Innovations in Quality Public Health Laboratory Practice: An APHL Laboratory Systems & Standards and Knowledge Management Collaborative

What Does the Ideal PHL System Look Like?

Final Report

Submitted by: Minnesota Department of Health, Public Health Laboratory

Date: 7-29-2011

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Introduction

The Minnesota State Public Health Laboratory (MN-SPHL) within the Minnesota Department of Health (MDH) was established more than 100 years ago when the germ theory of infectious disease developed and little was known about the impact of environment on health. With the advent of more modern technology, the SPHL became the premier laboratory in Minnesota with the ability to identify environmental hazards and diagnose epidemic infectious diseases. The MN-SPHL is essential in surveillance for early detection of public health threats, identification of rare chemical and biological hazards, emergency preparedness and response, and assurance of quality laboratory data through establishment of collaborative partnerships with clinical and environmental laboratories throughout the state.

In 2010, MN-SPHL received a competitive Association of Public Health Laboratories (APHL) grant to implement a systems change initiative to design an ideal state public health laboratory system. This initiative was an extension of a day-long Laboratory System Improvement Program (L-SIP) assessment, a national initiative of APHL. The focus of the L-SIP assessment was the Minnesota Public Health Laboratory System, which includes all partners that contribute to the State's ability to meet the laboratory needs for assuring the health and well-being of all Minnesotans. The assessment has been effective when used in other states to identify, troubleshoot, and ultimately mitigate gaps in the state public health laboratory system, with the ultimate goal of continuous quality improvement. The full results of the assessment can be found in Appendix A.

The assessment day was structured in a manner consistent with recommendations of the L-SIP process, which is based on the 10 Essential Public Health Services (see http://www.cdc.gov/nphpsp/essentialServices.html). Participants were provided orientation and through the guidance of trained facilitators, collectively worked through an assessment of one essential service. They then had an opportunity to ask questions about the format and process. Participants were then divided into three smaller breakout groups. Each group assessed three additional essential services, resulting in assessment of all ten essential services.

While MN-SPHL followed the APHL recommended assessment approach in general, there were some significant differences that provided unique challenges and opportunities. First, unlike the recommended approach of utilizing smaller break out groups, MDH utilized larger groups of over 20. While this made consensus building slightly more challenging, it offered an opportunity to hear and synthesize information from a broad range of stakeholders in the state public health laboratory system.

Second, it quickly became apparent that there were several "domains" of the public health laboratory system that overlapped and contained distinct differences within the key indicators and ideas. These domains were defined as "clinical," "environmental," and "newborn screening." This phenomenon caused some difficulty in the voting. For example, participants frequently noted that for "clinical" the system was "optimal" while for environmental it was "minimal."

Third, with the larger number of individuals within each break out session, there was a tendency to regress to the mean. Extreme, or outlier, votes mitigated to average with

discussion. Many participants maintained their comments, but would change their vote to a more common answer.

Fourth, it was helpful that MN-SPHL received a subsequent planning grant to develop a map of the current system and recommendations for an ideal system. This next phase allowed participants to understand their votes were impressions and a first step in a broader initiative to understand the system and complexities through a mapping process.

Participants in the L-SIP assessment worked collectively to assess Minnesota's Public Health Laboratory System against national model standards developed under each of the 10 Essential Public Health Services. The results of the L-SIP assessment were synthesized, providing priority next steps for improvement as well as key themes that emerged under each of the ten essential public health services discussions. An overarching theme that emerged throughout the assessment was that although the MN-SPHL has many strengths, the following steps could sustain and improve the system for the future:

1. Inventory stakeholders and services in the system and identify gaps;
2. Formalize the state laboratory system, clarifying roles and responsibilities;
3. Engage in ongoing quality improvement processes, including regular assessments with clear follow up actions and accountabilities;
4. Establish clear and effective communication across the system;
5. Assure that the system maintains "forums" that foster collaboration and innovation, such as a research committee; and
6. Promote the state public health laboratory system and career advancement for laboratory professionals.

The L-SIP assessment process provided a strong foundation to improve the state public health laboratory system. To this end, the MN-SPHL received a subsequent APHL grant to continue improvement efforts started under the L-SIP assessment process and to document the process in a format conducive to replication in other public health laboratory settings. Under the grant, a Design Group was established and met three times between September 2010 and January 2011 to utilize the L-SIP assessment information to develop a blue print for an ideal public health laboratory system for Minnesota and establish an implementation work plan. The Design Group was comprised of broad representation and perspectives from all components of the public health laboratory system. This report details the methodology, results, and conclusions from the design process.

Methodology

In May 2010, MN-SPHL contracted with consultants to facilitate the ideal Minnesota SPHL system design process. A list of MN-SPHL staff and consultants that participated in the project as a "steering committee" is available in Appendix B. Utilizing the list of participants from the June 2010 L-SIP assessment, stakeholders were invited to participate in the defining process. A complete list of participants with their affiliations is available in Appendix C. Understanding that the process would be time intensive for a broad range of stakeholders, the qualitative approach consisted of three structured meetings in St. Paul, MN with specific objectives. In addition to the broader stakeholder group meetings the internal MDH "steering committee" members met on three occasions for a facilitated discussion to review the process and results. Consultants facilitated the meetings and analyzed the qualitative results. In

addition MN-SPHL staff met on numerous occasions to review additional drafts and to synthesize discussions.

Meeting 1: Domain Specific

Based on results of the L-SIP assessment process it was quickly determined that there were three inter-connected, but separate domains within the MN-SPHL – Environmental Laboratory and Environmental Accreditation, Newborn Screening program, and Clinical Laboratory. To further clarify and understand the current MN-SPHL and then move into designing an ideal system each domain separately participated in an initial four-hour facilitated meeting. The objectives of the initial meeting included:

1. Review and refine MDH map of MN-SPHL for specific domain,
2. Identify strengths of current SPHL system and review and refine opportunities for improvement, and
3. Craft the elements of an ideal SPHL system for specific domain.

The meeting dates for each domain and the number of participants were as followed:

1. September 30, 2010 – Environmental – 16 participants;
2. September 30, 2010 – Newborn Screening – 13 participants; and
3. September 27, 2010 – Clinical – 17 participants.

Meeting 2: Refine & Brainstorm

Utilizing data obtained from the initial meeting, the second meeting worked to refine components of the ideal SPHL system and frame a work plan. The objectives of the meeting included:

1. Review and refine a rough draft of an ideal SPHL system; and
2. Begin drafting high level work plan for implementing the ideal SPHL system.

The meeting occurred on November 3, 2010 and consisted of 37 participants. MDH staff and consultants met to review the draft maps. After several disparate versions of graphic representations of the SPHL system, one integrated map was agreed upon. This map documented not only the relevant stakeholders in the SPHL system, but also the processes through which the stakeholders work and subsequently how the work demonstrates a feedback loop to affecting policy and the health of Minnesotans.

Meeting 3: Visual & Plan

With the data on the ideal SPHL system from meeting two transferred into a pictorial representation of the SPHL system concept, process flow, and components, the third meeting worked to further refine the representations and outline specific next steps to achieve the ideal system. The objectives of the meeting included:

1. Review and Refine Ideal SPHL system design and supporting visuals; and
2. Outline high level implementation steps.

The meeting occurred on January 25, 2011 and consisted of 46 participants.

Data from the meetings were captured in notes and summarized based on emergent themes. The consultants utilized expert and participant verification of the summaries before finalizing conclusions. Each meeting built upon the results of the former meetings culminating in a final product for participant reactions. The final product consisted of an ideal SPHL system map, overarching SPHL system visual, a framework for organizing the SPHL system work, and initial first steps in implementing the framework. The process documentation and final report are tools developed by the project team to assist replication and national dissemination of the design process across other states.

Results

The results section focuses on the grant objectives, rather than the results of individual meetings. Individual meeting summaries can be obtained in Appendices D-H.

Objective 1: By the end of the grant cycle, consultant will document key components of an ideal Minnesota SPHL system as contributed by partners and stakeholders.

Three core documents were produced simultaneously in the process regarding key components of an ideal SPHL system in Minnesota:

1. Core components of an ideal system;
2. Collaborative system organizing governance structure; and
3. System map.

The first document outlined various components of an ideal SPHL system. Stakeholders concluded that an ideal SPHL system would be collaborative across stakeholders and

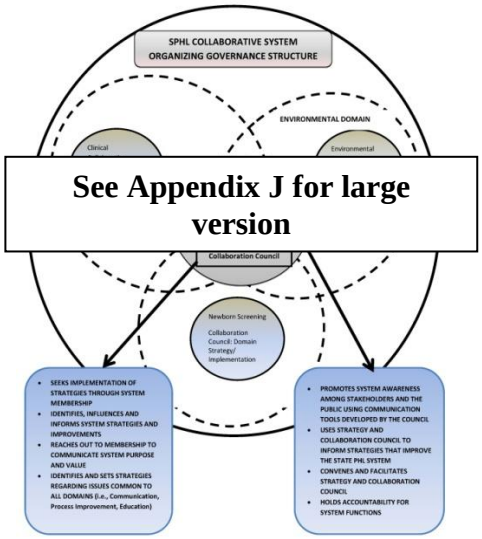
encompass three key components: 1) model functions; 2) clear relationships and roles; and 3) a formalized structure. Each component has desirable features. A graphic representation of the components of an ideal system is available in Appendix I.

Function. An Ideal SPHL Collaborative System supports the 10 Essential Services of Public Health via model standards and performs the 11 Core Functions of Public Health Laboratories.

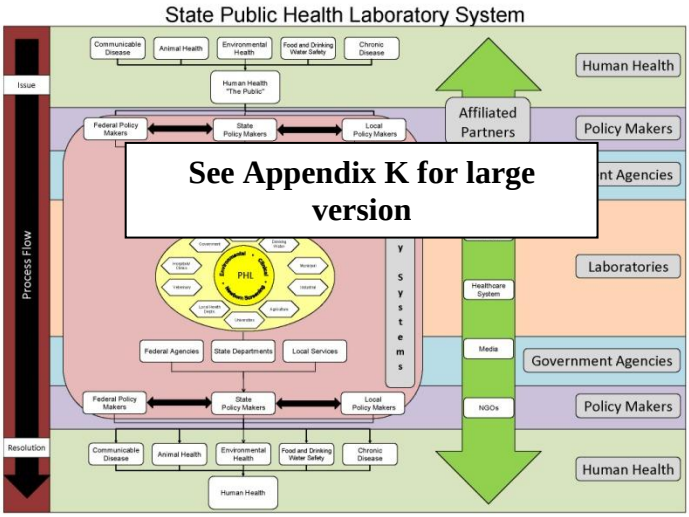
Relationship and roles. In an ideal SPHL Collaborative System, roles and relationships of participants in the system are mapped to establish clarity around the nature and function of the system. The Minnesota Design Group recognized that while there is an overarching SPHL in Minnesota, it is comprised of three principal domains, environmental (labs and accreditation), clinical laboratories, and newborn screening. The system is ideally supported by a membership charter that conveys the system's importance, purpose, vision and values, and outlines participants' roles and relationships to each other.

Formalized structure. An Ideal SPHL system has a formalized and supportive structure. Even if roles and relationships within the system are clearly mapped and communicated through a System Charter, the Minnesota Design group believed that an ideal System requires an organizing governance structure to hold the components together and assure collective functionality.

The second document outlined a collaborative system organizing governance structure. This graphic depicted the complex interconnected relationships between the environmental, clinical, and newborn screening domains as well as potential over-arching centralized governing structure.



The third document was a final iteration of a systems map that attempted to depict the stakeholders, functions, and process of the Minnesota SPHL system. Accompanying the diagram was a narrative explaining the roles and complexities of the system.



Objective 2: By the end of the grant cycle, consultant will document whether the L-SIP process works to increase awareness and benefits of a MN-SPHL system in its partners.

Participants in the L-SIP assessment process were scored on a variety of questions relating to perceptions of the SPHL system and roles/responsibilities. Participants were asked to complete a pre-assessment and post-assessment "test" that measured basic knowledge of the state public health laboratory system as well as self-reported level of understanding of concepts within the system. Fifty two participants completed a pre-test and 47 participants completed a post-test.

Questions 1-4 were multiple choice, knowledge based, to test knowledge of facts from the definition and components of a State Public Health Laboratory created by APHL. They included:

1. Which is an essential service of public health?
    a. Ensure transportation to emergency services
    b. Link people to needed personal health services
    c. Provide accurate diagnosis and treatment
    d. All of the above
    e. Do not know
2. Which is a core function of a state public health laboratory?
    a. Environmental health and protection
    b. Funding of ancillary services
    c. Clinic services
    d. All of the above
    e. Do not know
3. A state public health laboratory system includes
    a. The state public health laboratory only
    b. All the organizations and individuals that are involved in or support laboratory testing, whether directly or indirectly
    c. All private laboratories, transport agencies, epidemiologists that engage in direct laboratory testing
    d. All of the above
    e. Do not know
4. A state public health laboratory
    a. Supports laboratory testing directly
    b. Provides leadership to develop and promote a state public health laboratory system

c. Provides leadership to assure that clinical laboratories that perform public health testing on reportable infectious diseases submit results to the public health surveillance system using national guidelines
d. All of the above
e. Do not know

The number correct increased for questions 1-3, but did not for question 4. There was a substantial increase in the total number correct from the pre-test (n=8) and post-test (n=35).

Pre Test

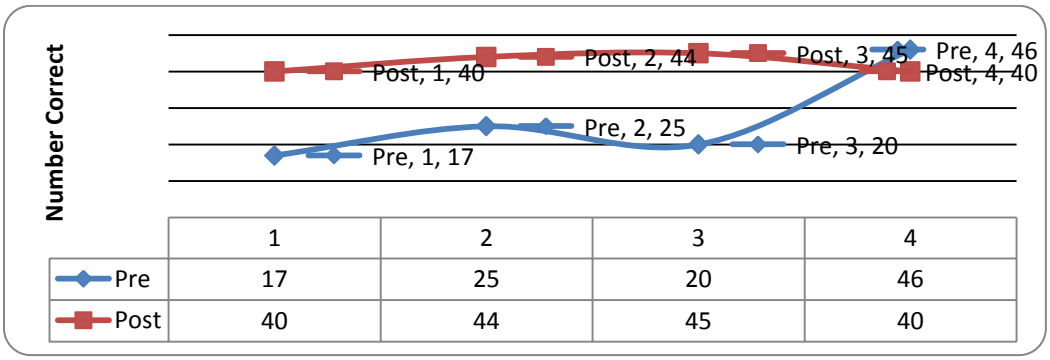
	Total	Correct N	Correct %	Incorrect N	Incorrect %
Question 1	52	17	33%	35	67%
Question 2	52	25	48%	27	52%
Question 3	52	20	38%	32	62%
Question 4	52	46	88%	6	12%

	0	1	2	3	4
N Correct	1	17	19	7	8

Post Test

	Total	Correct N	Correct %	Incorrect N	Incorrect %
Question 1	47	40	85%	7	15%
Question 2	47	44	94%	3	6%
Question 3	47	45	96%	2	4%
Question 4	47	40	85%	7	15%

	0	1	2	3	4
N Correct	0	1	5	6	35



Questions 5-8 were self-report, using a likert scale format and were attitudinal in nature. Participants were asked to rate their level of understanding of the following areas using the following scale: 1 = Low level of understanding; 2 = Moderate level of understanding; 3 = High level of understanding.

5. The general purpose of a public health laboratory system.

6. The 11 core functions of a state public health laboratory.

7. Your (or your agency's) role in a public health laboratory system.

8. The difference between a public health laboratory and a public health laboratory system.

Participants self-rated level of understanding significantly increased from the pre-test (scores of 2%-35%) to the post-test (scores of 43%-76%).

Pre Test

	1	%	2	%	3	%
Question 5	4	8%	39	81%	5	10%
Question 6	31	65%	17	35%	1	2%
Question 7	6	13%	24	50%	17	35%
Question 8	12	25%	27	56%	9	19%

Post Test

	1	%	2	%	3	%
Question 5		0%	17	37%	29	63%
Question 6	2	4%	24	52%	20	43%
Question 7	2	4%	18	39%	26	57%
Question 8		0%	11	24%	35	76%

Question 9 assessed a participant's initial accuracy on the perceptions of a state public health laboratory system. The vast majority of the self-reported accuracy of initial perceptions was moderately accurate.

