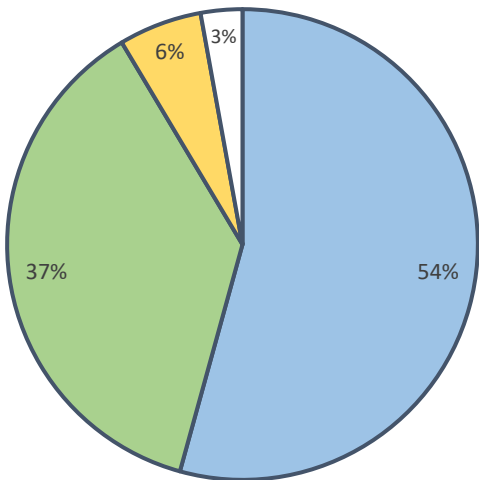
Advance notice of the meeting



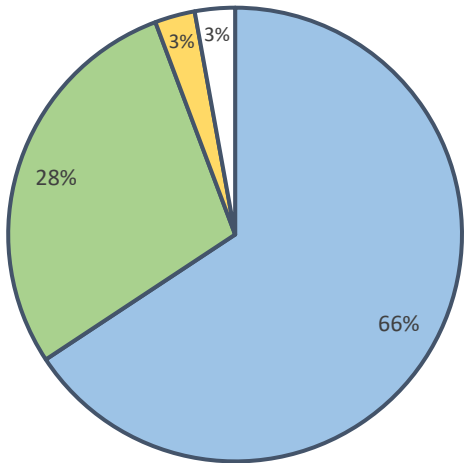
Meeting room accommodations



Advance materials for meeting were useful



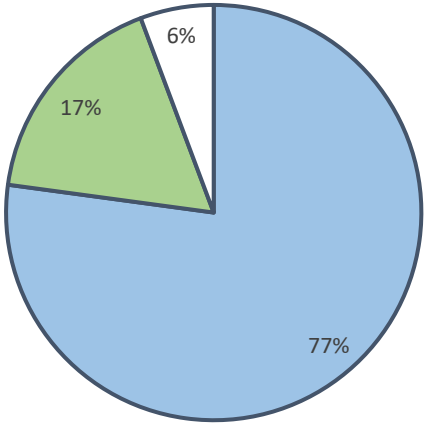
Advance materials received with time to review



