

# **Laboratory System Improvement Program: Michigan Assessment Report March 23, 2009**

## **Summary**

This report details the finding of the Michigan Department of Community Health Bureau of Laboratories assessment of March 23, 2009. The intent of the assessment was to determine the strengths and weakness of the Michigan public health laboratory system and identify opportunities for improvements.

The assessment was based on a tool developed by the Association of Public Health Laboratories and based on the Ten Essential Public Health Services and the Core Functions and Capabilities of State Public Health Laboratories. The evaluation of Michigan's performance measured against a standard describing optimal performance was completed by participants representing the spectrum of system constituents. In addition to scoring the Michigan public health laboratory system for performance in each Essential Service, key points of discussion and recommendations were captured.

Categories of recommendations included:

- Improve linkages to system components
- Improve communications
- Improve the testing services
- Improve information technology
- Improve laboratory regulation
- Improve adequacy and stability of system funding

The MDCH Bureau of Laboratories has committed to the following next steps to address the improvements cited by the assessment participants.

By December 2009, develop the charge to and convene a public health laboratory advisory group. Discuss, prioritize and assign responsibilities for recommendations from the LSIP assessment.

By February 2010, meet with chronic disease programs and environmental laboratories to discuss strategies for enhanced partnership.

By April 2010, assess communications tools and needs. Develop a communications strategy.

By June 2010, develop a plan to integrate the public health laboratory system into health information exchanges using standardized messaging.

## **Introduction**

This report details the finding of the Michigan Department of Community Health Bureau of Laboratories assessment of March 23, 2009. The intent of the

assessment was to determine the strengths and weakness of the Michigan public health laboratory system and identify opportunities for improvements.

The Michigan public health laboratory *system* includes all of the organizations and partners that contribute to the state's ability to meet laboratory needs for assuring the health and well-being of all individuals in our state. While the MDCH public health laboratory is a leader and the lynch pin of the system, other entities like local public health, clinical, environmental, agriculture laboratories and laboratory users also comprise the broader system. Thus, it was appropriate that the state public health laboratory convened this assessment.

In 2002 the Centers for Disease Control and Prevention established the National Public Health Performance Standards Program (NPHPSP) to identify and measure components of the public health system and local public health governance. Based on the Ten Essential Public Health Services, the NPHPSP is intended to determine how well public health systems measure against a gold standard and is used to identify areas of improvement. The Association of Public Health Laboratories and the CDC Division of Laboratory Systems developed the Laboratory System Improvement Program (LSIP) with the intent of engaging and leveraging state public health laboratory system partnerships to build a stronger foundation for public health, promoting continuous quality improvement and strengthening the science basis of public health practice improvements. LSIP developed an assessment tool for state public health laboratories to use in determining the state public health laboratory system's capability and capacity to provide adequate and appropriate laboratory activities and identify areas for improvement. The resulting LSIP, like the

#### **Essential Public Health Services**

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

#### Core Functions and Capabilities of State Public Health Laboratories

1. Disease prevention, control and surveillance
2. Integrated data management
3. Reference and specialized testing
4. Environmental health and protection
5. Food safety
6. Laboratory improvement and regulation
7. Policy development
8. Emergency response
9. Public health-related research
10. Training and education
11. Partnerships and communications

It is essential to appreciate that the LSIP process was intended to assess the *entire* system as opposed to focusing solely on the state public health laboratory. A state public health laboratory system includes all public, private and voluntary entities that define the system including a broad range of testing sites, users of laboratory data/results, academic institutions and other roles. Assessment of the system assures that the contributions and needs of each system component are appreciated and included.

Finally, the standards used in the assessment are set at optimal, rather than minimal levels. This enables baseline and target setting and also provokes discussion on methods to reach the target, i.e., specific quality improvement activities.

#### LSIP Assessment Objectives

- Improve communications and collaboration amongst public health laboratory system partners.
- Inform participants about the Michigan public health laboratory system and build an appreciation of the inter-dependence of system partners.
- Identify system strengths and opportunities for improvement
- Articulate the resources needed for optimal system functionality

#### LSIP Assessment Process

The LSIP assessment tool uses the same format as the NPHPSP tools used for assessing state and local public health systems. Each of the Ten Essential Health Services functions as a chapter. Each essential service is then divided into 1-3 indicators which represent major system components, activities or practices. Associated with each indicator is a model standard that describes optimal performance. Each model standard is followed by key ideas that comprise the standard and serve as a discussion point for assessing how close the system is to the model standard. The tool was provided electronically to each participant prior to the assessment date so that they could become familiar with the process and the issues to be assessed.