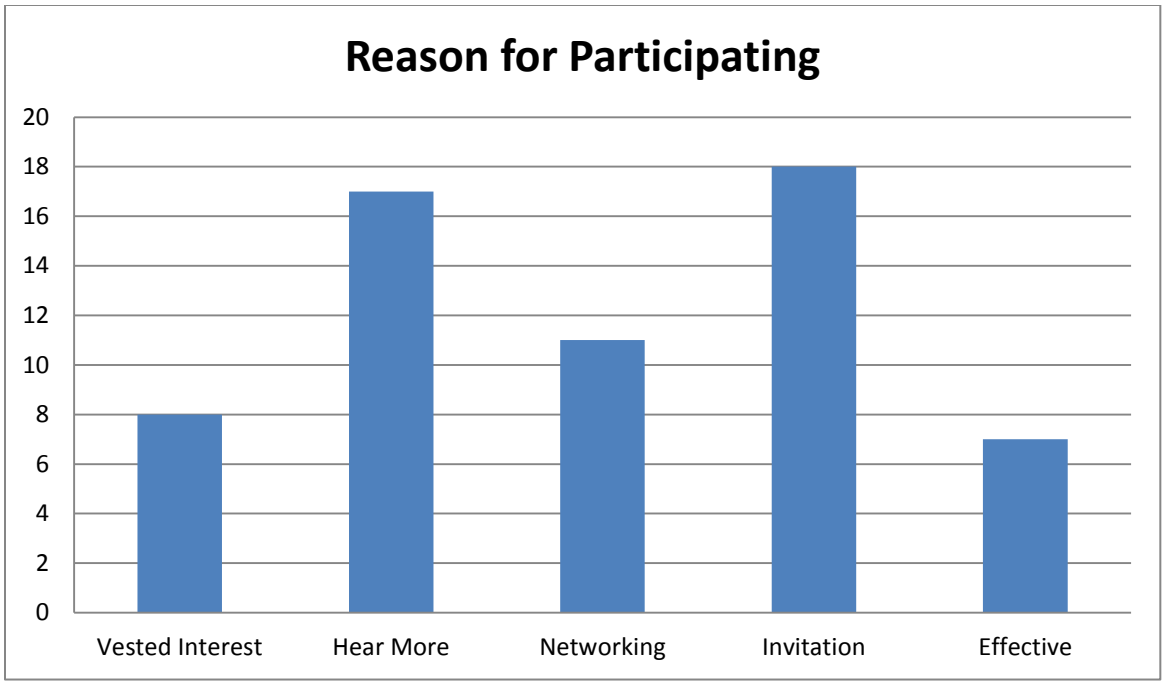
Post Test

	1	%	2	%	3	%
Question 9	2	7%	25	93%	0	0%

Objective 3: By the end of the grant cycle video material will be produced, with the help of an outside vendor, documenting partners' stories about the MN-SPHL system.

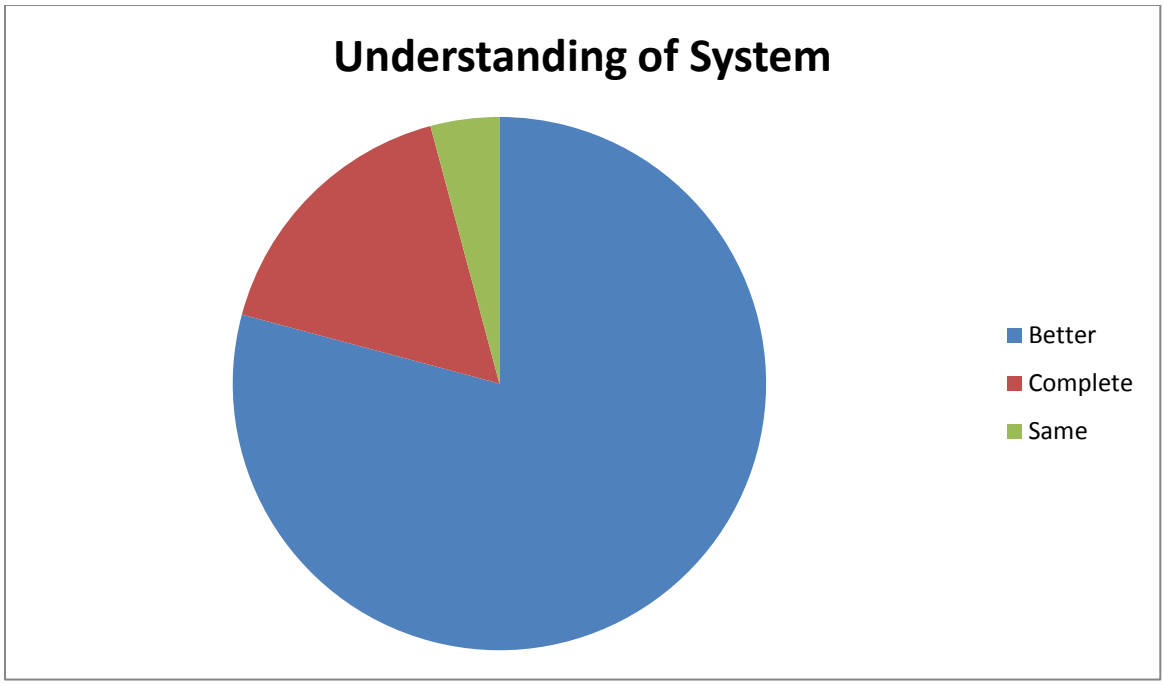
It became evident that investigating the motivation of participating stakeholders in the design system would provide valuable data on the process moving into implementation. With permission from APHL, MDH altered objective three to solicit stakeholder participation in an online survey with the purpose of collecting data on motivation for participation in the design process. All 43 stakeholders that participated in at least one design meeting were invited to participate. Twenty-four respondents (56%) completed the survey. The full survey is available in Appendix L.

Twenty-three of the respondents (96%) participated in a domain specific initial meeting, 14 (58%) participated in the second meeting, and 18 (75%) participated in the third meeting. Participants were asked their reason for participating in the design process. Eighteen (75%) participated simply because they were invited. Seventeen (71%) participated to hear more about the SPHL system. Eleven (46%) participated for networking opportunities. Eight (33%) felt they had a vested interest in the process. Seven (29%) participated because it was an effective process.



The main reason that was given for not participating in all the meetings was scheduling conflicts (n=9, 38%). One participant commented that he/she could not attend because it was too far and the attempt to use teleconference did not function well.

Participants were asked if they had a better understanding of the SPHL system as a result of participating in the process. The majority felt they had a better understanding, but not complete (n=19, 79%). Four (17%) reported a complete understanding. One (4%) reported the same amount of understanding.



Participants were then asked to report whether more discussion about design and/or implementation of the SPHL system was needed. Five (21%) reported that more discussion about design was needed. Sixteen (67%) reported that more discussion about implementation was needed. Five (21%) reported that neither design or implementation required additional discussion.

Participants were asked if they would continue participation in the process, moving into implementation. Sixteen (67%) stated that they would continue participation in the process. Seven (29%) reported they would not. Two of these reported that it was due to not being their area of expertise. Three reported it was due to lack of time. One reported that they were not from Minnesota and would replicate in their state.

Conclusion

Minnesota's ideal SPHL system design process provided an opportunity for MN-SPHL and stakeholders to discuss the relevance, importance, and definition of an ideal SPHL system. While there were a significant number of important outputs (such as a system map, role clarification documents, etc.), there were also several learning opportunities for MN-SPHL. MN-SPHL was able to involve broad stakeholder participation, delineate the distinct yet overlapping domains in the system, describe the system as integrated, provide a model for an overarching system coordinating body, and develop the initial steps for implementation.

Stakeholder Participation

The primary goal of the process was to develop an ideal SPHL system. In essence, the project helped to describe the complex work of the SPHL system from a collaborative perspective of the MN-SPHL and external stakeholders. Secondarily, and just as important, was the goal of informing stakeholders about the system and their intersections and roles within it.

This secondary objective shifted the MN-SPHL-centric SPHL system model to MN-SPHL serving as a convener and important player within a larger system. This stressed that every stakeholder has both an independent and integrated function within the system. MN-SPHL was pleasantly surprised with the participation in the L-SIP assessment, with over 80 participants from across the state. Further, over half of the L-SIP participants continued into the ideal SPHL system design phase. This was depicted even more in the final survey of participation where 67% of survey respondents wanted continued participation in the implementation of the ideal SPHL system. Those that did not want were due primarily to lack of time or an uncertainty of their individual subject matter expertise.

Domain Clarification

Each state offers a unique perspective on a SPHL system depending on a wide array of factors including Health Department administration, geography, funding, policy, etc. Minnesota has a long history of providing public health initiatives at the local level with strong partnership with the Department of Health. Within MDH the PHL provides a critical link to external stakeholders for specimen testing, standard setting, and accrediting. It became evident with the L-SIP assessment and even clearer through the design phase that three distinct domains functioned within the MN-SPHL: Newborn Screening program, Clinical Laboratory, and Environmental Laboratory and Accreditation.

The distinction in the domains was a critical component of the discussions as each domain provided different interactions between MN-SPHL and stakeholders as well as different functions. This seemed dependent upon a number of factors. For example, the clinical domain at MN-SPHL was seen as the central leader with external stakeholders. There were no other equivalent state agencies providing the same services as the MN-SPHL Clinical Laboratory. Conversely, the Environmental Laboratory domain had more diffuse partnerships with other state agencies including the Minnesota Pollution Control Agency, Department of Agriculture, and Department of Natural Resources. The development of a concentric circle pictorial representation of the domains provided a method for depicting how domains functioned independently, amongst one another, and integrated through the MN-SPHL.

Integrated Map & Roles

Regardless of the functionality and administrative structure of MN-SPHL, external providers and consumers of MN-SPHL services see the Department as an entity. Initially the

process began to create three parallel tracks for each of the domains of the MN-SPHL. Collectively the design team attempted to merge the domain maps together for an integrated system map. A significant amount of time was spent on brainstorming, developing, presenting, and revising these domain specific maps with the goal of consistency across domains.

After several iterations, which domain work groups consisting of MN-SPHL staff created separately, it was agreed that all maps could be integrated into a single map that outlined not only MN-SPHL and stakeholders, but also a fairly global cyclical process through which all domains operated – identification of a concern impacting the public's health, submission of appropriate specimen, production and collection of data, solution implementation, and looping back to evaluating the solution and its impact on the public's health.

Overarching Committee Model

All along in the process stakeholders noted that MN-SPHL would always play a lead convening role in the SPHL system. However, taking an MN-SPHL-centric approach seemed to negate the important roles of external stakeholders. External stakeholders provide critical linkages within the system (problem identification, treatment, education, emergency preparedness, etc.). One important result of the design process was the development of an overarching, or steering committee model. The role of the steering committee would be to serve in an advisory capacity to the SPHL system and to provide linkages to the wide variety of stakeholders in the system. It was quickly noted that the development of such a committee could happen through a variety of channels (legislative approval, Department approval, informal agreements, system charter, etc.) and that one of the first steps in implementing the ideal SPHL system would be to further define and recruit for the committee.

Blueprint for Action

While the primary purpose of the process was to identify and define the ideal SPHL system, the group was able to begin the initial work to create a blueprint for action. Based on data obtained from the L-SIP assessment as well as the architecture for an ideal SPHL system, initial first steps in implementation were outlined. The very first step was to form a Task force of MDH SPHL representatives and other representatives reflecting the three domains. The Task force would convene to: address the Ideal System and System Map refinements suggested at the design meeting; bring in an appropriate decision maker(s) to outline the best path for formalizing the governance structure of the ideal system; and develop a plan that charts out the path for moving the current system into the ideal principally by addressing the governance needs first, and then creating an agenda and work plan for the governance body to pursue (i.e., communication to membership, quality improvements, research).

Appendices

FINAL REPORT SUMMARIZING THE MINNESOTA DEPARTMENT OF HEALTH

Laboratory System Improvement Program (L-SIP) Assessment

Held on June 15, 2010

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Dated: July 20, 2010

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Introduction

On Tuesday June 15, 2010, the Minnesota Public Health Laboratory conducted a day-long Laboratory System Improvement Program (L-SIP) assessment as part of a national initiative of the Association of Public Health Laboratories. The focus of the L-SIP assessment was the Minnesota Public Health Laboratory System, which includes all partners that contribute to the State's ability to meet the laboratory needs for assuring the health and well-being of all Minnesotans. The assessment has been effective when used in other states to identify, troubleshoot, and ultimately mitigate gaps in the state public health laboratory system, with the ultimate goal of continuous quality improvement.

Impressions of Process

The assessment day was structured in a manner consistent with recommendations of the Association of Public Health Laboratories (APHL). Participants first met collectively and were provided orientation through a guiding power point presentation. The participants also worked through an assessment of one essential service of public health and had an opportunity to ask questions about the format and process. Participants were then divided into three smaller breakout groups. Each group would assess three additional essential services, resulting in assessment of all ten essential services of Public Health.

While MDH followed the APHL recommended assessment approach in general, there were some significant differences that provided unique challenges and opportunities. First, unlike the recommended approach of utilizing smaller break out groups, due to the number of stakeholders attending the assessment, MDH utilized larger groups of over 20. While this made consensus building slightly more challenging, it offered an opportunity to hear and synthesize information from a broad range of stakeholders in the state public health laboratory system.

Second, it quickly became apparent that there were several "domains" of the public health laboratory system that overlapped, but also contained distinct differences within the key indicators and ideas. These domains can be characterized as "clinical," "environmental," and

"newborn screening." This phenomenon caused some difficulty in the voting. For example, participants frequently noted that for "clinical" the system was "optimal" while for environmental it was "minimal." This caused some difficulty and discrepancies in voting.

Third, with the larger number of individuals within each break out session, there was a tendency to regress to the mean. Extreme, or outlier, votes mitigated to average with discussion. Many participants maintained their comments, but would change their vote to a more common answer.

Fourth, it was helpful that MDH received a subsequent planning grant to develop a map of the current system and develop recommendations for an ideal system. This next phase allowed participants to understand their votes were impressions and a first step in a broader initiative to understand the system and complexities through a mapping process.

Emergent Themes

Participants in the L-SIP assessment worked collectively to assess Minnesota's Public Health Laboratory System against national model standards developed under each of the ten essential services of Public Health. The results of the L-SIP assessment were synthesized below and provide priority next steps for improvement as well as key themes that emerged under each of the ten essential public health services discussions. An overarching theme that emerged throughout the assessment was that although the Minnesota Public Health Laboratory System has many strengths, the following steps could sustain and improve the system for the future:

- Inventory stakeholders and services in the system and identify gaps;
- Formalize the state laboratory system, clarifying roles and responsibilities;
- Once the system is formalized, engage in ongoing quality improvement processes, including regular assessments with clear follow up actions and accountabilities;
- Establish clear and effective communication across the system;
- Assure that the system maintains "forums" that foster collaboration and innovation, such as a research committee; and
- Promote the state public health laboratory system and career advancement for laboratory professionals.

A scoring analysis that rates activity levels under each model standard is as follows:

	Essential Public Health Service									
Activity	1	2	3	4	5	6	7	8	9	10
Optimal	77.7	89.0								
Significant			55.7	67.0	72.5	66.8	67.0	55.5		
Moderate									44.3	39.1
Minimal										
No										

Pre- and Post-Assessment (See Sub-Appendix B for Pre and Post Assessment Questions)

Participants were asked to complete a pre-assessment and post-assessment that measured basic knowledge of the state public health laboratory system as well as self-reported level of understanding of concepts within the system. Fifty two participants completed a pre-test and 47 participants completed a post-test.

Questions 1-4 were knowledge based, with factual information taken directly from the PHL manual. The number correct increased for questions 1-3, but did not for question 4, as most got it correct in the pre-test. There was a substantial increase in the total number correct from the pre-test (n=8) and post-test (n=35).

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	Total	Correct N	Correct %	Incorrect N	Incorrect %
Question 1	52	17	33%	35	67%
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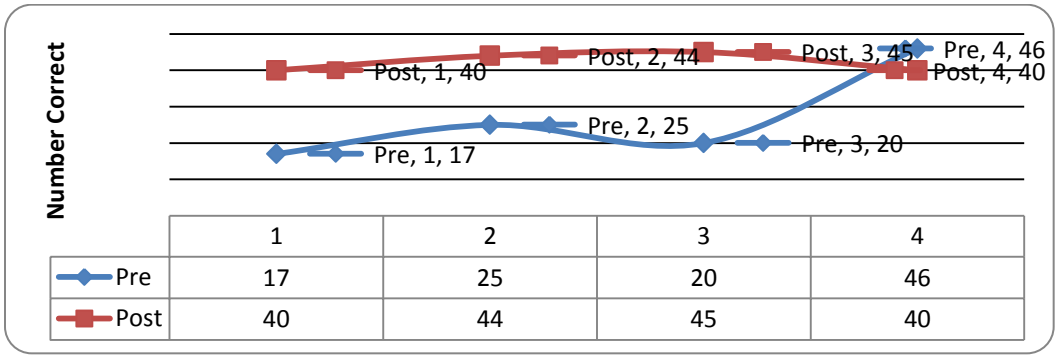
N Correct	0	1	5	6	35



	1	2	3	4
Pre	17	25	20	46
Post	40	44	45	40

Questions 5-8 were self-report, using a likert scale format and were attitudinal in nature. Participants were asked to rate their level of understanding of the following areas using the following scale: 1 = Low level of understanding; 2 = Moderate level of understanding; 3 = High level of understanding.

5. The general purpose of a public health laboratory system.
6. The 11 core functions of a state public health laboratory.
7. Your (or your agency's) role in a public health laboratory system.
8. The difference between a public health laboratory and a public health laboratory system.

Participants self-rated level of understanding significantly increased from the pre-test (scores of 2%-35%) to the post-test (scores of 43%-76%).

Pre Test

	1	%	2	%	3	%
Question 5	4	8%	39	81%	5	10%
Question 6	31	65%	17	35%	1	2%
Question 7	6	13%	24	50%	17	35%
Question 8	12	25%	27	56%	9	19%

Post Test

	1	%	2	%	3	%
Question 5		0%	17	37%	29	63%
Question 6	2	4%	24	52%	20	43%
Question 7	2	4%	18	39%	26	57%
Question 8		0%	11	24%	35	76%

Question 9 assessed a participant's initial accuracy on the perceptions of a state public health laboratory system. The vast majority of the self-reported accuracy of initial perceptions was moderately accurate.