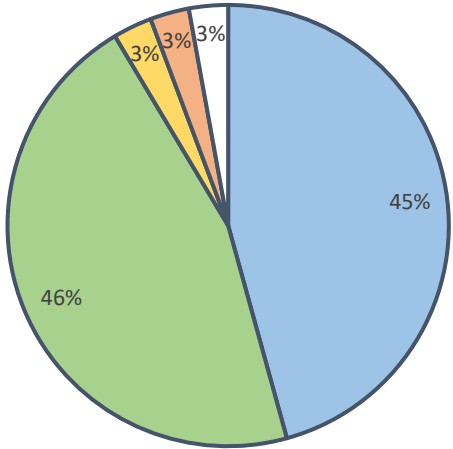
Meeting Evaluation: Flow of Meeting



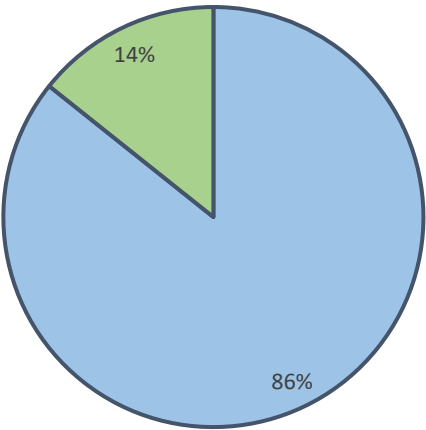
Started on time



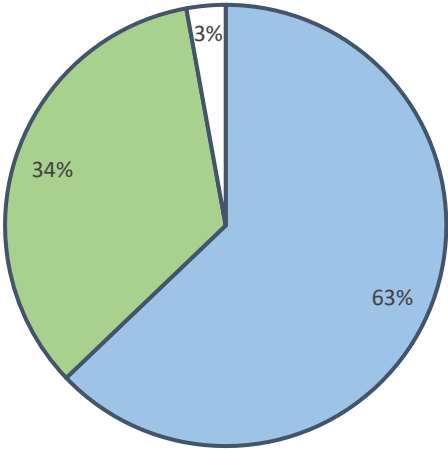
Clear objectives for meeting



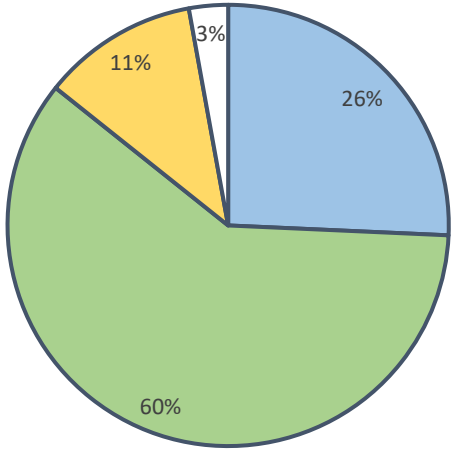
Agenda followed or appropriately amended