Participants were welcomed and thanked for contributing their effort and expertise by Jean Chabut, Deputy Director for Public Health, MDCH. After orientation to the process and the tool, participants under facilitated discussions, completed the assessment tool and provided suggestions for system improvement. (Agenda attached). Assessment participants were asked to discuss key ideas related to each indicator sharing information about performance. Upon conclusion of the discussion, they were then asked to measure the systems current status against the model standard. The scale for measurement was: no activity, minimal activity, moderate activity, significant activity and optimal activity. The results of initial scoring were shared and persons with disparate votes were asked to share the reason for their measurement. After hearing the opposing viewpoints participants were asked to vote again or otherwise reach a consensus score from the group. Theme takers recorded the consensus score in an EXCEL spread sheet and collected comments and ideas for activities that would lead to optimal performance.

While Essential Service 7 was assessed by the entire participating group, the remaining essential services were assessed by one of three sub-groups meeting simultaneously.

#### Participants

Michigan Department of Community Health, Deputy Director  
for Public Health

MDCH, State Registrar

MDCH, CLIA Program

MDCH, Bureau of Epidemiology  
Northwest MI Community Health Agency Laboratory

MDCH Div Health, Wellness & Disease Control  
Kalamazoo County Health and Community Services  
Department Laboratory

Genesee County Health Department Medical Director  
Berrien County Health Department  
MDCH Laboratory Informatics  
Michigan State Police  
Michigan State Police

MDCH Local Health Services Division

University of Michigan Health System Virology Laboratory

Michigan Department of Community Health Director

Michigan Society of Pathologists  
MDCH Office of Public Health Preparedness  
MDCH Laboratory Safety

MDCH Bureau of Epidemiology Communicable Diseases

Spectrum Health Laboratory  
Michigan Senate  
MDCH Bureau of Epidemiology Hospital Infections  
MDCH Public Health Admin.

Michigan Society for Infection Control  
Michigan Public Health Institute, Accreditation Program  
Henry Ford Hospital Laboratory

Mecosta County General Hospital  
FDA Detroit Laboratory  
Kent County Health Department Laboratory

Wayne County Health Department

Michigan Department of Energy, Labor & Economic Growth  
Laboratory

Michigan Department of Agriculture Laboratory  
MDCH Local Public Health Accrediation

MDCH Div Health, Wellness & Disease Control

Oakland County Health Department Laboratory

Department of Environmental Quality Laboratory  
Michigan State University Vet School Lab DCPAH

MDCH Bureau of Chronic Diseases  
City of Detroit Health Department Laboratory  
MDCH Div Health, Wellness & Disease Control  
St. Clair County Health Department  
Sparrow Hospital Laboratory

Michigan Department of Community Health  
William Beaumont Hospital Laboratory

Berrien County Health Department  
Department of Natural Resources  
MDCH Bureau of Epi Environmental Health  
MDCH Children's Special Health Care Services

MDCH State Public Health Veterinarian  
MDCH Local Public Health Support  
Saginaw County Health Department Laboratory  
St. Johns Health System  
MDCH Div Health, Wellness & Disease Control

Facilitators:

Cynthia Chilcote Cornerstone Consulting, Saginaw, Michigan

Lynn Stauff, MDCH Bureau of Local Health and Administrative Services

Shelly Murrell, MDCH, Bureau of Organizational Support Services and Workforce

Linda Loeffler, MDCH, Bureau of Organizational Support Services and Workforce

Theme Takers (all Bureau of Laboratories):

Martha Boehme

Jeffrey Massey

Patricia Somsel

Valerie Reed

Patricia Clark

## Results

### Essential Service 1 Overall Score 77.8/100

Monitor Health Status to Identify Community Health Hazards

Key points:

Veterinary surveillance:

- System may not capture results from private vet labs, hospital labs that conduct vet testing (side note: should hospital labs even be doing veterinary testing?)