Post Test

	1	%	2	%	3	%
Question 9	2	7%	25	93%	0	0%

Evaluation

In addition to the pre- and post-assessments, MDH conducted an evaluation of the assessment and implementation. The following represents a summary of the results of the evaluation:

Utility of Meeting:	Yes	No
Stated objectives of meeting were met	44	0
Dialogue was useful	44	0
I support the efforts being made	44	0
Next steps are clear	32	10
Meeting was a good use of my time	44	1

Flow of Meeting:	Yes	No
Good flow and timing of work throughout the day	44	1
Clear objectives for meeting	42	2
Facilitation was effective	43	1
The “right” people were at the meeting	34	7*

* Comments reflected the MDH epidemiology was under-represented

Next Steps

The L-SIP assessment process provides a strong foundation for future efforts to improve the state public health laboratory system. To this end, the Minnesota Public Health Laboratory received a grant to continue improvement efforts started under the L-SIP assessment process. Under the grant, a Design Group will be established and will meet three times between September 2010 and January 2011 to use the L-SIP assessment information to develop a blue print for an ideal public health laboratory system for Minnesota and establish an implementation work plan. The Design Group is comprised of broad representation and perspectives from all components of the public health laboratory system.

LABORATORY SYSTEM IMPROVEMENT PROGRAM (L-SIP) ASSESSMENT

SYNTHESIS OF RESULTS OF L-SIP ASSESSMENT HELD ON, JUNE 15, 2010

EXECUTIVE SUMMARY

BACKGROUND: On Tuesday June 15, 2010, the Minnesota Public Health Laboratory conducted a day-long Laboratory System Improvement Program (L-SIP) assessment as part of a national initiative of the Association of Public Health Laboratories. The focus of the L-SIP assessment was the Minnesota Public Health Laboratory ***System***, which includes all partners that contribute to the State's ability to meet the laboratory needs for assuring the health and well-being of all Minnesotans. The assessment has been effective when used in other states to identify, troubleshoot, and ultimately mitigate gaps in the state public health laboratory system, with the ultimate goal of continuous quality improvement.

OVERARCHING ASSESSMENT PROCESS AND HIGHLIGHTS: Participants in the L-SIP assessment worked collectively to assess Minnesota's Public Health Laboratory System against national model standards developed under each of the ten essential services of Public Health. The results of the L-SIP assessment are synthesized below and provide priority next steps for improvement as well as key themes that emerged under each of the ten essential public health services discussions. A scoring analysis that rates activity levels under each model standard is also provided under separate cover. An overarching theme that emerged throughout the assessment was that although the Minnesota Public Health Laboratory System has many strengths, the following steps could sustain and improve the system for the future:

- Inventory stakeholders and services in the system and identify gaps;
- Formalize the state laboratory system, clarifying roles and responsibilities;
- Once the system is formalized, engage in ongoing quality improvement processes, including regular assessments with clear follow up actions and accountabilities;
- Establish clear and effective communication across the system;
- Assure that the system maintains "forums" that foster collaboration and innovation, such as a research committee; and
- Promote the state public health laboratory system and career advancement for laboratory professionals.

NEXT STEPS: The L-SIP assessment process provides a strong foundation for future efforts to improve the state public health laboratory system. To this end, the Minnesota Public Health Laboratory has applied for and received a grant to continue improvement efforts started under the L-SIP assessment process. Under the grant, a **Design Group** will be established and will meet three times between September 2010 and January, 2011 to use the L-SIP assessment information to develop a blue print for an ideal public health laboratory system for Minnesota and establish an implementation work plan. The follow up improvement initiative will be enriched if the Design Group has broad representation and perspectives from all components of the public health laboratory system. Thus, your participation would be greatly appreciated.
If after reviewing the results of the L-SIP assessment you are interested in participating as a member of the Design Group, please contact Maureen SullivanMDH:Maureen.Sullivan@state.mn.us.

ESSENTIAL SERVICE # 1: MONITOR HEALTH STATUS TO IDENTIFY COMMUNITY HEALTH PROBLEMS	
INDICATOR 1.1: SURVEILLANCE INFORMATION SYSTEMS **Score: 100.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Preserve current strengths – keep pushing the bar (high priority) • Gold standard is here : promote and communicate that to the whole system so that interaction occurs within the state (high) • Increase scope of collaboration between state and local levels (high) • Develop a Joint Information Center to assure clear, consistent messages (high) • Clarify CDC role – make sure PH and clinical do not interact with CDC completely independently • Evaluate other surveillance systems and consider partnerships and improvements • Incorporate formal/systematic needs assessment, gap analysis, and follow-up via quality assurance/improvement program (high) • Develop policies and procedures for specimen storage and use (i.e., bio-monitoring work plan) • Continue to obtain isolates • Consider the impact on all partners of non-culture methods on disease surveillance • Assure knowledge of users on test capability (sensitivity, specificity, decision tiers) • Provide greater access to data registry of diseases and patterns • Assure staff capacity to implement existing and new surveillance systems	• We're great but…
INDICATOR 1.2: MONITORING OF COMMUNITY HEALTH STATUS **Score: 55.4**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Assure sustainability of existing strong programs and establish advocacy process across system partners to achieve sustainability (including protecting against privacy claims) • Establish stronger and less territorial coordination across state agencies that will assure implementation of model standards. (Barriers: Conflicting agency missions, legislative) • Get people on board - raise knowledge and awareness of need for monitoring community health status (high) • Develop programs to track risk factors for chronic disease (NHANES) and create a registry to track connections	• Great but…….. • Private well, pesticide, and brownfield testing issues and meth houses problematic • A few surveillance systems exist, lab system not greatly involved • Standards and technology exist but <10% of labs meet standards of vocabulary/ transmission

• Partner with health plans to ID ways to collect/aggregate data (chronic disease) • Establish testing standards to include parent and child compounds • Address “threat” of non-culture • Continue to develop systems for emerging pathogens • Address/study future needs: link toxins to diseases, genetics, gene/environment interactions, identify vulnerabilities relative to bio terrorism • With respect to information systems, encourage self-assessment of core functions using best practice tools and conduct survey of system regarding electronic transfer and use of information • Establish common vision for information systems use and interoperability (high) • Survey the system to assess readiness for exchange and create system wide agreements and policies for exchange of information (high) • Establish plan for implementation of HIT vision; achieve interoperability and connect to other states and CDC	
ESSENTIAL SERVICE #2: DIAGNOSE AND INVESTIGATE HEALTH PROBLEMS IN THE COMMUNITY	
INDICATOR 2.1: APPROPRIATE AND STATE OF THE ART TESTING **Score: 100.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• The state system needs to define roles and manage expectations around testing (immediate need) • MDH should analyze MN emergency response compared to benchmarks; other states or federal systems (immediate need)	• Tiered testing system in place so that the state and federal government can support counties and other small labs • Good relationships between the lab and law enforcement and emergency response communities • Lack of system for assessing the quality of the overall system
I**NDICATOR 2.2**: **COLLABORATION AND NETWORKS** **Score: 100.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Involve more partners in planning and exercising emergency and surge plans (high priority) • MDH should foster more partnerships with the public safety community (low priority) • MDH should improve education to stakeholders in the laboratory system (low priority)	• Some lack of awareness about the laboratory system’s involvement with investigation and emergency response • There have been a number of demonstrations of the laboratory system planning and response to emergencies within the last few years • Lack of communication and resources in greater MN due to

	lack of funding dedicated to greater MN
INDICATOR 2.3: **CONTINUITY OF OPERATIONS PLAN AND SURGE CAPACITY** **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• The state system should define additional redundancies/layers for surge logistics and operations (immediate) • The system should work to improve emergency response communications throughout the state (low)	• H1N1 response was adequate and "just in time" given the resources, but more planning and additional surge capacity is needed • Surge capacity is logistically, financially, and politically complicated and difficult to plan for • If the laboratory system has well defined plans and roles established in advance, the system will likely respond more effectively to public health emergencies • Regulatory and legal considerations cause barriers to ideal emergency response
ESSENTIAL SERVICE #3: INFORM, EDUCATE, AND EMPOWER PEOPLE ABOUT HEALTH ISSUES	
INDICATOR 3.1: APPROPRIATE AND STATE OF THE ART TESTING **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Develop a system for outreach to the general public and include community interactions (e.g. MDH fair booth, speaker forums). Need to develop a mechanism to inform passive people about the information available to them (high)	• Formal functions (e.g. MLS, newsletters, press release) for communication with partners. • Proactive approach for capabilities (e.g. PTs samples) rather than reactive.
I**NDICATOR 3.2**: **PUBLIC INFORMATION** **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Develop guidelines, standard operating procedures for the environmental lab system needs and provide to stakeholders (e.g. sample field collectors, handling and submittal)(high) • Define day-to-day operations and procedures for all aspects of the sample collection and submittal. Provide the information to all stakeholders with the information in a usable fashion (accurate and in both electronic and paper formats) Model: The emergency response and preparedness program • Increase and formalize education/outreach of the general public in non-emergency situations and the role the public health system (e.g. in science, health	• Testing of complicated samples (e.g. wells and H1N1) and how and who communicated the information.

issues, emergency preparedness and legislative interests) • Market the public health laboratory and its services (high) • Host a media day and tour of the public health laboratory	
INDICATOR 3.3: EDUCATION **Score: 33.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Collaborate with stakeholders (environmental, agriculture and MPCA) to develop and implement environmental (day-to-day) training sessions (e.g. data review, sample collection) • Build and formalize the educational outreach programs and identify contact personnel (e.g. speakers list).	• Education has fallen off radar especially from an environmental aspect. Example: environmental training; willingness to collaborate and brainstorm was very helpful and useful.
ESSENTIAL SERVICE #4: MOBILIZE COMMUNITY PARTNERSHIPS TO IDENTIFY AND SOLVE HEALTH PROBLEMS	
INDICATOR 4.1: CONSTITUENCY DEVELOPMENT **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Formalize the system (high) • Create a system road map for internal/external systems to show stakeholder roles and partnership needs. Map current system and ideal system to identify and address gaps (high) • Assure senior level management meetings to convey information at all levels (high) • Once system is formalized, ensure communication and actions/active participation in system (high) • Improve the communication system to relay and communicate to all parts of the system's response. There are current effective communication models in action that might be incorporated in other areas (e.g. Emergency Preparedness and the epidemiology sections)	• Communication silos; Communication system • Parts of the system are using the feedback differently and not as effectively • H1N1 response/communication was confusing because of the number and types of communications received from MDH and CDC • Formal vs. informal systems • Models are out there • Knowledge of lab • MOUs/Agreement (resources redirects) ****Roadmap for system partnerships = highest priority, because roadmap will identify gaps.**
I**NDICATOR 4.2: COMMUNICATION** **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Improve communication plans and information with the number and types of stakeholders and the current systems that exist (e.g. MLS and Health alert) • Formalize the process for conducting business (between agencies or systems) • Ensure that system communication goes in both	• There is a lack of knowledge about the number and types of stakeholders within the collaborations and the systems • The process between agencies is informational and has minimal

directions (e.g. press releases are beneficial; also offer technical and timely communication to stakeholders/scientific community)	communication • Assure communicating both up and down the chain to ensure the stakeholders communicate in both directions
INDICATOR 4.3: RESOURCES **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Formalize the communication system to promote or model the relationships between stakeholders and how they are specifically involved (i.e. sitting at the table versus driving the response). Identify gaps within the system and make sure it is not who you know but the role or the service to contact (high) • Take an inventory of communication channels and determine the lab system as it relates to other systems vs. the PHL system in general and roadmap the stakeholders and their current communication vehicles (high) • Collaborate with lab and other information sources • Evaluate the system to ensure it is timely and effective and working for all stakeholder categories (high) • Increase sharing resources with "for" and "non" profits • Increase participation within stakeholder relationships by building on the lack of access to resources. • Develop cooperative grants and evaluate needs w/n system	• Identified the available resources and their role: website, health alert, press releases, MLS alerts, emerging pathogens notices and newsletters and list serve. • The system needs to be defined and ensure that the communication is at all levels. • The over-abundance of information and the flow of communication through websites. • Lab is under resourced (technical expertise, lack of money, good job leveraging); grants are limited. • Redundancy of communication and the need to ensure the communications are received (instead of assuming).
ESSENTIAL SERVICE #5: DEVELOP POLICIES AND PLANS THAT SUPPORT INDIVIDUAL AND COMMUNITY HEALTH EFFORTS	
INDICATOR 5.1: ROLE IN LABORATORY RELATED POLICY MAKING **Score: 83.5**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Improve translation of lab data for public consumption • Work to promote the image of the laboratory system; a lab spokesperson	• Collaboration is good for emergency preparedness planning and policy • Issues with translating lab data to the general public because of lab policies • MDH has held ground on evidence based policies in the face of political pressure • Difficult for PH professionals to effectively present data to public/ legislators • Lack of formal assessment and analysis for getting input from communities on lab policy development

INDICATOR 5.2: PARTNERSHIPS IN PUBLIC HEALTH PLANNING Score: 67.0	
PRIORITY NEXT STEPS	**KEY THEMES**
• Establish routine way to continue gathering input from partners and the public (immediate) • Educating system stakeholders about how they can get involved in making policy (medium)	• Advisory groups may not effectively represent community interests • L-SIP brought together a diverse group of partners and is a good first step • Differences in partner perception of the level of collaboration across multiple laboratory disciplines • Success in this area is demonstrated in emergency preparedness policy and planning
INDICATOR 5.3: DISSEMINATION AND EVALUATION **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Identify what can be done to focus on improving input from smaller labs (low) • Improve presenting data to promote the relevance of data (high)	• System has workgroups, but needs to improve how these groups get input to make decisions • MDH does a good job using website to disseminate plans and policies • Small organizations may be left out of planning and policy because they don't have sufficient staff resources to fully participate
ESSENTIAL SERVICE #6: ENFORCE LAWS AND REGULATIONS THAT PROTECT HEALTH/SAFETY	
INDICATOR 6.1: REVISION OF LAWS AND REGULATIONS **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Identify who owns/represents the "system" (high) • MDH should engage partners similar to workgroup for MSRA (low)	• Organizations are motivated by political and regulatory environment • System works by "happenstance" because of the impact laws have on the work of people within it • Organizations review laws and rules, lab system does not review laws and rules • Federal laws are not reviewed by the system

I**NDICATOR 6.2: ENCOURAGE COMPLIANCE** **Score: 83.5**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Regulatory and accrediting bodies should improve technical assistance, consultation, and training (immediate)	• Lack of knowledge of training and enforcement of laws and rules • Lack of HR and funding resources to encourage compliance • More problems with training/compliance for smaller facilities • MDH and large institutions (Mayo) provide training • Issues with trust regarding separation of education and enforcement • Perception that labs in the state are complying with rules and laws
INDICATOR 6.3: ENFORCEMENT OF LAW AND REGULATIONS **Score: 50.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Define IAA (Inter Agency Agreement) between MDH and MPCA to address chronic environmental quality issues in labs (low)	• Regulatory and accrediting bodies put most of their resources into enforcement • Issues for small facilities to comply • Government labs are held to a different standard than private lab • MDH does a good job with resources, but more resources are needed • Difficult for organizations that have a shared role as enforcer and educator • Difficult for facilities that need to comply but don't have adequate education • SPH laboratory acts like an island • There are chronic environmental quality problems across all labs and the SPH lab should be a leader in addressing them
ESSENTIAL SERVICE #7: LINK PEOPLE TO NEEDED PERSONAL HEALTH SERVICES AND ASSURE THE PROVISION OF HEALTH CARE WHEN OTHERWISE UNAVAILABLE	
INDICATOR 7.1: AVAILABILITY OF LABORATORY SERVICES **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Expand testing capacity • Create overall advisory/feedback organization that assesses gaps in system and then identifies plans for	• Numerous examples of successful collaboration between the MDH lab and partners

improvement • Assure that laboratories work together to exchange information electronically • Expand private testing for wells • Clarify role of PH in funding testing	• Communication from MDH is key • Insufficient testing capacity and response during H1N1 • Gaps in well testing for pesticides, organics, rad • PH funding for uninsured • Results reporting – how to move information electronically • Unavailability of Epi to interview FBD outbreak on weekend • Death and worried well in small community – results not timely • Any state agency is "the State" so we all have to get it right
ESSENTIAL SERVICE #8: ASSURE A COMPETENT PUBLIC AND PERSONAL HEALTH WORKFORCE	
INDICATOR 8.1: WORKFORCE COMPETENCIES **Score: 83.5**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Establish consistent competencies across system (high priority) • Consider licensure of CLS (this has state and national ramifications, but steps can be taken at state level) (high) • Foster partnership between University and MDH to prepare new and provide ongoing training for existing laboratory professionals (i.e., IT, understanding how "system" works)(high) • Clarify and communicate competency/certification requirements for staff/laboratories • Clarify national environmental standards • Borrow from other national/local best practices to learn how best to assure workforce competency (high) • Establish/address standards for assessing workforce competency • Clarify one, consistent SPHL contact point for communication with partners • Establish system to "validate" new methods and technologies for emerging science, assure quality and if testing is performed on more than one plane, certify results • Establish system to link staff credentials with person actually performing test	• Current activity high but emerging issue regarding workforce competency re: IT and other abilities (some staff need to know, move, manage, communicate info across the system) • Preparation of new as well as continued development of existing staff • Staff competency in the face of new methods and technologies – emerging science but need assurance of quality--different for clinical and environmental • Recognize that it is not always possible to certify for emerging testing – consensus versus best practice