Facilitation was effective



The "right" people were at the meeting

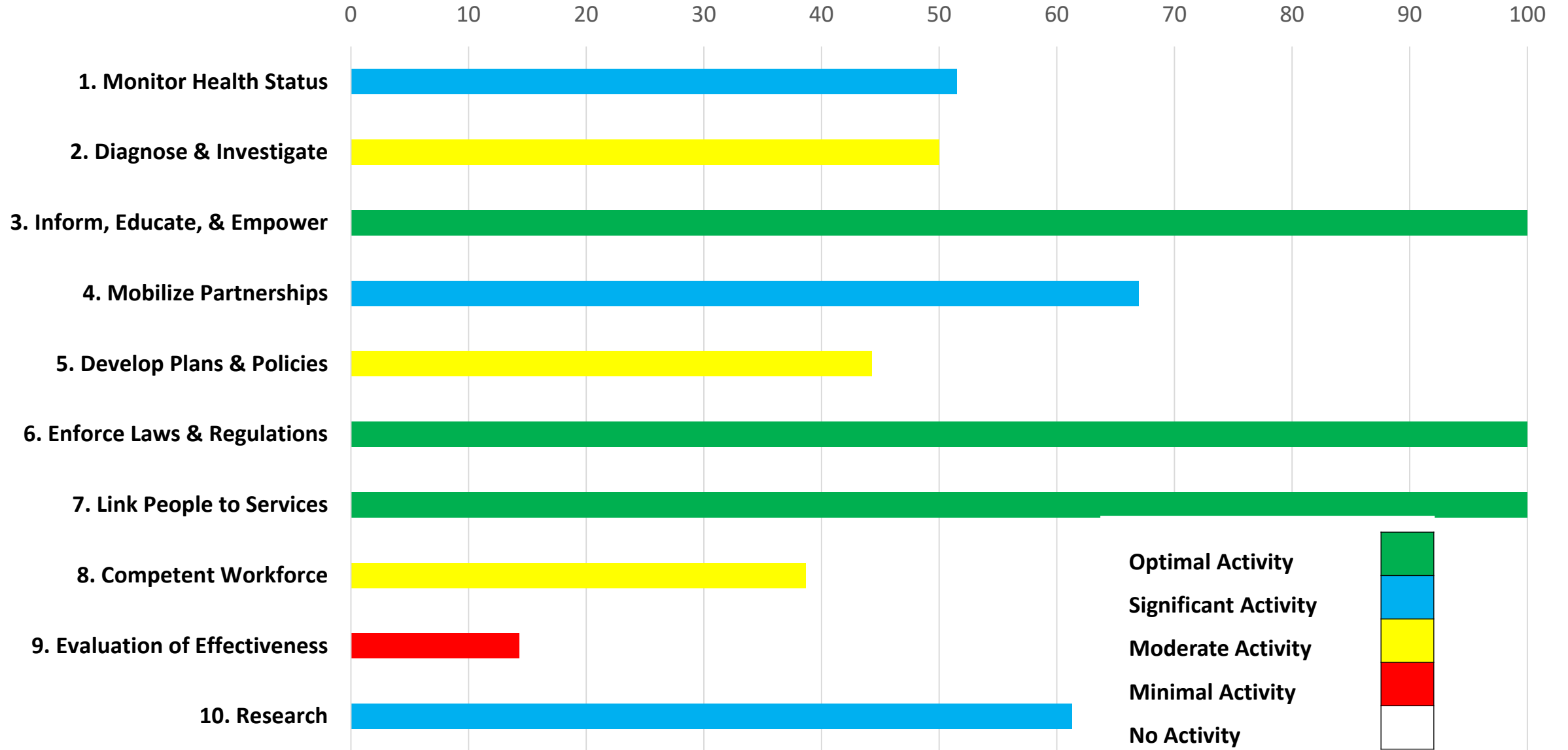


Challenges

- Stakeholder representation in breakout sessions
- Participants with limited background knowledge of L-SIP process
- PHL system vs. individual PHL



2018 Assessment of Scores by Essential Public Health Service



Assessment Results (cont'd)

Essential Service #1: Monitor Health Status	
1.1 Monitoring Community Health Stat	36.0
1.2 Surveillance Information Systems	67.0
Overall Score	51.5

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

Essential Service #5: Develop Policies & Plans	
5.1 Partnerships in Public Health Plan	67.0
5.2 Role in Laboratory Policy Making	33.0
5.3 Dissemination & Evaluation	33.0
Overall Score	44.3

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

Essential Service #9: Evaluation of Effectiveness	
9.1 System Mission & Purpose	5.0
9.2 System Effectiveness & Accessibility	23.7
Overall Score	14.3

Essential Service #2: Diagnose & Investigate	
2.1 Appropriate & effective testing	50.0
Overall Score	50.0

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

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

Essential Service #8: Competent Workforce	
8.1 Defined Scope of Work & Practice	33.0
8.2 Recruitment & Retention of Staff	33.0
8.3 Assuring a Competent Workforce	50.0
Overall Score	38.7

Essential Service #10: Research	
10.1 Planning & Financing Research	67.0
10.2 Implementation & Evaluation	55.7
Overall Score	61.3

Essential Service #2

Diagnose and Investigate Health Problems and Health Hazards in the Community

Next Steps	Importance	Suggested Activities
Improve PHL messaging amongst partners	High	1. Educate providers within each of the clinical labs of WSLH/MHDL regarding laboratory services 2. Include the acute care community in mass communications from MHD
Expand capacity and explore resource capabilities amongst MHDL and Wisconsin State Laboratory of Hygiene (WSLH)	High	1. Distinguish overlapping and unique testing capabilities
Develop a memorandum of understanding (MOU) with stakeholders	Low	1. Create resource database
Participate in debriefing following an outbreak investigation and a table top exercise for preparedness	Moderate	1. Conduct regular emergency drills at the local level to assess surge capacity and response plans

Essential Service #5

Develop Policies and Plans that Support Individual and Community Health Efforts

Next Steps	Importance	Suggested Activities
Form an advisory committee	High	1. Define scope of services and partner roles 2. Develop website listing of services and capacity
Establish system and frequency for assessing system performance	Moderate	1. Conduct regular drills/exercises 2. After action review process/protocol for outbreaks
Create system-wide database of laboratory resources	High/Moderate	1. Develop opportunities for information/resource sharing, collective planning/policy development, and community and partner feedback and follow-up.

Essential Service #9

Evaluate Effectiveness, Accessibility, and Availability of Personal and Population-Based

Next Steps	Importance	Suggested Activities
Develop a system to monitor policies	Moderate	1. Engage elected officials and academic partners
Conduct planning to ensure laboratory system participation in policy development	Low	1. TBD
Disseminate policy-related information to all partners in system	Moderate/Low	1. Conduct tabletop exercise (i.e. emergency preparedness & response, jurisdictional roles) to evaluate policy and plans

Environmental

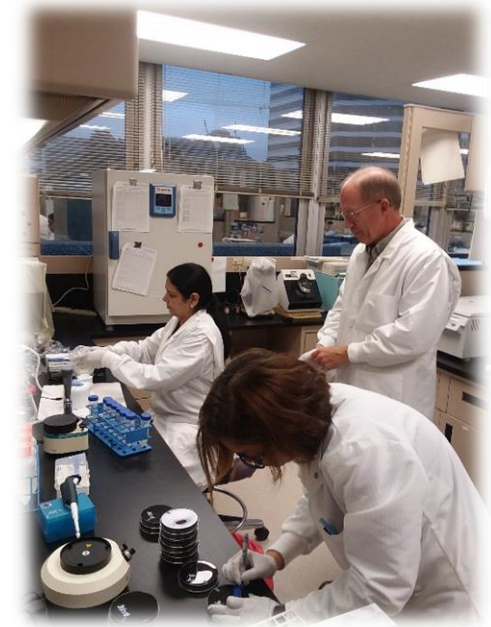
Demonstrated Successes:

➤ *Essential Service #1*

- MHD encourages city residents toward soil testing capabilities
- MHD-Milwaukee Water Works (MWW) partnership for water monitoring
- Lead outreach and education
- Communications in place PHL, Env. testing labs, sewage district, WI DNR, and EPA
- Interagency coordination to ensure safe drinking water
- Renewable energy efficiency efforts

➤ *Other Essential Services:*

- PBS filming on lead testing (*Essential Service #3*)
- Increased lead testing in MKE (*Essential Service #6*)
- Beach water testing program collaboration with multiple partners (*Essential Service #9*)
- Cohort with dialogue on backyard gardening, including environmental education & advocating for policy change; partial lead service line replacement research informed policy (*Essential Service #10*)



Suggested Improvements:

- Standardization of sampling techniques (*Essential Service #1*)



Infectious Diseases

Demonstrated Successes:

➤ *Essential Service #1*

- MHD SurvNet for Milwaukee surveillance
- Foodborne outbreak monitoring (i.e. *Salmonella*, *E. coli*)
- GC AST study gets monthly reports, alert notifications
- Epi coordination and response for local high school STI incident

➤ *Other Essential Services:*

- Local labs rely heavily on MHDL to identify less common diagnoses; excellent outbreak response (*Essential Service #2*)
- Research vs. PHL surveillance (*Essential Service #10*)

Suggested Improvements:

➤ *Essential Service #1*

- ID prevention strategies, for example outreach for Lyme disease
- Screening HS students for STIs is a challenge

➤ *Other Essential Services:*

- After outbreak investigation, participate in debriefing (i.e. serotyping in surrounding municipalities) (*Essential Service #2*)
- Provide more surveillance data (*Essential Service #3*)
- Survnet consolidates and provides information but does not evaluate (*Essential Service #9*)

Workforce Development

Suggested Improvements – *Essential Service #8*:

➤ **Key Idea 8.1.1**

- Streamline hiring process
- Ensure that job descriptions and competencies are reviewed and updated regularly
- Evaluate/improve existing performance appraisal system(s)

➤ **Key Idea 8.2.1**

- Explore better opportunities to market job postings and attract candidates
- Develop career ladder

➤ **Key Idea 8.3.2**

- Increase high school interns and introduce the field to young students (STEM efforts)
- Limited internships and job shadowing opportunities



Workforce Development

Demonstrated Successes:

➤ *Other Essential Services*

- MHDL trains students from a variety of academic institutions (*Essential Service #3*)
- Career Fairs (*Essential Service #3*)



Suggested Improvements:

➤ *Other Essential Services*

- Need capacity and resource capabilities amongst local and state PHLs (*Essential Service #2*)
- Share expertise/training with other labs/partners (*Essential Service #6*)
- Shared lab equipment, lab personnel; peer-to-peer training (*Essential Service #7*)
- Trainings for clinicians; service-oriented research with comprehensive education component (*Essential Service #10*)