Environmental Testing:

- Improve linkage of all environmental testing
  - Issues: 75-80% of testing done in private sector: it is proprietary, no sharing of data or technical issues
  - Chemical testing done by researchers may not be population-based
  - Lack of communication to state level when there is a local water issue (boil water advisory, etc) – we often rely on media coverage
- Improve system for processing and using data: large amount is generated
- Process for testing unknown substances for chemical remains unclear

Chronic Disease:

- Assess how laboratory system can support chronic disease surveillance –it is unclear what info we have, what we can capture: need to assess this

Communicable Disease:

- When surveillance is conducted for different activity (e.g., healthcare-associated infections), results are not always reported. Share disease activity data/information more broadly.
- Need to monitor rates of specimen submission – we don't know what we are NOT getting
- Timeliness could be improved
- Support for outbreak investigation DNA fingerprinting is timely.

- Training clinical laboratories in new technologies is needed.
- DCH has sustained microbiology expertise while the national trend has not been to maintain this investment.

#### Information Management

- DIT
- Federal stimulus package – must be more than electronic health records to achieve integration

#### Partnerships in General

- Making these partnerships stronger could help us have greater impact on policy decisions

### **Essential Service 2** Overall score 100/100

#### Diagnose and Investigate Health Problems and Health Hazards in the Community

##### Key points

- Federal funding has enabled the state to acquire current technology. Michigan would not have had state of the art testing without it. The State is too dependent on federal funding and should resume responsibility for investing in technology and expertise.
- We have not exercised radiological sample submission for intentional release scenarios.
- Gaps still exist among local public health agencies in public health preparedness and participation in exercises.
- There has been a significant development in the array of lab testing services from MDCH involving both microorganism and chemical agents that might be used intentionally. Development of these capacities is critical to support both providers and the extensive network of regional and state public health preparedness programs and law enforcement agencies.
- MDCH must be proactive in maintaining IT and communications connectivity with other labs in the state. Funding would help maintain this system.
- MDCH needs to champion licensure of laboratorians.
- There is not one lab system for tracking specimens/information between partners.

### **Essential Service 3** Overall score 89/100

#### Inform, educate, and empower people about health issues

##### Key Points:

- Need formal liaison from lab to communicate with professional societies. Add this to the Lab Advisory Group activities.
- Need to develop a feedback mechanism as part of communications for various activities/multiple formats, e.g., communication, services

### **Essential Service 4** Overall score 55.7/100

#### Mobilize Community Partnerships to Identify and Solve Health Problems

### Key Points

- Communication and education across all partnership. Build on the initial successes of the infectious diseases outreach activities.
- Re-establish the clinical laboratory advisory committee. Possibly expand and increase collaboration.
- Perform communication asset inventory, needs analysis, and then formalize a plan, communicate to partners, educate, test and tune.
- Develop easier/more useful mechanism to promote two-way communication between all partners (ex: list serve, Twitter, blogs)
- Public health system should utilize resources more like the private system.

### **Essential Service 5** Overall score 89/100

#### Develop Policies and Plans that Support Individual and Community Health Efforts

##### Key points:

- Need feedback/communication to let local public health know what is being done at state and federal levels.
- Labs aren't recognized for all they do. Advocacy groups need to be funded and supported, i.e., Labs Are Vital.
- Efforts are not always made to align political considerations with scientifically sound policy options. Why can't we ban smoking in restaurants?
- State labs are too reactive. Commercial labs are more proactive.
- Gaps in testing need to be identified and resources realigned.
- The accreditation of local public health laboratory agencies makes all lab policies consistent.
- Public health preparedness federal funding promoted outreach on local and state levels.
- There is a mechanism in place for communication of recent disease activities—weekly Lab-Epi meetings that include Regional Epis.
- Make stakeholders aware of policy changes/plans in a timelier manner.
- Policies/procedures must be regularly updated for local public health accreditation.

### **Essential Service 6** Overall score 72.3/100

#### Enforce laws and regulations that protect health and ensure safety

##### Key Points:

- Does MDCH have a legislative liaison? Communication from MDCH about law changes is very good.
- There is redundancy in CLIA/CAP/etc. How can we be more efficient? We are wasting resources through duplication.
- Laboratory personnel are being cut due to lower funding levels. Will not be able to maintain enforcement activities due to these cuts. Only half of private wells get tested.
- The State CLIA inspections are not as thorough as they used to be. Would like to see more regulations on drug screening labs. Decrease duplication of inspections. Would like more PT testing availability.