I**NDICATOR 8.2: STAFF DEVELOPMENT** **Score: 50.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Assure gap analysis - so as training/education needs emerge, they are addressed – for individual organizations and system wide • Provide access to and incentives for continuing education (current system is punitive) • Follow-through on identified staff development needs • Assure approaches for planning, funding, time, and resources for training and collaborate on training when some labs are not at same level as the definitive lab • Establish training that goes beyond competitive barriers	• Include hiring of new staff in model standard
INDICATOR 8.3: ASSURING LABORATORY WORKFORCE **Score: 33.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Increase salaries (high priority) • Offer expanded career pathways (high) • Continue existing workforce initiatives (i.e., HEIP)(high) • Promote awareness of value of laboratory profession and respect for professionals (high)	• Consider from front end as well as retention
ESSENTIAL SERVICE #9: Evaluate effectiveness, accessibility, and quality of personal and population-based health services	
INDICATOR 9.1: SYSTEM MISSION AND PURPOSE **Score: 67.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Conduct an inventory of the "system:"--Assess/ evaluate the capacity for all private, public and governmental stakeholders for specific testing procedures and services offered for emergency preparedness and technology advancements. Both up (MDH) and across stakeholders (lab to lab) (high) • Assess differences in clinical, agriculture and environmental stakeholders and stakeholder processes and provide inventory of services and the quickest turnaround (e.g. the need for the MLS on the agriculture/food and environmental side of the system). • Identify and communicate the types of laboratories (e.g. sentinel, non-sentinel, private, governmental) that are within the network and what samples can be analyzed within each laboratory and capacity • Communicate the mission and range of services to all stakeholders (e.g. law enforcement, community leaders and general public) • Assure bidirectional communication and procedure for	• Mission unknown by all stakeholders • Systems connection to MDH and evaluation of targets • Laboratory has an effective system for capacity and evaluating budgets • Communication for emergency preparedness is clear, but the mission and purpose might not be well communicated or understood at all levels • Capacity for environmental and clinical? • Education opportunities on function and capacity of lab/system • Public and private evaluation (limited activity for accessing private lab data).

capacity and sample contingency plans. • Once inventoried, formalize the system (e.g. MOU, IAA or emergency assistance compact) between private and government stakeholders for contingency; create templates (MOW, IAA) that are ready for action if they become necessary	• Use of technology to track if the patient should be moved or if the sample should be sent to lab (i.e. ethylene glycol) **Immediate high priority = inventory of systems**
INDICATOR 9.2: SYSTEM EFFECTIVENESS, QUALITY, AND CONSUMER SATISFACTION **Score: 33.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Establish a system for evaluating policy decisions and implementation (i.e. long term assessment of effects) (high) • Systematically use assessments for policy change (high) • Measure exposures and long term health outcomes • Develop assessments to aid in policy development • Foster policy development across food and environmental labs; may want to model the clinical system for communication and emergency response procedures • Develop a formal evaluation procedure for obtaining feedback from stakeholders and formal procedures for implementing feedback; gather feedback and evaluations on all levels (i.e., include clinicians) • Evaluate cost of systems and responses (e.g. MLS evaluation)	• Emergency services and evaluation of effectiveness for clinical, but unsure for Ag/Environmental • Secondary and tertiary outcomes from policy development, implementation and intent • There is an informal evaluation in terms of meetings and informal discussions
INDICATOR 9.3: PUBLIC HEALTH LABPARATORY SYSTEM COLLABORATION **Score: 33.0**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Define measurement criteria for the establishment of informal and formal partnerships/working relationships among stakeholders • Evaluate collaborative mechanisms and explore procedures for formal and informal procedures; determine who will be evaluated, internally and externally	• Laboratory communication between different sections of the lab is not always effective • Evaluation of working relationships is difficult
ESSENTIAL SERVICE #10: RESEARCH FOR NEW INSIGHTS AND INNOVATIVE SOLUTIONS	
INDICATOR 10.1: PLANNING AND FINANCING RESEARCH ACTIVITIES **Score: 52.5**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Raise awareness and communicate research activities and opportunities (high) • Establish assessment process for research across PHL system to gain understanding of what research opportunities exist and identify opportunities for collaboration (high) • Encourage expansion of lab missions to include and	• Planning and collaboration good • Monitoring activities keep labs so busy it decreases research – missions differ • Lack of awareness

designate a percentage of time for research (high) • Establish mechanism to ensure research funding and encourage system partners to collectively advocate for that funding (i.e., seed money allocated by legislature; fee adjustments; other funding paradigms from private sector) • Ensure grant writing competencies across system partners • Foster exploratory discussions among military, education, MDH and other partners within system to identify opportunities for collaboration	
INDICATOR 10.2: IMPLEMENTATION, EVALUATION AND DISSEMINATION **Score: 25.7**	
PRIORITY NEXT STEPS	**KEY THEMES**
• Establish a research committee with diverse perspectives and representation (including non MDH reps) (high) • Encourage expansion of lab missions to include and designate a percentage of time for research (high) • Fund the expanded lab mission via seed money, fee adjustments • Develop a clearing house to collect and share information about research opportunities and possibilities for collaboration (high) • Establish a multi-perspective research committee to provide a forum to identify innovations and collaboration opportunities (high) • Collaborate among system partners to advocate for research activity at the legislative level • Improve funding for health in state generally • Develop incentives/ recognition for staff who innovate, research, publish • Increase number of MDH staff as adjunct faculty at U of M	• Research benefits entire state • Relationship between surveillance and research • Barriers are resources, attitudes r/t research • Research committee should extend beyond MDH; similar to Assessment representation

Sub-Appendix B: Pre- and Post-Assessment Surveys

Minnesota Public Health Laboratory Assessment: June 15, 2010—
Pre Assessment Survey
Please answer the following questions:

____ 1. Which is an essential service of public health?
   a. Ensure transportation to emergency services
   b. Link people to needed personal health services
   c. Provide accurate diagnosis and treatment
   d. All of the above
   e. Do not know

____ 2. Which is a core function of a state public health laboratory?
   a. Environmental health and protection
   b. Funding of ancillary services
   c. Clinic services
   d. All of the above
   e. Do not know

____ 3. A state public health laboratory ***system*** includes:
   a. The state public health laboratory only
   b. All the organizations and individuals that are involved in or support laboratory testing, whether directly or indirectly
   c. All private laboratories, transport agencies, epidemiologists that engage in direct laboratory testing
   d. All of the above
   e. Do not know

____ 4. A state public health laboratory:
   a. Supports laboratory testing directly
   b. Provides leadership to develop and promote a state public health laboratory system
   c. Provides leadership to assure that clinical laboratories that perform public health testing on reportable infectious diseases submit results to the public health surveillance system using national guidelines
   d. All of the above
   e. Do not know

Please rate your level of understanding of the following areas using the following scale: 1 = Low level of understanding 2 = Moderate level of understanding 3 = High level of understanding

____ 5. The general purpose of a public health laboratory system.
____ 6. The 11 core functions of a state public health laboratory.
____ 7. Your (or your agency's) role in a public health laboratory system.
____ 8. The difference between a public health laboratory and a public health laboratory ***system***.

Minnesota Public Health Laboratory Assessment: June 15, 2010—
Post- Assessment Survey
Please answer the following questions:

___ 1. Which is an essential service of public health?
   f. Ensure transportation to emergency services
   g. Link people to needed personal health services
   h. Provide accurate diagnosis and treatment
   i. All of the above
   j. Do not know

___ 2. Which is a core function of a state public health laboratory?
   f. Environmental health and protection
   g. Funding of ancillary services
   h. Clinic services
   i. All of the above
   j. Do not know

___ 3. A state public health laboratory ***system*** includes:
   f. The state public health laboratory only
   g. All the organizations and individuals that are involved in or support laboratory testing, whether directly or indirectly
   h. All private laboratories, transport agencies, epidemiologists that engage in direct laboratory testing
   i. All of the above
   j. Do not know

___ 4. A state public health laboratory:
   f. Supports laboratory testing directly
   g. Provides leadership to develop and promote a state public health laboratory system
   h. Provides leadership to assure that clinical laboratories that perform public health testing on reportable infectious diseases submit results to the public health surveillance system using national guidelines
   i. All of the above
   j. Do not know

Please rate your level of understanding of the following areas using the following scale: 1 = Low level of understanding 2 = Moderate level of understanding 3 = High level of understanding

____ 5. The general purpose of a public health laboratory system.
____ 6. The 11 core functions of a state public health laboratory.
____ 7. Your (or your agency's) role in a public health laboratory system.
____ 8. The difference between a public health laboratory and a public health laboratory ***system***.

9. From what you've discussed today, how accurate was your initial perceptions of a public health laboratory system?
   1=Very Accurate 2=Moderately Accurate 3= Not Accurate

Sub-Appendix C: Evaluation Survey

L-SIP ASSESSMENT PROCESS EVALUATION

Thank you for taking a moment to complete the following evaluation. We appreciate your feedback and take your input seriously.

Utility of Meeting:

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

Flow of Meeting:

Good flow and timing of work throughout the day.....	_____ yes	_____no
Clear objectives for meeting.....	_____ yes	_____no
Facilitation was effective.....	_____ yes	_____no
The "right" people were at the meeting.....	_____ yes	_____no

Comments:

What worked?

What could be improved?

Do you see this as a helpful tool and process? _____ yes ____no

The Minnesota Department of Health recently received a grant to design an improved state public health laboratory system? Would you be willing to participate in this process between September 2010 and January 2011? If so, please give us your name and email and we will contact you with details. Thank you again for your participation.

Name and contact information

_____

Appendix B: MDH Staff & Consultants

MDH SPHL Staff

Joanne M. Bartkus, PhD
Director, Public Health Laboratory Division

Patti Constant
Supervisor, Communication/Education, Newborn Screening Program

Stephanie Drier
Environmental Laboratory Assessor and Quality Systems Officer, Environmental Laboratory Accreditation Program

Billie Anne Juni
Manager, Clinical Laboratory Section

Mark McCann
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Stefan Saravia, MPH, CIH, CHMM
Chemical Threat Preparedness Coordinator

Paulette Schlichter
Emergency Preparedness and Response Unit

Maureen Sullivan
Supervisor, Emergency Preparedness & Response Unit

Paul Swedenborg
Supervisor, Organic Chemistry Unit

Paula M. (Snippes) Vagnone, MT(ASCP)
MLS Program Advisor

Consultants

Olivia Mastery
Seeking Mastery

Rajean Moone, PHD
Moone Consulting

Appendix C: Ideal Process Participants

The following provides a list of ideal process participants with the exception of SPHL staff and consultants.

Mtg 1: Participated in meeting 1
Mtg 2: Participated in meeting 2
Mtg 3: Participated in meeting 3
Domain: Affiliated domain in the SPHL (environmental, newborn screening or clinical)

Mtg 1	Mtg 2	Mtg 3	First	Last	Affiliation	Domain
X	X	X	Mary Ann	Baumgart	Minnesota Valley Testing Labs (MVTL)	env
X	X	X	Kristi	Bentler	University of MN	nbs
X			Stan	Berberich	University Iowa (State) Hygienic Laboratory	nbs
X	X		Natasha	Bonhomme	Genetic Alliance	nbs
	X		Gary	Braun	St. Mary's / Duluth Clinic	clin
X	X	X	Patrica	Brennecke	University of MN	clin
X		X	Luke	Charpentier	Minnesota Pollution Control Agency	env
X	X	X	Mike	Convery	MDH EH DWP	env
X	X	X	Norman	Crouch	Retired	clin
X	X		Gena	Dahl	Moorhead Public Service Laboratory	env
X		X	Tania	Daniels	The Minnesota Hospital Association	clin
X		X	Kris	Ehresmann	MDH - Disease Prevention & Control	clin
X	X	X	Mark	Ferrey	Minnesota Pollution Control Agency	env
X	X		Pam	Gahr	MDH - Disease Prevention & Control	clin
X	X	X	Laura	Godfrey	MN Hands and Voices	nbs
	X	X	Joseph	Green	National Guard	other
X			Kari	Guida	MDH - Division of Health Policy	clin
X	X	X	Kathy	Hansen	Fairview Health Services	clin
X	X	X	Kara	Hible	SMSC Water Reclamation Facility	env
X	X	X	Kim	Jeppesen	MDH - Disease Prevention & Control	clin
X			Marni	Karnowski	Minnesota Pollution Control Agency	env
		X	Pat	Kuruchittham	MDH - Division of Health Policy	clin
X		X	Marty	LaVenture	MDH - Division of Health Policy	clin
		X	Aggie	Leitheiser	MDH - Office of Emergency Preparedness	clin
X		X	Frank	Liu	University of Minnesota Vet Diagnostic Lab	clin
X	X		Patrick	Mach	3M	clin
		X	Kim	McCoy	MDH QA	clin
X	X	X	Eddy	Morrow	Childrens Hospitals and Clinics	clin
X			Peggy	Nelson	University of MN	nbs
X	X		Andrea	Nord	Barr Engineering	env
	X	X	Tricia	Nowling	MDH - Health Lab Surveyor	clin
X	X	X	Rick	Panning	Allina Hospitals & Clinics	clin
		X	Beverly	Pennell	University Iowa (State) Hygienic Laboratory	clin
	X		Bill	Scruton	Minnesota Pollution Control Agency	env
X			Carol	Sele	North Country Regional Hospital	clin
		X	Matt	Simcik	University of Minnesota	env

	X	X	Kirk	Smith	MDH - ADICS	clin
		X	Fred	Stephens	FBI	other
X		X	Amy	Terry	University Iowa (State) Hygienic Laboratory	env/clin
X			Julie	Thompson-Larson	Regions Hospital Birthing Center	nbs
X	X	X	Diane	VanBeck	St. Paul-Ramsey Department of Health	env
X		X	Mike	Wichman	University (State) Hygienic Laboratory	env
X	X	X	Virgina	Yingling	Minnesota Department of Health	env

Appendix D: Meeting 1 - Clinical Domain

CLINICAL DOMAIN MEETING HELD SEPTEMBER 27, 2010

OVERARCHING PROCESS GOALS:

- Design and create a map with explanatory narrative detailing an ideal PHL system
- Articulate and communicate roles and responsibilities of stakeholders in an ideal PHL system
- Develop a high level work plan for implementing an ideal PHL system

MEETING OBJECTIVES:

- Review and refine current map of PHL system in Minnesota for specific clinical domain
- Identify strengths of current PHL system and review and refine opportunities for improvement
- Craft the elements of an ideal PHL system for specific clinical domain

MEETING RESULTS:

- **Context.** To provide context for their work, the meeting attendees reviewed: 1) the purposes of the Association of Public Health Laboratories (APHL) grant project, which provided the impetus for convening; 2) the process for and results of the APHL statewide assessment of the Minnesota Public Health Laboratory System (PHL) held in June, 2010; and 3) reviewed the current Minnesota PHL laboratory system, its stakeholders and their roles and responsibilities within the system's clinical domain.

- **System Strengths**. The meeting attendees articulated the following strengths of the current clinical laboratory system that they would want to preserve in designing an ideal state PHL system. The strengths included the following:
    - Minnesota has a centralized system with MDH at the core
    - Minnesota Laboratory System relationships are strong even though voluntary, with almost 100% laboratories
    - Cutting edge research and technology
    - Partnerships with outside labs
    - Data is used to influence policy and develop evidence based practice
    - Potential for national SPHLs
    - Relationships between epidemiology and labs
    - Emergency preparedness and response
    - Separate domains of clinical, environmental and newborn screening as long as cross learning and system understanding occurs

- **System Overarching Framework/Structure.** Consider overarching framework for an ideal system that incorporates the following concepts:
    - A framing purpose/vision statement- The meeting attendees identified two principals goals of the Minnesota PHL system, which include:
        - Quality lab practices
        - Preparation and response to public health needs (emergency or other)
    - Statutory support that acknowledges the system
    - The system is a learning system and shares information and knowledge among partners
    - Inter-partnership advocacy (partners within systems become advocates for each other)
    - Advisory Group or leadership council for overarching system as well as advisory group or networks for each domain

- **Opportunities for Improvement and Key Elements of an Ideal System.** While the meeting attendees acknowledged the strengths of the current system, they also identified areas for improvement as well as the following elements of an ideal system for the clinical domain and globally:
    - Assure we meet accreditation standards for state and local health departments; meet standards for services in the lab
    - Move toward electronic results and orders
    - Move towards knowledge sharing and data mining (best practices, queries)
    - Translate data for stakeholders including public
    - Expand stakeholders and members within the network of SPHLS and border states and provinces
    - Workforce: staff continued development (education) and pay structures including the state public health lab staff
    - Foster new lab scientists (interns, collaborations with education system)
    - Ongoing training and professional development through cutting edge approaches (WebX, online, etc.)
    - Identify member lab capability and capacity (including minimum to keep lab running and maximum for emergencies)
    - Identify AG labs and food labs in the state
    - Multi-way communication with partners
    - Broader advisory council for clinical beyond emergency preparedness
        - Panels or advisory groups across all domains
    - Improve parental education in Newborn Screening
    - Acknowledgment and inclusion that reflects the importance of lab data and work (e.g., media)
    - Public face for the lab system (central contact with lab – communicating with one voice)
    - Training that uses information you obtain from CLSI best practices

- Engaging stakeholders (public and advisory)
- Integrating new technologies
- Research committee with broad perspective that supports the whole system
- Resource to support the system (funding, policy, etc.)

