

Minnesota Department of Health

PUBLIC HEALTH LABORATORY

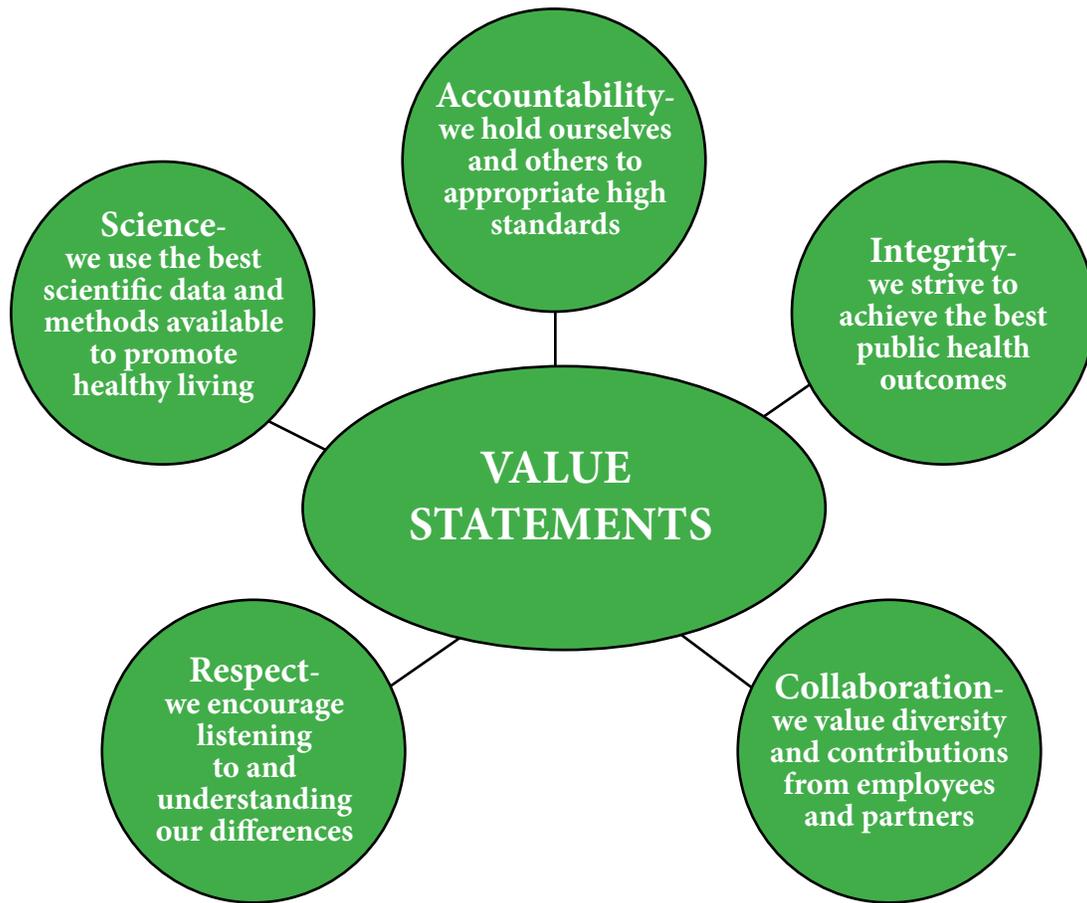
Fiscal Year 2012 Annual Report



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MISSION

Protecting, maintaining, and improving the health of all Minnesotans



VISION

Keeping ALL Minnesotans healthy



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Cover: Minnesota Department of Health (MDH) Inside Cover: MDH Table of Contents: Texas Department of State Health Services; MDH; CDC/ Erskine. L. Palmer, Ph.D.; M. L. Martin Page 1: MDH Page 3: MDH Page 4: NASA Johnson Space Center Page 5: MDH Page 6: MDH Page 7: Minnesota Pollution Control Agency Page 8: MDH Page 9: CDC Page 11: CDC/ Debra Cartagena Page 12: NordNordWest Page 13: MDH Page 14: Rob Hille

Message from the Director

Dear Reader,

It is my pleasure to present to you the third annual report from the Minnesota Department of Health, Public Health Laboratory (PHL). This report presents the laboratory highlights for Fiscal Year 2012 (FY12: July 1, 2011-June 30, 2012), which range from details surrounding the investigation of a case of inhalation anthrax to an interview with a young man whose life is a testament to the value of newborn screening. It also covers our activities to protect Minnesota's treasured environmental resources.