- Public health is fundamentally about health education and behavior changed. Public health labs should not be involved in enforcement.
- There are overlapping jurisdictions for compliance of multiple state statutes. If it is everyone's job, it is no one's job. There is an opportunity to collaborate in enforcement
- Ag/MDCH collaboration has improved in the last 4-5 years. Communication is improved as well. Directors meet regularly. Regional Labs are not represented at the table often enough

### **Essential Service 7** Overall score 67/100

Link people to needed personal health services and assure the provision of healthcare when otherwise unavailable.

Key points:

- DCH lab collaborates with programs to target resources but gaps still exist. MDCH should work with partners to identify the gaps and collaborate to fill them.
- Improved communications among parts of the system are needed.
- Quality and access across the system is compromised by the demands of the growing uninsured population.
- Demand for access to genetic testing is growing but support for the testing is not available.
- The public is not aware of all that is done by the system, especially public health laboratories.
- Michigan laboratory response network for bioterrorism provides training and resources but funding is inadequate and shrinking.
- Chronic disease testing and program support are unevenly available in local health departments.
- The laboratory system needs to be involved in discussion of healthcare reform.
- MDCH should review its billing and reimbursement capacities to generate additional resources. Consider negotiating collective billing services for public health laboratories (like physician practices).

### **Essential Service 8** Overall score 61/100

Assure a competent public health and personal healthcare workforce competencies

Key Points

- Assess impact of waived testing re: workforce competency testing, qualifications of new personnel, position descriptions
- Unclear whether all laboratories have a performance evaluation process in place
- Size of institution may largely determine access to staff development resources
- Training responsibilities in many labs include nursing and medical staff – there are often gaps in the skill sets of people who don't report to lab director yet have a pivotal role, especially in the pre- and post- analytical process

- Increasing reliance on automation contributing to decreasing skills – important for lab staff to have access to guidance from persons other than instrument reps
- Process must include both formal (corrective actions) and preventive (look for areas of system where proactive improvements can be made)

**Essential Service 9** Overall score 29.3/100

Evaluate effectiveness, accessibility, and quality of personal and population-based services

Key Points:

- Create/foster method to start dialogue to bring multiple disciplines towards a central direction.
- Possibly utilize Lab Advisory Committee to determine scope of services available so that BOL can be updated and aware of testing service need.
- Define collaboration/idea exchanges need to be a 2 way street, sharing of info, agree on what needs to be done.
- There are pockets of collaboration but it is not measured nor is it reported back. (Example, After Action Reports of excises not distributed)

**Essential Service 10** Overall score 23.8/100

Research for new insights and innovative solutions to health problems.

Key points

- DCH participates in emerging infectious disease research like the recent study to characterize the molecular biology of *C. difficile*. This type of research is extremely helpful to our understanding of new diseases and pathogens causing morbidity in Michigan.
- Financing: the MI lab system does a good job of combining various pieces of grants to fund projects.
- Establish workgroups with partners from academia and teaching hospitals to identify opportunities/needs and plan research projects.
- Improve methods to capture and evaluate outcomes of the research already occurring- what impact on program, did it accomplish the goal?
- Establish a mechanism (at the Department level?) to share and disseminate research results among all partners.
- There is a lack of recognition of the Laboratory System. More information, better understanding and promotion of the research being done there. This may be a key factor in the survival of the System.
- Need to better define *research*.

**Recommendations**

Improve linkages to system components

- Assess and determine policies to gather environmental health testing results from non-governmental laboratories for use by public programs
- Determine how public health laboratory system can support and enhance chronic disease programs

- Reconstitute the laboratory advisory body
  - Expand to all system partners
  - Prioritize services
  - Lead private/public collaboration discussion
  - Develop written documents outlining system component responsibilities and assets
  - Determine laboratory training needs

#### Improve communications

- Develop a system key contact directory including state and local health and private/commercial laboratories. Keep it updated.
- Perform communication asset inventory, needs analysis, and then formalize a plan, communicate to partners, educate, evaluate and revise.
- Exercise system communications tools.
- Make after actions reports and other information more available for shared learning
- Communicate policies and decisions in a timely manner

#### Improve the testing services

- Decrease communicable disease testing turn around time
- Provide training to clinical laboratories for multi-drug resistant organisms
- Develop surveillance capabilities to detect emerging multi- and novel drug resistant organisms
- Increase DNA fingerprinting support for health care associated infections to support institutional infection control practitioners.