NEXT STEPS: The meeting attendees outlined the following next steps to be completed before the next meeting, which will be held on **November 3, 2010 from 8:00 a.m. - 12:00 p.m. at MDH.**

- Develop a rough draft(both visual and in narrative form) of an ideal Minnesota PHL system that incorporates the strengths, opportunities for improvement and key elements of an ideal PHL system as articulated above by the meeting attendees (Olivia and Rajean working with MDH staff).
- Revise the system visuals and the roles and responsibilities chart of the current system as identified at the meeting (MDH staff), including:
  Visuals.
  - Add roles for the public, MDH state laboratory, and retail setting patient care stakeholders (e.g., urgency care, minute clinics, urgent care, pharmacy vaccinations, etc.)
  -
  - Change CDC to pink noting the "directly affects" relationship
  - Incorporate the general public
  - Incorporate "retail setting patient care" as a stakeholder Clarify the role of submission of samples (suggestion – hexagonal shape) versus influences (such as providing guidance) [note: this may complicate the map too much with various lines and arrows and may only be able to be captured in the table]
  - Emergency preparedness is missing

  Table: The columns in the table listing stakeholders will need to be completed for the:
  - State public health lab
  - The public

- The meeting attendees and others who could not attend will receive the draft visual and narrative materials, along with this summary, before the next meeting. Please review the materials and come prepared to provide input.
- **The next meeting will be held on Wednesday, November 3, 2010 at MDH from 8:00 a.m. – 12:00** p.m. and the agenda will include the following:
  - Review and revise the materials developed between meetings that depict visually and in narrative what an ideal state PHL system would include
  - Identify and begin to outline how the ideal system might move forward in Minnesota (high level implementation steps and strategies)
  - Outline next steps for a third meeting at which the ideal system and implementation steps would be refined and finalized

Appendix E: Meeting 1 - Environmental Domain

ENVIRONMENTAL DOMAIN MEETING HELD SEPTEMBER 30, 2010

OVERARCHING PROCESS GOALS:

- Design and create a map with explanatory narrative detailing an ideal PHL system
- Articulate and communicate roles and responsibilities of stakeholders in an ideal PHL system
- Develop a high level work plan for implementing an ideal PHL system

MEETING OBJECTIVES:

- Review and refine current map of PHL system in Minnesota for specific environmental domain (with lab and accreditation sections)
- Identify strengths of current PHL system and review and refine opportunities for improvement
- Craft the elements of an ideal PHL system for specific environmental domain

MEETING RESULTS:

- **Context.** To provide context for their work, the meeting attendees reviewed: 1) the purposes of the Association of Public Health Laboratories (APHL) grant project, which provided the impetus for convening; 2) the process for and results of the APHL statewide assessment of the Minnesota Public Health Laboratory System (PHL) held in June, 2010; and 3) reviewed the current Minnesota PHL laboratory system, its stakeholders and their roles and responsibilities within the system's environmental (lab and accreditation) domain.
- **Sections.** Unlike the Clinical and Newborn Screening domains, Environmental contains two distinct yet related sections – Lab and Accreditation. The Lab section provides services similar to the Clinical and Newborn Screening labs including testing of samples and some limited education. The lab performs these in partnership with a wide array of partners including the Minnesota Pollution Control Agency and the Department of Agriculture. Accreditation provides a method for external private and public environmental labs (particularly drinking water) to receive accreditation in Minnesota. The purpose of this distinction was discussed. The accreditation function was recognized as an important part of the Department of Health and equivalent of CLIA in the clinical domain. The accreditation function does not accredit the environmental lab due to a conflict of interest.
- **System Strengths**. The meeting attendees articulated the following strengths of the current environmental system that they would want to preserve in designing an ideal state PHL system. The strengths included the following:

- Partnerships
- Technical assistance
- Credibility and reputation of the environmental lab
- Quality work
- Emergency response
- Well established process and methods
- Accreditation Advisory Committee
- Website
- Private labs provide well testing to the public
- Accreditation requires management systems to include quality improvement processes

- **Opportunities for Improvement and Key Elements of an Ideal System.** While the meeting attendees acknowledged the strengths of the current system, they also identified areas for improvement as well as the following elements of an ideal system for the environmental domain and globally:
  - Agency education and awareness of need for quality data and how to evaluate if the data is quality
    - Assuring quality of data is understood and applied appropriately (offer training on reading and understanding data)
    - Interpreting data for meaningful use by end user
    - Training for lab staff on the data for which they have access
  - Communication & e-data
    - Better talking with not at public (meaningful, not just delivering info, etc.)
  - Testing services available to the general public
  - Ability for public to know where to go
  - Defining the roles and responsibilities of duties (e.g., training collectors)
  - Striving for standardization of approaches within environmental
    - Ensuring proper collection techniques and simplifying measures
  - Assuring adequate capacity and capability and funding
    - Evaluating funding paradigms (and enhancing)
    - Stable and consistent funding stream to support the work – simplify the process to obtain funding
  - Inventorying and collaborating system capacity
  - Management that is supportive of efforts and provides resources
  - State agency quality systems improvement that starts at leadership or management
    - Measure quality objectives
  - Accreditation authority consistency
  - Feedback loop between end user and accrediting body/individual
  - Network – bring labs together and balance competitive versus collaborative resources (e.g., MLS)
    - Reestablish and redesign the scope and purpose of former networking group

    - Workforce certification and audit differences across nation – standardize to further quality
- **Infrastructure and Role Changes.** The group discussed various changes to stakeholder roles or the infrastructure of the Environmental domain.
    - Public laboratories should have a data sharing role
    - Accreditation should have a national guideline or standardized set of benchmarks
    - Documentation of the system ("charter" concept)
    - Ownership identified
    - Authorization of the system
    - Leadership/direction
    - Clear purpose, direction, and scope
    - Network membership
        - Chamber of commerce model
        - Buy-in based on desirable scope
        - Based on shared needs
    - Advisory group at the domain and systems level
    - Legislation and regulatory agenda

NEXT STEPS: The meeting attendees outlined the following next steps to be completed before the next meeting, which will be held on **November 3, 2010 from 8:00 a.m. - 12:00 p.m. at MDH.**

- Develop a rough draft (both visual and in narrative form) of an ideal Minnesota PHL system that incorporates the strengths, opportunities for improvement and key elements of an ideal PHL system as articulated above by the meeting attendees (Olivia and Rajean working with MDH staff).
- Revise the system visuals and the roles and responsibilities chart of the current system as identified at the meeting (MDH staff), including:
  Visuals.
    - To the map, reflect the functions of the lab
    - Add treatment labs (wastewater, sentinel, etc.) to the purple local section
    - Add county to local
    - Add poison control center
    - Specify state duty officer in Department of Public Safety

  Table:
    - Add the lab and accreditation to the tables
    - Add interagency agreements to state agencies
    - Add the following organizations: veterinarians and coroners/medical examiners
- The meeting attendees and others who could not attend will receive the draft visual and narrative materials, along with this summary, before the next meeting. Please review the materials and come prepared to provide input.
- **The next meeting will be held on Wednesday, November 3, 2010 at MDH from 8:00 a.m. – 12:00** p.m. and the agenda will include the following:

- Review and revise the materials developed between meetings that depict visually and in narrative what an ideal state PHL system would include
- Identify and begin to outline how the ideal system might move forward in Minnesota (high level implementation steps and strategies)
- Outline next steps for a third meeting at which the ideal system and implementation steps would be refined and finalized

Appendix F: Meeting 1 - Newborn Screening Domain

NEWBORN SCREENING DOMAIN MEETING HELD SEPTEMBER 30, 2010

OVERARCHING PROCESS GOALS:

- Design and create a map with explanatory narrative detailing an ideal PHL system
- Articulate and communicate roles and responsibilities of stakeholders in an ideal PHL system
- Develop a high level work plan for implementing an ideal PHL system

MEETING OBJECTIVES:

- Review and refine current map of PHL system in Minnesota for specific newborn screening domain
- Identify strengths of current PHL system and review and refine opportunities for improvement
- Craft the elements of an ideal PHL system for specific newborn screening domain

MEETING RESULTS:

- **Context.** To provide context for their work, the meeting attendees reviewed: 1) the purposes of the Association of Public Health Laboratories (APHL) grant project, which provided the impetus for convening; 2) the process for and results of the APHL statewide assessment of the Minnesota Public Health Laboratory System (PHL) held in June, 2010; and 3) reviewed the current Minnesota PHL laboratory system, its stakeholders and their roles and responsibilities within the system's newborn screening domain.

- **System Strengths**. The meeting attendees articulated the following strengths of the current newborn screening laboratory system that they would want to preserve in designing an ideal state PHL system. The strengths included the following:
    - Process of newborn screening within the broader context (screening – diagnosis – intervention) including short-term follow-up
    - Communication between MDH and stakeholders
    - Services the lab offers are robust
    - Relationships and multi-disciplinary partnerships and workgroups
    - Willingness to educate
    - Quality systems
    - National reputation
    - Timeliness
    - Advisory Council

- **System Overarching Framework/Structure.**
    - Identify (define), invest and communicate the system to the world
    - Define the value of the system
    - Membership/Network/Club
        - Determine who is in the system and how do they know (e.g., charter or accord)
        - Make membership desirable with clear, ongoing benefits to being a member
        - Identify "members" and "participants" an describe their relationships and roles
    - Develop a physical/tangible contact point for the system

- **Opportunities for Improvement and Key Elements of an Ideal System.** While the meeting attendees acknowledged the strengths of the current system, they also identified areas for improvement as well as the following elements of an ideal system for the newborn screening domain and globally:
    - Understanding and undertaking roles and responsibilities
    - Multi-dimensional communication
        - Proactive media relationships
        - To future parents
    - Bi-directional communication that achieves understanding
        - Proactive versus reactive communication
    - Parental, provider, and public education
    - Look at public as public health advocates or partners (newborn screening providers opportunities for this)
    - System-wide data exchanges aligning with the broader MDH initiatives
    - Ongoing, parental feedback loop via Minnesota Hands and Voices and like organizations
    - Standards of practice for specimen storage and records retention
    - Get value out of data so it can influence decisions and policy
    - Funding and resources
        - Diversifying of funding
        - Budget clarifications of what resources exist within newborn screening
    - Workforce development
        - Marketing of lab careers
    - Strive for the quickest turnaround time
    - Involve stakeholders/system in mobilizing support
    - Engage participants in the system to prioritize needs

- **Methods for improving or mitigating weaknesses.** Meeting attendees took some time to identify various methods to improve.
    - Communication
        - Embrace new media

        - Utilize workgroups and Advisory Council
        - Develop methods for rapid dissemination
        - Online chat
        - Listserv
        - Text messaging
    - Education
        - Enhance quality, experience and frequency
        - Ensure that helpful feedback results in enhancements
        - Modify the "opt out" form to include a question of "why"
    - Advocates or Partners
        - Build trusted relationships across the lifespan (e.g., education)
    - Workforce Development
        - Begin with an assessment of factors that drive the workforce

NEXT STEPS: The meeting attendees outlined the following next steps to be completed before the next meeting, which will be held on **November 3, 2010 from 8:00 a.m. - 12:00 p.m. at MDH.**

- Develop a rough draft (both visual and in narrative form) of an ideal Minnesota PHL system that incorporates the strengths, opportunities for improvement and key elements of an ideal PHL system as articulated above by the meeting attendees (Olivia and Rajean working with MDH staff).
- Revise the system visuals and the roles and responsibilities chart of the current system as identified at the meeting (MDH staff), including:
  Visuals.
    - Add arrows back to specialists/audiologists from family/babies
    - Incorporate that newborn screening as a process that occurs up through diagnosis
        - Include a new intervention process box that is not directly related, but depicts the position of newborn screening in the broader context

  Table:
    - Collapse the functions of the "Minnesota Department of Health" into one row
    - Add vendors/contractors/analysts
- The meeting attendees and others who could not attend will receive the draft visual and narrative materials, along with this summary, before the next meeting. Please review the materials and come prepared to provide input.
- **The next meeting will be held on Wednesday, November 3, 2010 at MDH from 8:00 a.m. – 12:00** p.m. and the agenda will include the following:
    - Review and revise the materials developed between meetings that depict visually and in narrative what an ideal state PHL system would include
    - Identify and begin to outline how the ideal system might move forward in Minnesota (high level implementation steps and strategies)
    - Outline next steps for a third meeting at which the ideal system and implementation steps would be refined and finalized

Appendix G: Meeting 2 Summary

November 3, 2010

OVERARCHING PROCESS GOALS:

- Design and create a map with explanatory narrative detailing an ideal State PHL system
- Articulate roles and responsibilities of stakeholders in an ideal State PHL system
- Develop a high level work plan for implementing an ideal State PHL system

MEETING OBJECTIVES:

- Review and refine a rough draft of an ideal SPHL (developed based on guidance from three previous domain meetings and LSIP assessment results).

MEETING RESULTS: Meeting participants reviewed the draft "ideal" system and provided the following feedback for revisions (a draft visual that synthesizes the participants' suggestions with respect to the overarching system is attached):

PUBLIC HEALTH LABORATORY NETWORK OR MEMBERSHIP:

- The concept of a laboratory "network" is appealing and worth incorporating into an "ideal" system.
- The overarching system would benefit from a "lead" that is ultimately accountable and it should be the state public health laboratory. The "Accountable Lead" would:
  - Promote system awareness among stakeholders and the public;
  - Convene and facilitate a Strategy and Collaboration Council (see below); and
  - Hold accountability for system functions.
- The overarching system would also benefit from an advisory council Advisory Council or Strategy and Collaboration Council that:
  - Seeks implementation of strategies through system membership;
  - Influences and advocates for needed system improvements;
  - Reaches out to membership to communicate system purpose and value; and
  - Identifies and sets strategies regarding issues common to all domains (i.e. communications, proves improvement, education).
- Each domain would also benefit from having its own Advisory Council that implements strategy and at the domain-operational level.

SYSTEM CHARTER:

- The meeting participants articulated that a System Charter would be critical to explain the System, its vision and value, and get buy in from potential members. They reviewed an example charter for reference.

LEVEL OF SYSTEM FORMALIZATION:

- The meeting participants indicated that the Ideal System should be formalized with respect to having a system charter and an overarching and domain specific advisory

councils. However, the actual initiatives undertaken by the system should be left to the Advisory Councils to determine.

DOMAIN AND SYSTEM VISUALS:

The meeting participants suggested that the domain specific visuals need to be more dimensional and reflect the multiple layers of roles and relationships of system stakeholders.

NON-MDH INVOLVEMENT IN SYSTEM:

The meeting participants identified necessary incentives for non-MDH stakeholders to participate in the system:

- Influence
- Knowledge/learn
- Improve PHL system
- Positive results for non-state aspects of system
- Build relationships
- Advertising (link on website)
- Opportunity to share perspectives
- Support organizational missions

NEXT STEPS:

- Public health laboratory staff will continue to revise and enhance the domain visuals
- The meeting facilitator will refine the ideal public health system document to reflect the group's suggestions
- The meeting facilitator will draft an overarching system visual to incorporate the group's suggestions regarding formalization (see attached)

The group will reconvene on January 25, 2011 from 8:00 a.m. to noon at MDH.

Appendix H: Meeting 3 Summary

January 25, 2011

OVERARCHING PROCESS GOALS:

- Design and create a map with explanatory narrative detailing an ideal State PHL system
- Articulate roles and responsibilities of stakeholders in an ideal State PHL system
- Develop a high level work plan for implementing an ideal State PHL system

MEETING OBJECTIVES:

- Review the SPHL system map and obtain feedback
- Begin to define implementation next steps and prioritize them

MEETING RESULTS:

Meeting participants reviewed the "ideal" system and provided general feedback that:

- The new, "ideal" system is desirable and should be implemented if possible.
- The principal difference between the current and the ideal system is that the ideal system will be articulated, communicated to system "members," and will have a formal governance structure that "holds it together;" other gaps between the current and ideal system will be outlined as part of next steps.
- A number of next steps, beginning with follow up work by a task force, are needed to foster future system implementation. The next steps are outlined in the timeline below.

Meeting participants also provided the following specific feedback for follow up by the task force:

FEEDBACK AND FOLLOW UP ON CHARTER & COUNCIL

- Rename the System so it does not sound so MDH State Public Health Lab centric.
- The System description and Charter/Council concepts need to be framed under an exciting statement of purpose and goals, i.e., something that describes why this matters in the scheme of things.
- A governance structure such as a Strategy and Collaboration Council is important to inform, influence and oversee an ideal SPHL system.
- Authority of the Council must be clear and there are at least three approaches to define authority:
    - Statutory authority
    - MDH Department level authority—advisory to the Commissioner of Health
    - A voluntary structure (like that used to design the ideal SPHL)
- A task group would be an immediate next step for investigating and developing models for implementation.
- In further developing the system, clarify what information is public versus confidential in the "web of communication" components.