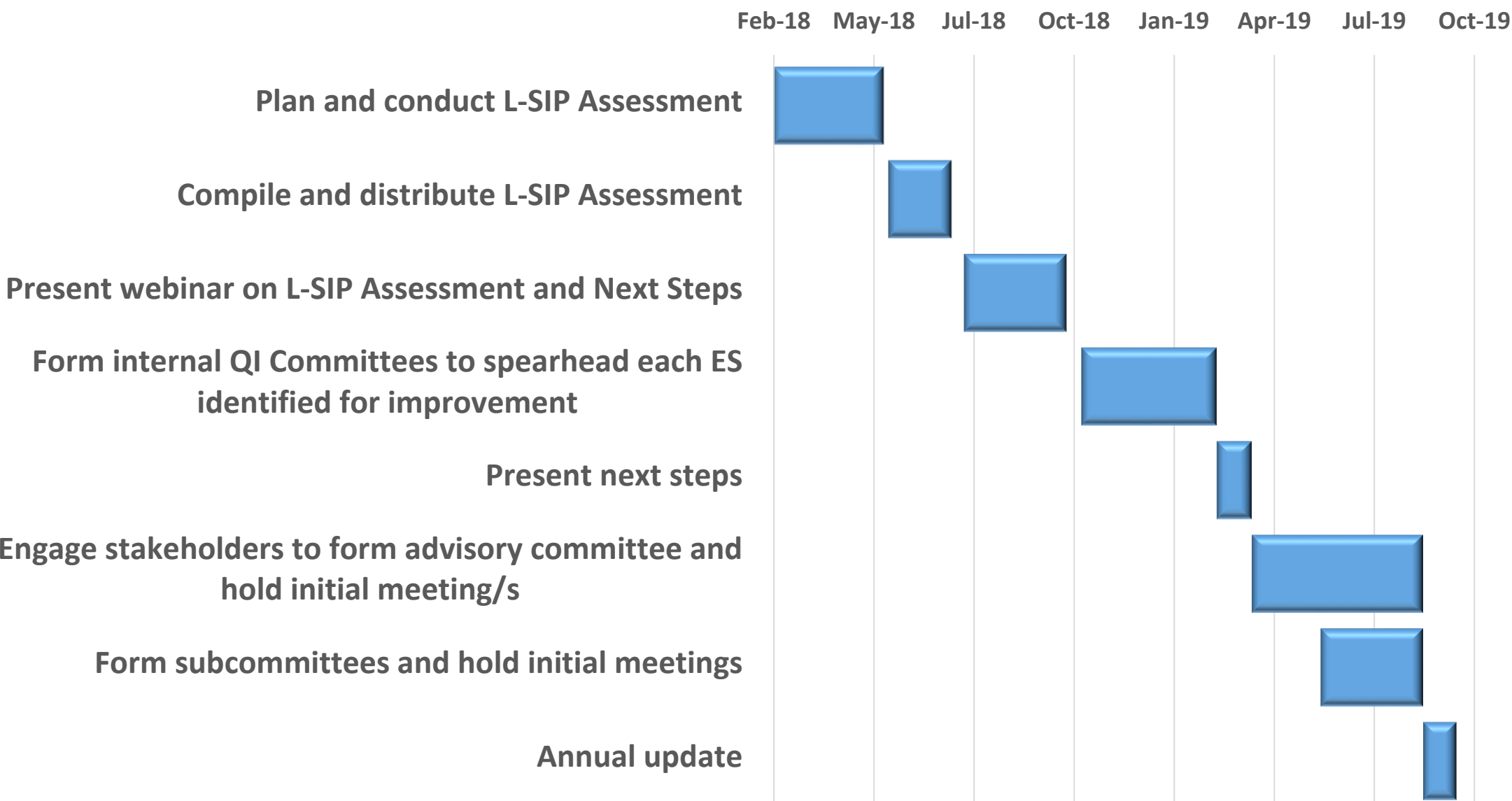
Participant Comments

“A lot of people felt at the beginning that this was some sort of organization that was there to tell them how to do things, or produce some master document of operating procedures. Thankfully, there were some ‘aha’ moments where the group came together and realized that we were there to use our individual expertise to find ways to improve the overall system through collaboration and continued communication.”

“The one thing that stands out to me is the common thread of timely communication. With any department or facility, good communication is key, but can also be challenging to do. Identifying players in a communication plan is also important.”

“It was really an excellent, well-run event... There was just a lot of robust discussion from people who actually might be able to make an impact. The next step, of course, is what comes out of this.”

Next steps



L-SIP Increases Assessment, Reassessment Numbers

by Tina Su, MPH, manager, Quality Systems

The Laboratory System Improvement Program (L-SIP) saw a slight uptick this spring in both assessment and reassessment numbers. The Virginia Division of Consolidated Laboratory Services (VA DCLS) convened an assessment in April, while the City of Milwaukee Health Department Laboratory (MHDL)—the first local public health laboratory system to complete a reassessment—held its event in May.