#### Improve information technology

- Integrate laboratory assets and needs in health information exchange development
- Promote and lead standardized messaging to promote systems' data exchanges

#### Improve regulation

- Investigate licensing for laboratory professionals
- Reduce redundancy in regulations and compliance

#### Improve adequacy and stability of system funding

- Increase state commitment to maintain technology and expertise needed to support public health testing

### **Next Steps**

Re-establish the Michigan Public Health Laboratory System Advisory Group that will be charged to discuss, prioritize and assign responsibilities for the recommendations compiled during the LSIP assessment as well as identify additional action items to be addressed. Convene the first meeting of this group and prioritize goals by December 31, 2009.

Identify areas where lab system partners can share information to provide enhanced services to citizens of the state. By February 28, 2010, convene a focus group meeting with chronic disease programs and environmental laboratories in the state and produce a listing of items needed to improve data sharing between agencies.

Identify means of improving communication between laboratory system members. By April 30, 2010, perform an initial communication asset inventory and needs analysis for distribution to system partners.

Identify ways to promote and lead standardized messaging of systems' data exchanges. Building on step 2 above, by June 30, 2010, develop a written plan to integrate public health laboratory partners into health information exchanges using standard messaging.

### Meeting Evaluation

#### Summary of Responses

##### Utility of Meeting

	No response	1	2	3	4	5	Mean
Stated Objectives of meeting were met	3	0	1	6	20	7	3.6
Dialogue was useful	1	0	1	4	19	12	4.0
I support the efforts being made	1	0	1	2	17	16	4.2
Next steps were clear	6	0	1	10	19	1	3.0
Meeting was a good use of my time	4	1	0	9	16	7	3.4

##### Meeting Arrangements

	No response	1	2	3	4	5	Mean
Advance notice of the meeting	1	0	3	8	15	10	3.8
Meeting Room Accommodations	1	0	2	3	16	15	4.1
Advance Materials for meeting were useful	2	0	2	10	14	9	3.6
Advance materials were received with time to review	1	4	2	11	12	7	3.3

- comment on “next steps are clear” I would like to see an after action plan before voting on this.
- Comment on “advance materials were useful”: Not received

## Flow of Meeting

	No response	1	2	3	4	5	Mean
Started on time	2	0	1	3	15	16	4.1
Clear Objectives for meeting	1	0	1	4	21	10	4.1
Agenda followed or appropriately amended	0	0	0	2	15	20	4.5
Facilitation was effective	0	0	0	2	16	19	4.5
The “right” people were at the meeting	2	0	2	5	16	12	3.9

### What worked?

1. Dialogue
2. Topics on target
3. Good items including assessment
4. Breakout session and facilitator Linda. She was great and helpful.
5. I thought the fact that process was facilitated was critical to this being useful and productive.

### What could be improved?

1. Seemed to be overlap about on 5.0 and 6.0
2. Giving more time for assessment
3. Short DVD/video (from other states) who took the assessment to see all the practical and positive results which could come out of the assessment
4. Need a breakdown of what is already done by the State Public Health Dept. in advance of the program.
5. More advance notice information. ½ week before program too short for some of us to poll our members for their input.
6. Better (more) material about what we do in each of these areas now.
7. Assessment tool could be more specific to this state PH lab system – maybe an addendum should have been written – giving examples of processes specific to Michigan.
8. More attendance from stakeholders and customers than from SPH.
9. I think the scope of assessment or focus of assessment should have been narrowed or clarified. While it is true that we all are part of the “system”, the assessment should really have focused centrally on MDCH BOL and the regional lab system and how well they are interacting with the partners. People in our group (A) kept getting hung up on how to assess the whole “web” that was shown in the preliminary slides.
10. Just make sure there is follow-up to this session.
11. Seating arrangements not conducive to meeting.

Would you participate in this process again: Yes: 31 No: 4 No response: 2  
 Do you see this as a helpful tool and process? Yes: 31 No: 1 No Response: 4