FEEDBACK AND FOLLOW UP REGARDING THE SYSTEM MAP

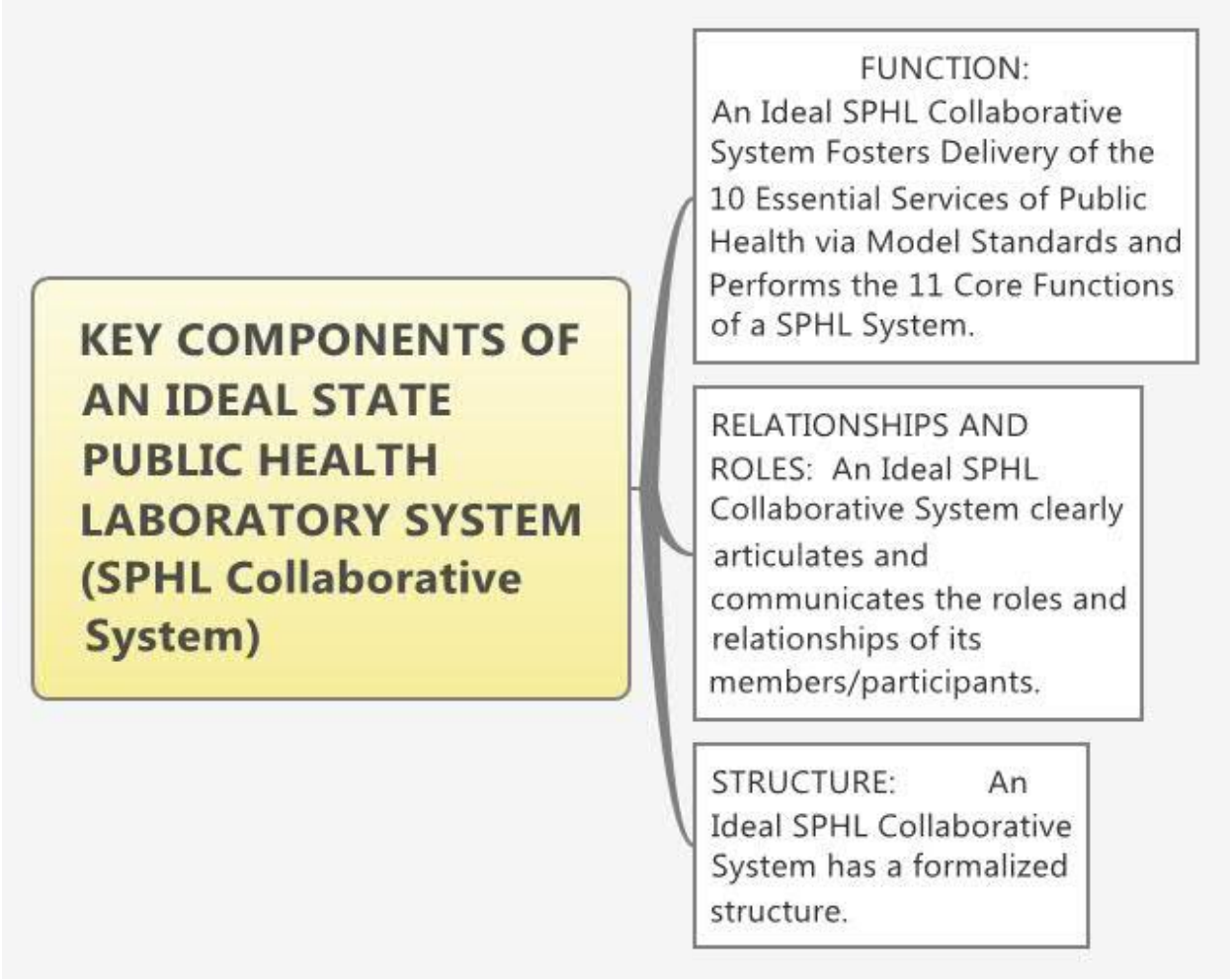
- The map provides a high level depiction of the system and it is recognized that there are additional levels of detail and work that will occur in domains and implementation.
- Add further clarification of the depiction by providing examples (scenarios) of working through the process flow (for example, dry cleaning policy beginning and ending).This will enhance communication about the system with partners and the public.
- Assure that partners see themselves accurately in the system map.
- Identify what sections of the map are different or new compared to the current operations.
    - For example, there is currently not an organizing, governance structure of Strategy and Collaboration Council or comprehensive Domain Councils.
- External partners view MDH as one entity, not the separate domains, which is consistent with the image.
- "Consultants" and "Poison Control Center" appear to be missing from Affiliated Partners.
- Change "Communicable disease" to "Infectious disease."
- Affiliated partners aren't clearly depicted from a role standpoint. "Public" should be considered an affiliated partner.
- Depict the process flow as cyclical rather than linear and identify steps along the path such as data collection, analysis, conclusions, recommendations, dissemination, etc.

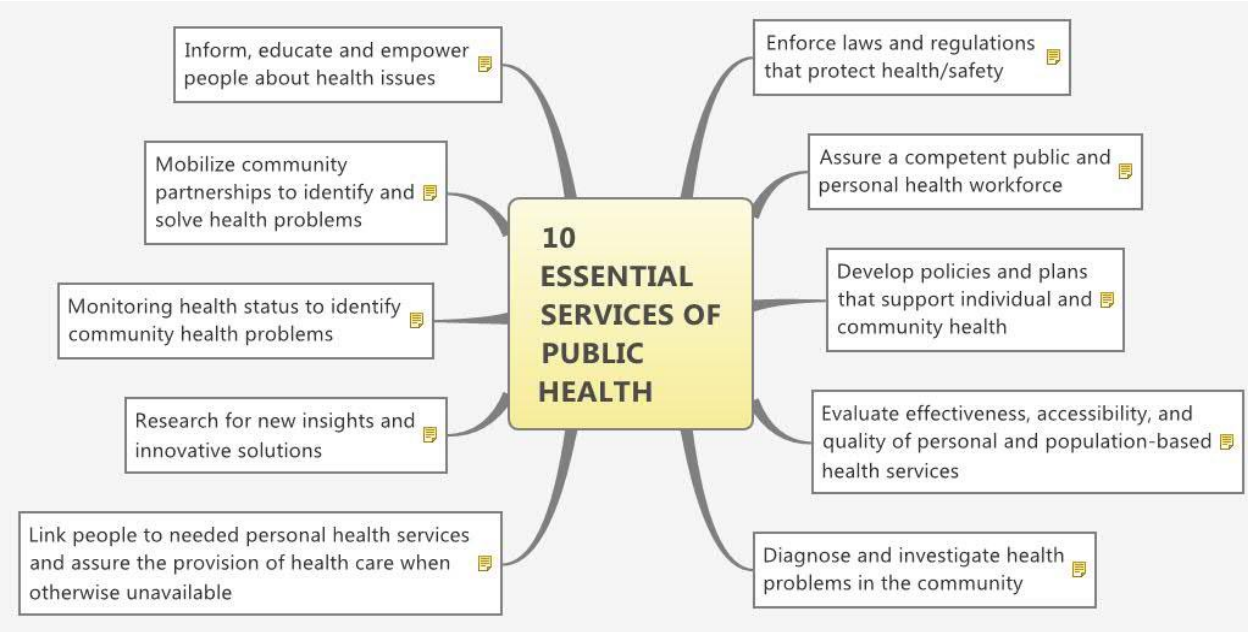
IMMEDIATE NEXT STEPS:

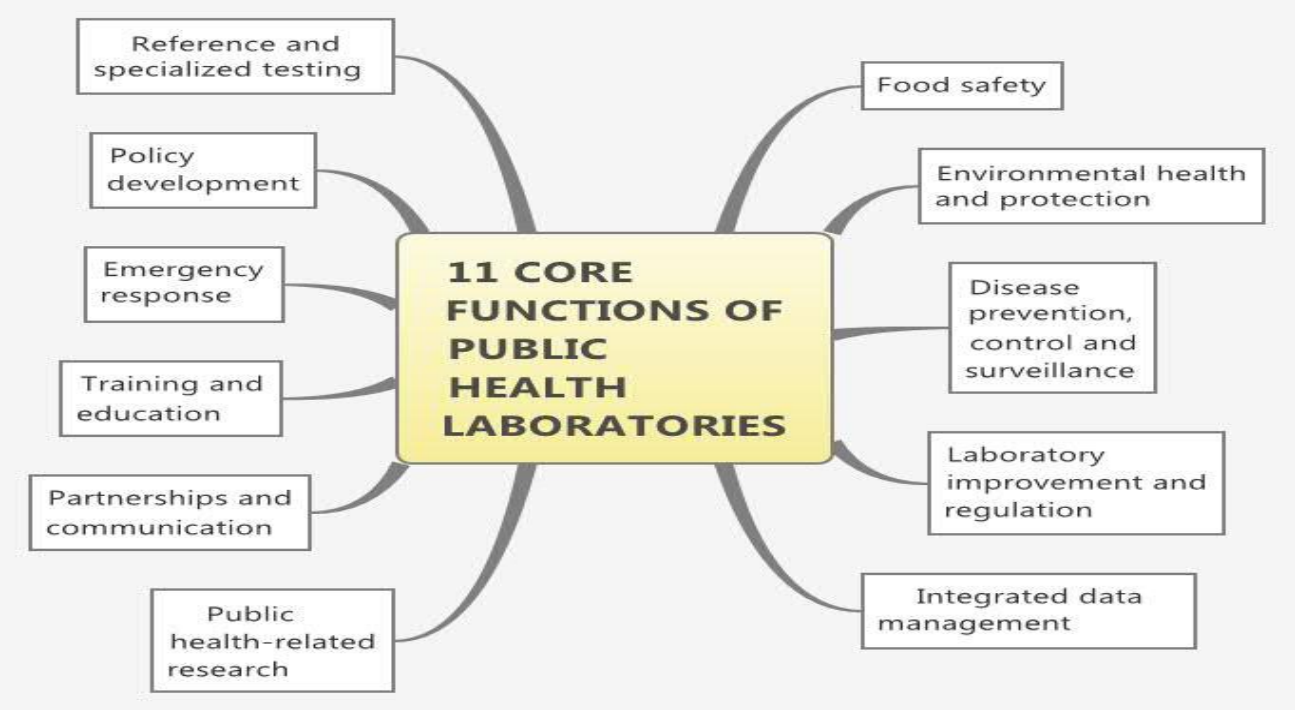
- A Task force of MDH PHL representatives, as well as other representatives reflecting the three domains will be convened in the next month to accomplish the following:
    - Address the Ideal System and System Map refinements suggested at the design meeting.
    - Once the follow up issues are addressed, bring in an appropriate decision maker(s) to outline the best path for formalizing the governance structure of the ideal system.
    - Develop a plan that charts out the path for moving the current system into the ideal (principally by addressing the governance needs first, and then creating an agenda and work plan for the governance body to pursue (i.e., communication to membership, quality improvements, research).

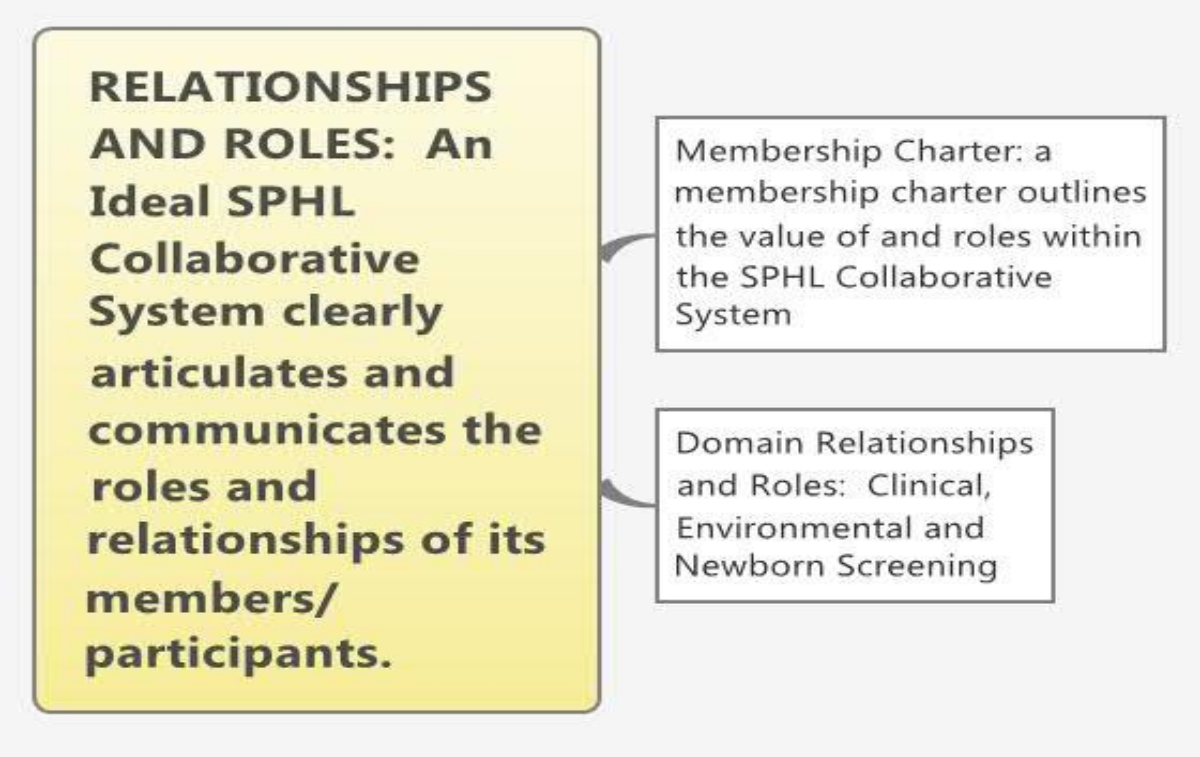
- The Task Force will convene in February 2011 and present a plan for implementation by April 2011. Implementation under the plan will begin by June 2011.