Both laboratories brought together system partners, including representatives from the health and environmental departments and academia, for a one-day assessment. Facilitators led breakout groups through a discussion of the ten sections of the L-SIP assessment tool, which correspond to the 10 Essential Public Health Services (see sidebar). Through this dialogue, the system partners gained a better understanding of system strengths and opportunities for improvement.

VA DCLS Assessment

In Virginia, Essential Services #1, #2, #3, #5, #6, #7 and #10 were recognized as system strengths, while Essential Services #4, #8, and #9 were deemed areas needing improvement. VA DCLS Laboratory Director Denise Toney described her L-SIP experience with enthusiasm, "What a great opportunity to hear such positive feedback on all the different types of activities the laboratory provides each and every day but also to learn specifically about what we can do to improve our laboratory testing services in order to better meet the needs of our stakeholders."

MHDL Reassessment

In Milwaukee, Essential Services #3, #6 and #7 were identified as system strengths, whereas Essential Service #9 was found to have low activity within the system. MHDL Director Sanjib



Denise Toney, laboratory director of the Virginia Division of Laboratory Services and Sanjib Bhattacharyya, laboratory director of the City of Milwaukee Health Department Laboratory, posed with their L-SIP Certificate of Participation, which were awarded to them at the 2018 APHL Annual Meeting.

Bhattacharyya described Milwaukee's L-SIP reassessment as very timely. "It has been about eight years since we conducted our first L-SIP assessment. Changes in leadership, partners and areas of priorities prompted us to consider reassessment of our system's performance," Dr. Bhattacharyya said. "We also wanted to do a reality check on previously identified priority essential service areas, which (we) had been working toward during past years. The reassessment allowed us to verify the

As of July 1, 2018, 36 state PHL systems have held an assessment and five a reassessment. At the local level, five PHL systems have held an assessment and one a reassessment.

availability of resources and services to the community and the impact of PHL practices in sustainable quality improvement at the local system level."

With assistance from APHL Quality Systems Manager Tina Su and contractor Anne Weber, the MHDL team was able to utilize tools developed during its initial 2010 assessment to improve planning for its reassessment. "There were a lot more challenges during the first assessment, since we had to customize the L-SIP guidelines for local lab use. This time, with



- MHDL presented a webinar on Milwaukee's 2018 L-SIP Assessment in October 2018

- Informed stakeholders about L-SIP process, and results of the 2018 assessment of LPHL system

- Future directions for quality improvement at the LPHL system level

<https://city.milwaukee.gov/ImageLibrary/Groups/healthAuthors/LAB/MilwaukeeL-SIP2018Assessmentwebinar10-19-18.mp4>

<http://city.Milwaukee.gov/LSIP>

Milwaukee Health Department

[About Us](#)[Health Information](#)[Services & Programs](#)[Reports & Publications](#)[News & Events](#)[MKE Elevate](#)[Contact Us](#)

Z Index: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

 [SHARE](#)    ...

 [Select Language](#) ▼

[Milwaukee Health Department](#) > [Services & Programs](#) > [Laboratory](#) > [L-SIP \(Laboratory System Improvement Program\)](#)



Laboratory System Improvement Program (L-SIP)

[Jump to 2018 Assessment](#)

What is L-SIP?

L-SIP is a program of the Association of Public Health Laboratories (APHL), an organization that represents the interests of public health laboratories nationally and internationally. More information is available on this [two-page overview of the L-SIP](#).

The purpose of the Laboratory System Improvement Program (L-SIP) is to improve the quality of public health laboratory practice and performance. The first step is to assess the strengths and weaknesses of the laboratory system as a basis for quality improvement efforts. Milwaukee's most recent assessment took place on Thursday, May 10, 2018.

Public Health Laboratory

[Health Lab Testing & Fees](#)[L-SIP \(Laboratory System Improvement Program\)](#)[Monthly Confirmed Infections Reports](#)[Lab Publications](#)[Lab News Archives](#)[About the Milwaukee Public Health Lab](#)[Health Laboratory History in Milwaukee](#)

Acknowledgements

- The Association of Public Health Laboratories (APHL)
- City of Milwaukee Health Department Administration
- MHD Laboratory and other departmental staff, especially those who assisted with facilitating, notetaking and other event logistics
- Milwaukee LPHL system stakeholders for their time, interest and active participation in the L-SIP process



Thank You!