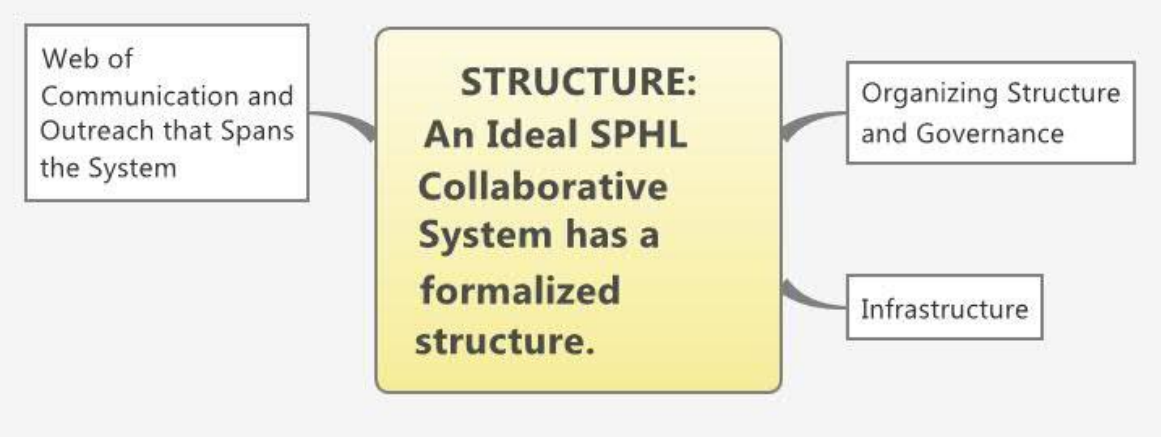
Appendix I: Ideal System Components

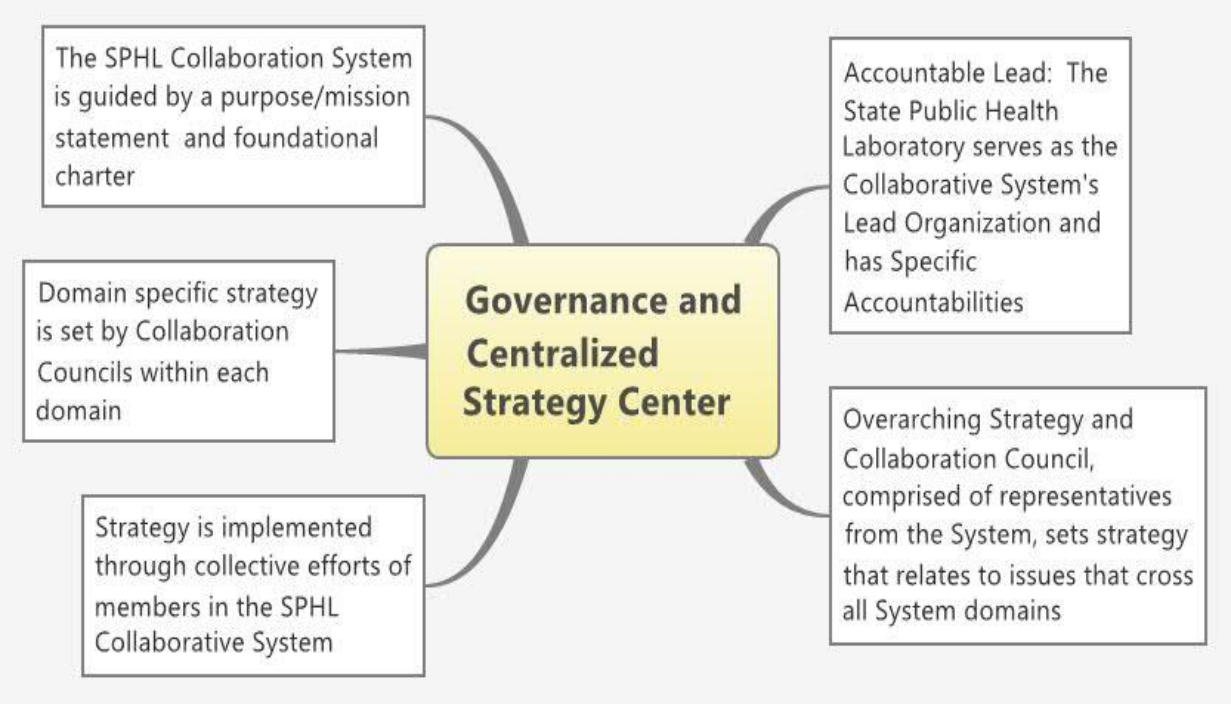


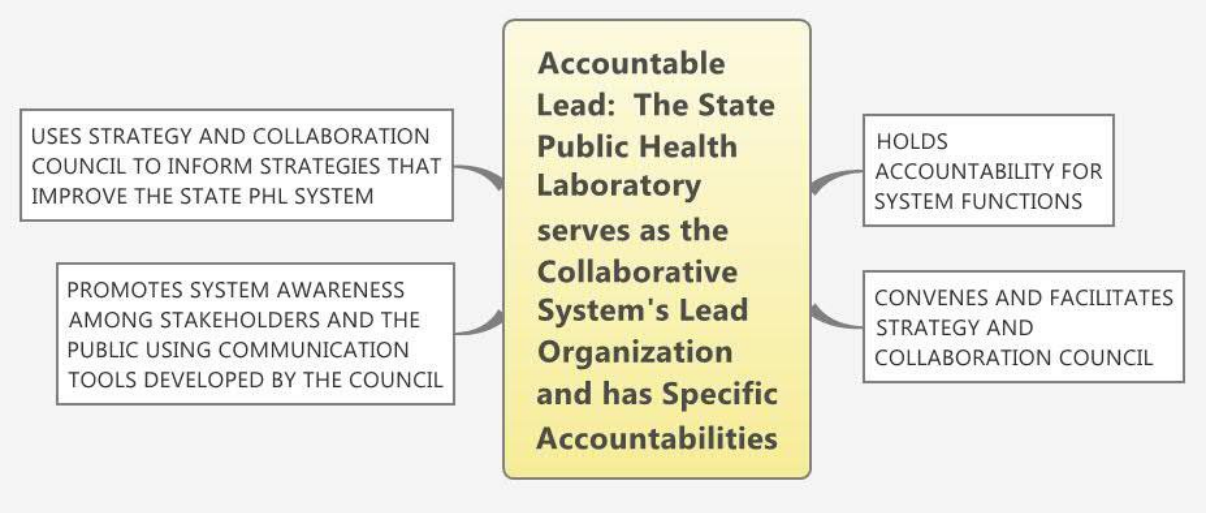


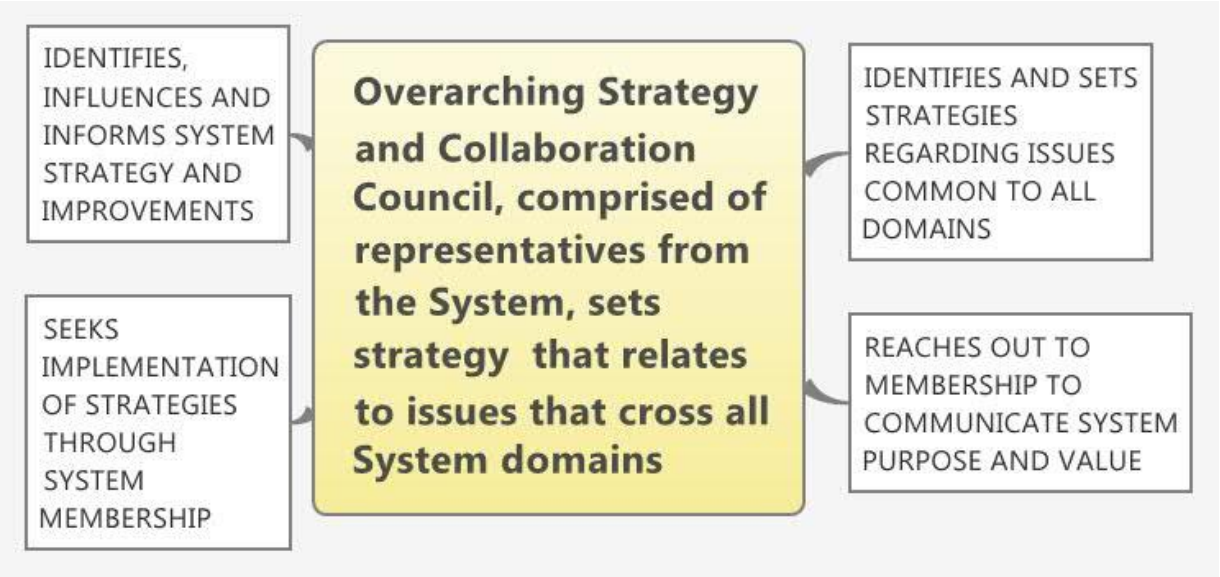

11 CORE FUNCTIONS OF PUBLIC HEALTH LABORATORIES
Reference and specialized testing
Policy development
Emergency response
Training and education
Partnerships and communication
Public health-related research
Food safety
Environmental health and protection
Disease prevention, control and surveillance
Laboratory improvement and regulation
Integrated data management

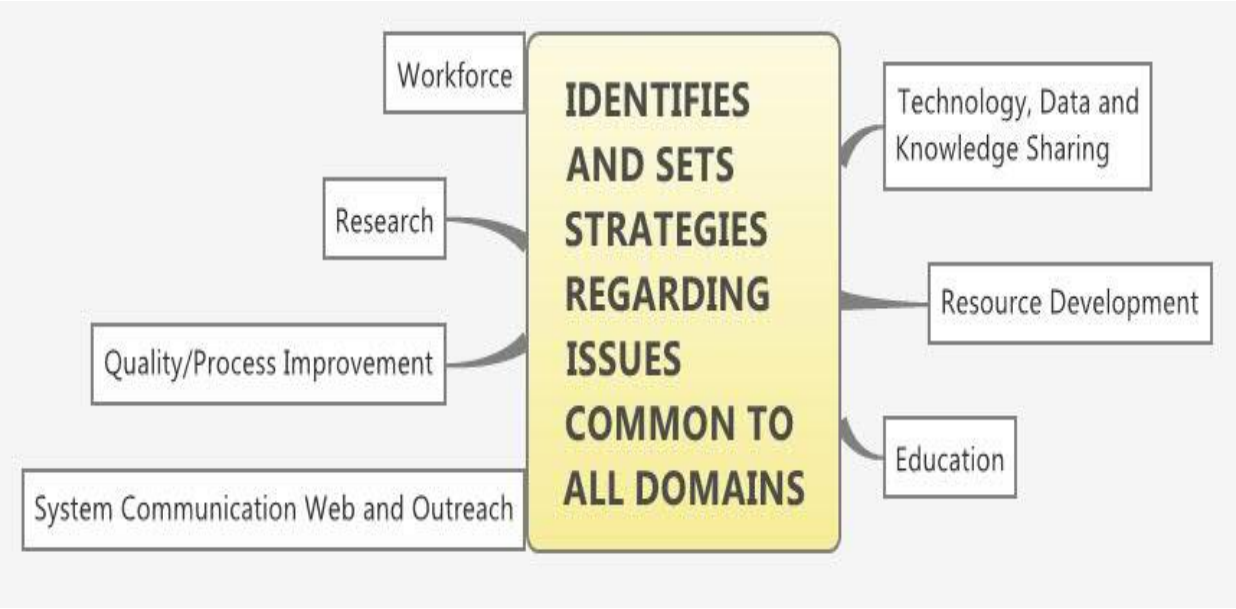

RELATIONSHIPS AND ROLES: An Ideal SPHL Collaborative System clearly articulates and communicates the roles and relationships of its members/ participants.
Membership Charter: a membership charter outlines the value of and roles within the SPHL Collaborative System
Domain Relationships and Roles: Clinical, Environmental and Newborn Screening

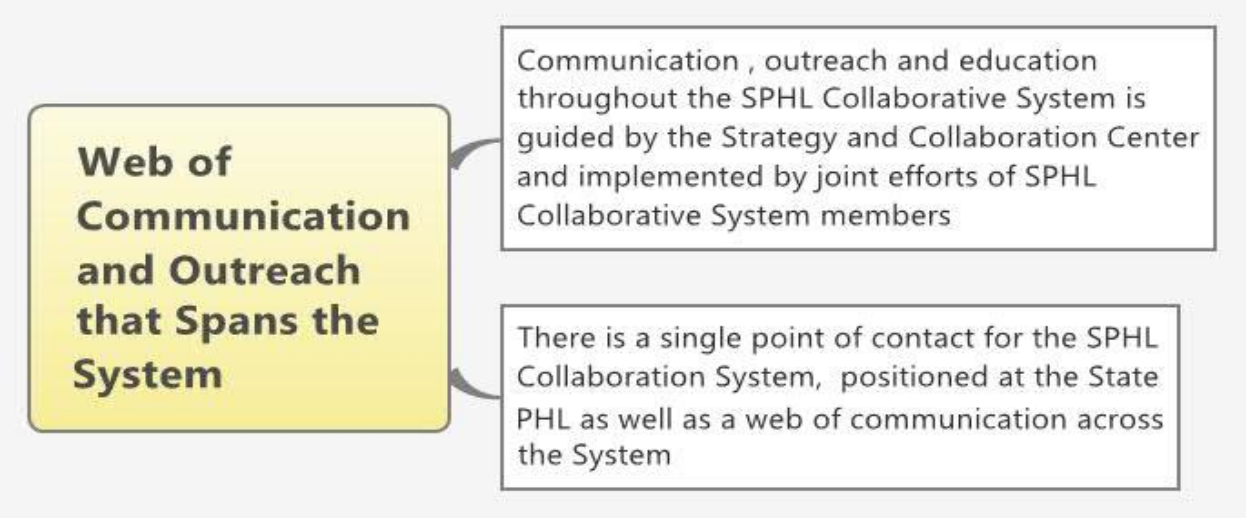

Web of Communication and Outreach that Spans the System
STRUCTURE: An Ideal SPHL Collaborative System has a formalized structure.
Organizing Structure and Governance
Infrastructure


The SPHL Collaboration System is guided by a purpose/mission statement and foundational charter
Domain specific strategy is set by Collaboration Councils within each domain
Strategy is implemented through collective efforts of members in the SPHL Collaborative System
Governance and Centralized Strategy Center
Accountable Lead: The State Public Health Laboratory serves as the Collaborative System's Lead Organization and has Specific Accountabilities
Overarching Strategy and Collaboration Council, comprised of representatives from the System, sets strategy that relates to issues that cross all System domains

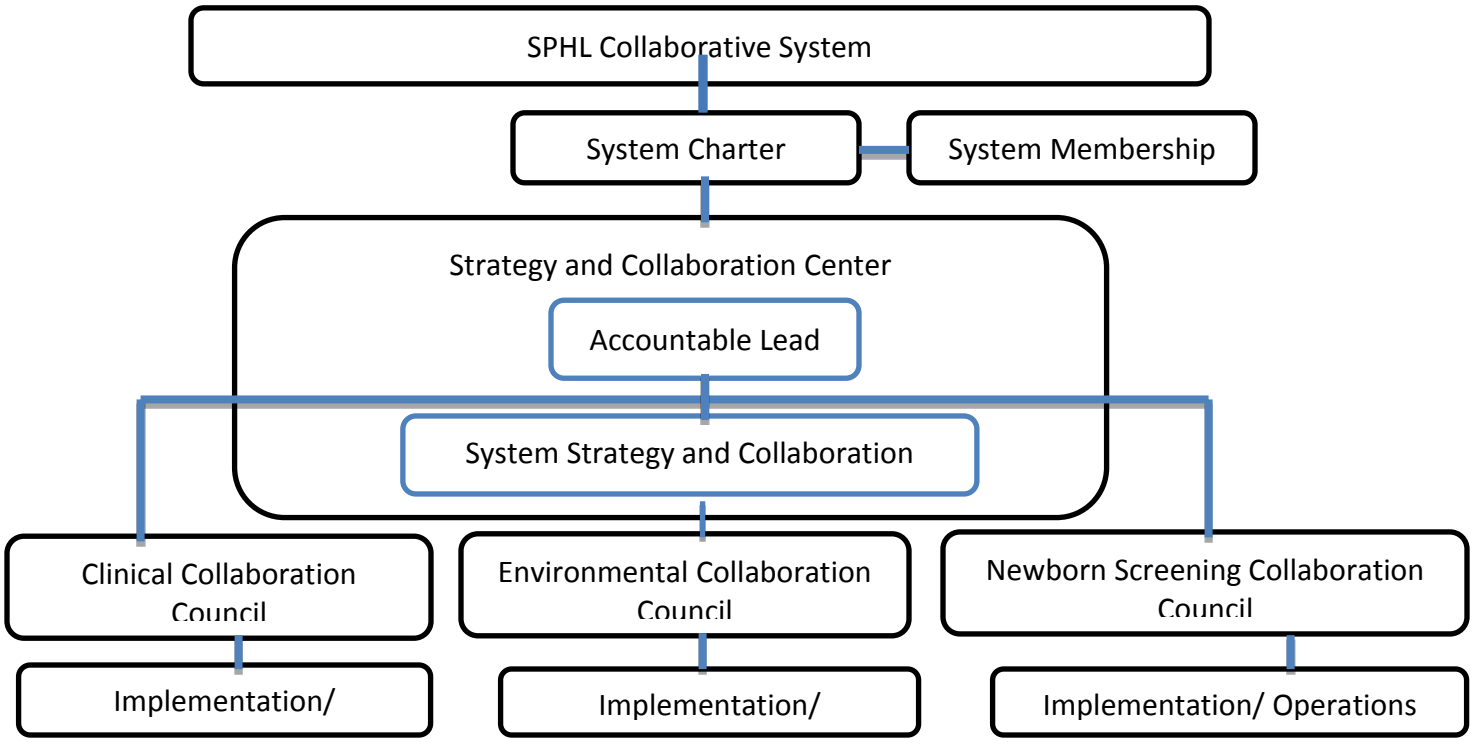

Accountable Lead: The State Public Health Laboratory serves as the Collaborative System's Lead Organization and has Specific Accountabilities
USES STRATEGY AND COLLABORATION COUNCIL TO INFORM STRATEGIES THAT IMPROVE THE STATE PHL SYSTEM
PROMOTES SYSTEM AWARENESS AMONG STAKEHOLDERS AND THE PUBLIC USING COMMUNICATION TOOLS DEVELOPED BY THE COUNCIL
HOLDS ACCOUNTABILITY FOR SYSTEM FUNCTIONS
CONVENES AND FACILITATES STRATEGY AND COLLABORATION COUNCIL

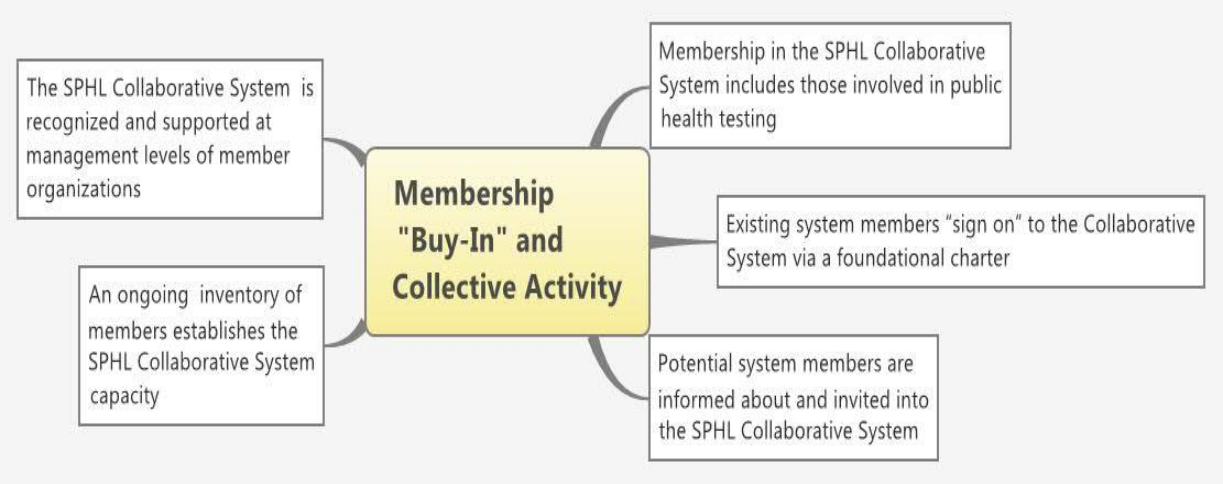

Overarching Strategy and Collaboration Council, comprised of representatives from the System, sets strategy that relates to issues that cross all System domains
IDENTIFIES, INFLUENCES AND INFORMS SYSTEM STRATEGY AND IMPROVEMENTS
SEEKS IMPLEMENTATION OF STRATEGIES THROUGH SYSTEM MEMBERSHIP
IDENTIFIES AND SETS STRATEGIES REGARDING ISSUES COMMON TO ALL DOMAINS
REACHES OUT TO MEMBERSHIP TO COMMUNICATE SYSTEM PURPOSE AND VALUE


Workforce
Research
Quality/Process Improvement
System Communication Web and Outreach
IDENTIFIES AND SETS STRATEGIES REGARDING ISSUES COMMON TO ALL DOMAINS
Technology, Data and Knowledge Sharing
Resource Development
Education

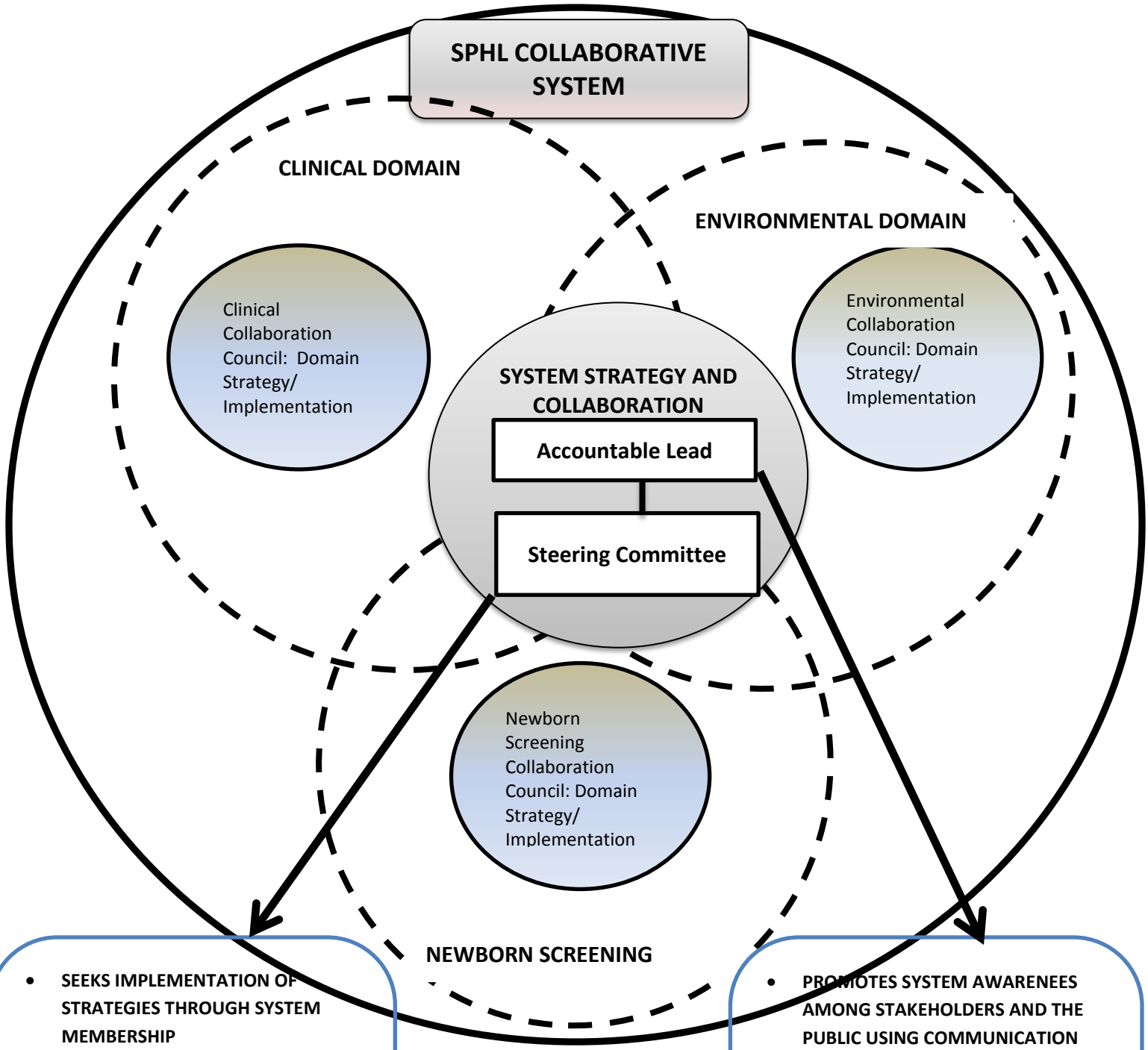

Web of Communication and Outreach that Spans the System
Communication , outreach and education throughout the SPHL Collaborative System is guided by the Strategy and Collaboration Center and implemented by joint efforts of SPHL Collaborative System members
There is a single point of contact for the SPHL Collaboration System, positioned at the State PHL as well as a web of communication across the System

INFRASTRUCTURE: **An ideal Collaborative System has a working structure with clear accountabilities that foster the system goals.**



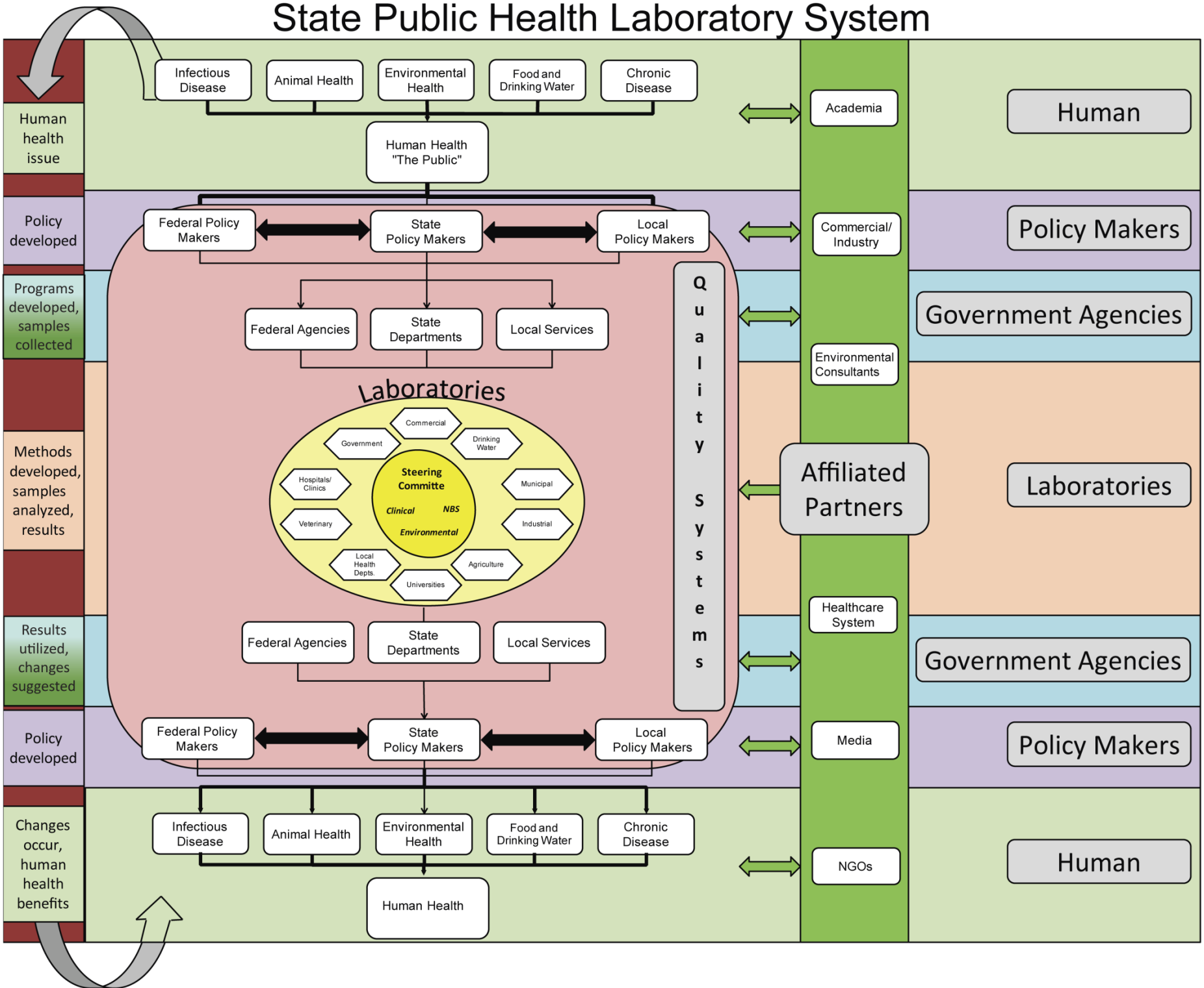


Appendix J: Collaborative Governance System Map



- SEEKS IMPLEMENTATION OF STRATEGIES THROUGH SYSTEM MEMBERSHIP
- INFLUENCES/ ADVOCATES FOR NEEDED SYSTEM IMPROVEMENTS
- REACHES OUT TO MEMBERSHIP TO COMMUNICATE SYSTEM PURPOSE AND VALUE
- IDENTIFIES AND SETS STRATEGIES REGARDING ISSUES COMMON TO ALL DOMAINS (i.e., Communication, Process Improvement, Education)

- PROMOTES SYSTEM AWARENEES AMONG STAKEHOLDERS AND THE PUBLIC USING COMMUNICATION TOOLS DEVELOPED BY THE COUNCIL
- USES STRATEGY AND COLLABORATION COUNCIL TO IMFORM STRATEGIES THAT IMPROVE THE STATE PHL SYSTEM
- CONVENES AND FACILITATES STRATEGY AND COLLABORATION COUNCIL
- HOLDS ACCOUNTABILITY FOR SYSTEM FUNCTIONS


State Public Health Laboratory System
Human health issue
Infectious Disease
Animal Health
Environmental Health
Food and Drinking Water
Chronic Disease
Human Health "The Public"
Academia
Human
Policy developed
Federal Policy Makers
State Policy Makers
Local Policy Makers
Commercial/ Industry
Policy Makers
Programs developed, samples collected
Federal Agencies
State Departments
Local Services
Government Agencies
Environmental Consultants
Laboratories
Commercial
Government
Drinking Water
Hospitals/ Clinics
Steering Committe
Municipal
Clinical
NBS
Veterinary
Industrial
Environmental
Local Health Depts.
Agriculture
Universities
Quality Systems
Methods developed, samples analyzed, results
Affiliated Partners
Laboratories
Healthcare System
Federal Agencies
State Departments
Local Services
Results utilized, changes suggested
Government Agencies
Policy developed
Federal Policy Makers
State Policy Makers
Local Policy Makers
Media
Policy Makers
Changes occur, human health benefits
Infectious Disease
Animal Health
Environmental Health
Food and Drinking Water
Chronic Disease
NGOs
Human
Human Health

The State Public Health Laboratory System (Supporting Table)

Process flow of "potential human health issue" to "resolution"

Human Health *Human health issue* ⇩ *Changes occur, human health benefits*	**HUMAN HEALTH** is impacted by the environment – food, water, air. Communicable and chronic diseases as well as newborn disorders also impact human health. Humans share the environment with animals; therefore animal health also has an impact. The more pronounced the irregularities of these impacts, the more notice Policy Makers should make. The environment becomes a safer place and the public lives healthier lives based on the data generated by the SPH Laboratory System, the interpretation by program managers and healthcare providers, and the laws enacted by the legislators.	**Impacts on Human Health** o Infectious Disease o Animal Health o Environmental Health o Food and drinking water safety o Chronic Disease
Affiliated Partners *Samples collected* ⇩ *Results utilized*	Non-governmental interested parties such as universities, lobbying groups, state and national professional organizations, advisory boards/groups and the general public, play an important role in recognizing human and environmental health issues, raising money and influencing legislators. Non-governmental affiliated partners contribute to and utilize the SPH Laboratory System to directly intervene with humans and the environment to enhance human health and environmental quality. Non-governmental affiliated partners use the data reported by the laboratories to evaluate the health consequences on humans and the environment. They provide feedback to impact policy makers at many levels.	**1. Academia** o Clinical Laboratory Science (CLS) and Clinical Laboratory Technician (CLT) programs at colleges and universities o Fellowship programs o Researchers at universities and colleges **2. Commercial/Industry** Manufacturers of microbiology, healthcare, and other laboratory assays and products **3. Environmental** **4. Healthcare System** (includes but is not limited to:) o Healthcare providers • Clinicians • infectious disease physicians • pediatricians • audiologists • nurses • midwives • 3rd party payer/insurance companies o Infection preventionists o Epidemiologists o Medical examiners

		o Researchers at hospitals **5. Media** **6. Non-Governmental Organizations (NGOs):** A Non-governmental Organization (**NGO**) is a legally constituted organization created by natural or legal persons that operates independently from any government and a term usually used by governments to refer to entities that have no government status. The term is usually applied only to organizations that pursue some wider social aim that has political aspects, but that are not overtly political organizations such as political parties. (Non-governmental organization. In *Wikipedia*. Retrieved February 17, 2011 from http://en.wikipedia.org/wiki/Ngo)APHL – Association for Public Health Laboratories **7. Professional Organizations** o American Society for Clinical Lab Science (ASCLS) o American Society of Clinical Pathologists (ASCP) o Clinical Laboratory Managers Association (CLMA)
Policy Makers *Policy developed*	It is the responsibility of policy makers to provide the power and finances to their respective agencies to address human health impacts. Based on reports and feedback from government agencies and non-governmental affiliated partners, policy makers may enact laws affecting the public and businesses to help protect human health and the environment.	o Federal policy makers o State policy makers o Local policy makers
Government Agencies *Programs developed* ⇩ *Changes suggested*	Federal, state, and local government agencies through state and federal program managers, affiliated partners, etc. are tasked with monitoring human health and the environment as well as developing and establishing enforcement criterion. Government agencies and non-governmental use the data reported by the laboratories to evaluate the health consequences on humans and the environment. Governmental agencies must regularly evaluate their programs to ensure that they are effective and are fulfilling the tasked requirements, and legislators are updated.	**Federal Agencies** o CDC: Centers for Disease Control and Prevention o DHS: Dept. of Homeland Security o DOD: Dept. of Defense o DOJ: Dept. of Justice o EPA: Environmental Protection Agency o FDA: Food and Drug Administration o USDA: U.S. Department of Agriculture o USPS: U.S. Postal Service **State Departments**

		o DHS: Dept. of Human Services o DNR: Dept. of Natural Resources o DPS: Dept. of Public Safety o MDA: MN Dept. of Agriculture o MDH: MN Dept. of Health o MDLI: MN Dept. of Labor and Industry o MNDOT: MN Dept. of Transportation o MPCA: MN Pollution Control Agency **Local Services** o City and county health dept. ○ Local police dept. o Local fire dept.
Laboratories *Methods developed, samples analyzed, results reported*	Direct partners to the SPHL, a wide range of laboratories specialize in different analyses depending on the affiliated partners being served. Numerous analytes and microorganisms in a variety of matrices (e.g. water, soil, blood, urine, food, etc.) are analyzed. **State Public Health Laboratory (SPHL)** includes environmental, clinical, and newborn screening disciplines that function within the State Public Health Laboratory System under government policies and programs to positively impact the environment and the public's health.	**Types of Laboratories** o Commercial o Drinking water o Municipal o Industrial o Agricultural o Universities o Local Health Departments o Veterinary ○ Hospital and Clinic-based o Government
Quality Systems	Quality assurance bodies such as the NELAC Institute (TNI), CLIA, ASTM, ISO and other certifying and accrediting bodies play an integral role in ensuring that the management of programs and laboratory data meet strict quality standards. These systems ensure that the data used to make public health decisions, impacting human health, are accurate and repeatable.	o **ASTM:** ASTM International, formerly known as the American Society for Testing and Materials (ASTM), is a globally recognized leader in the development and delivery of international voluntary consensus standards. Today, some 12,000 ASTM standards are used around the world to improve product quality, enhance safety, facilitate market access and trade, and build consumer confidence. http://www.astm.org/ o **CLIA:** Clinical Laboratory Improvement Amendments – The Centers for Medicare & Medicaid Services (CMS) regulates all laboratory testing (except research) performed on humans in the U.S. through the CLIA. o **ISO: International Standards Organization** is

		the world's largest developer and publisher of International Standards**.** o **The NELAC Institute:** A national accreditation program for environmental testing. The NELAC Institute (TNI) is a 501(c)(3) non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community.

Appendix L: Design Process Stakeholder Participation Survey

Designing the Ideal State Public Health Laboratory System
Follow-up Survey

Did you attend the MDH L-SIP assessment that occurred June, 15 2010?

- Yes
- No

Which of the following design meetings did you attend after the initial L-SIP assessment? (select all that apply)

- Sept. 27 or 30, 2010 (Design Meeting #1)
- Nov. 3, 2010 (Design Meeting #2)
- Jan. 25, 2011 (Design Meeting #3)
- None of the above

What were your reasons for attending the design meetings? (Choose all that apply)

- I have a vested interest in changing the current system
- I wanted to hear more about the State Public Health Laboratory System
- I thought it was a good opportunity to network with peers
- Because I was invited
- The process was effective
- Other _____
- Comment: _____

What were your reasons for not attending the design meetings?

- Lost interest in the process
- Did not fit into my schedule
- Was not a priority
- Did not agree with the direction of the design
- Meetings were too long
- Did not feel like I could provide valuable input
- I was not invited to attend
- Other: _____
- Comment: _____

As a result of the meetings, my level of understanding about the State Public Health Laboratory System is:

- No understanding
- Less understanding
- Neutral - same understanding as when I started the process
- Better understanding, but not complete
- Complete understanding

Do you see a need for continued discussion regarding the ideal State Public Health Laboratory System design or implementation?

- Yes, more discussion about **design**
- Yes, more discussion about **implementation**
- Neither require more discussion
- Comment: _____

Do you anticipate that you will continue participation in the Laboratory System development?

- Yes; why _____
- No; why _____

Do you find the L-SIP website helpful?

- Yes; why _____
- No

General comments:_____