In my introduction to last year's report, I mentioned the challenges in preparing for the potential interruption of services due to a state shutdown. Sadly, on July 1, 2011, this became a reality, and we had to implement shutdown plans. The shutdown lasted three tense weeks during which the laboratory was allowed only to perform those functions deemed essential by the Governor and approved by the court. While we consider all of our laboratory services to be essential, we were only able to continue those services that met the criteria set out by Governor Dayton in his letter to state employees, in other words, those functions "so critical to protecting the lives and safety of the people of Minnesota...they should be made exceptions to the (state) Constitution's clear prohibition". Many state employees, including more than half of the PHL staff, were laid off during the shutdown and the agency implemented an incident command system to monitor activities and to supply employees with critical information. In the laboratory, we held daily meetings to provide staff with updates and to check-in with employees about whether or not we had adequate staffing to perform critical activities. This was a challenging time; however, PHL staff, both those who were working and those who were laid off, rose to the challenge. Once the shutdown ended, we sincerely welcomed our colleagues back and everyone quickly got to work to clear the backlog of testing. I am constantly grateful for the resilience, dedication, and professionalism of our employees that enabled us to recover from this disruptive event.

If you have read our previous reports, you will notice our exciting new report format. We are experimenting with the use of infographics to improve the look and readability of our report. We hope you will like it, and we welcome any feedback you are willing to provide. My thanks to Patti Constant for her dedicated and expert leadership of the annual report project and to Sondra Rosendahl, who used a previously hidden (to me) talent for graphic design to convert the report into the new format, while continuing to perform her "day job" as a dedicated genetic counselor.

So, I invite you to read more about the important work our laboratory does to help us meet our agency mission to protect, maintain, and improve the health of all Minnesotans.



Joanne Bartkus, Ph.D.
Public Health Laboratory Director



PHL's Impact on Minnesota Families During FY12

<p>Newborn Screening Program IMPACT: Infants diagnosed with one of the conditions on the newborn screening panel</p>	<p>413</p>
<p>Environmental Laboratory IMPACT: Samples analyzed for contaminants in the water, soil, and air</p>	<p>40,893</p>
<p>Infectious Disease Laboratory IMPACT: Clinical tests for infectious disease trends and disease outbreaks</p>	<p>44,450</p>
<p>Environmental Laboratory Accreditation Program IMPACT: Environmental laboratories accredited to the national standard</p>	<p>131</p>

Sneak Peek: Topics Covered in Next Year's Report!

Newborn Screening Program

- Screening for Severe Combined Immunodeficiency
- Critical Congenital Heart Defects added to the panel
- Boost in hearing screens from out-of-hospital births

Environmental Laboratory

- Response to Northeast Minnesota's record flooding
- Contaminants of emerging concern - new efforts
- The Infant Development and Environment Study results

Infectious Disease Laboratory

- Swine flu at the State Fair
- PHL chosen to be a Vaccine Preventable Disease Reference Laboratory

Newborn Screening Program

Overview:

The Newborn Screening Program screens infants at birth for over 50 serious health conditions. Blood spots collected from the infant's heel at the birth hospital are sent to the PHL for testing. Newborn screening detects these hidden, rare conditions before symptoms appear so affected infants can receive prompt treatment to prevent severe health problems or even death. Minnesota newborns are also screened for hearing loss, which, if left unrecognized, could lead to speech and language delays.

Almost every day, the Newborn Screening Program identifies an infant with one of these

health conditions. Last year, 413 children were diagnosed with one of the conditions on the newborn screening panel.

Newborn Screening FY12 Data	
Births Registered	68,021
Infants Screened	67,002
Specimens Tested	69,901
Infants with blood spot disorders	146
Infants with hearing loss	267

The above data was calculated based on the date the sample was received, not by birth year.



OR

OR

Q: Which of these infants has a serious health condition identified by newborn screening?

A: See green box on page 5.

New Legislation Changes:

In May 2012, Governor Dayton signed legislation impacting the Newborn Screening Program. The new legislation helps ensure that all Minnesota infants have the healthiest start possible. By keeping newborn screening mandatory, it ensures parents receive early education about newborn screening and provides parents with new options. The table to the right lists the specific changes the new legislation made to the Newborn Screening Program.

New Features of Newborn Screening
Prenatal education
Better education in the nursery
Leftover blood spots are kept for 71 days if all test results are negative
Leftover blood spots are kept for two years if a result is positive
Test results are kept for two years for all results
Parents have option to request long-term storage of blood spots after testing

Out-of-Hospital Births:

Nationally, homebirth rates rose nearly 30% since 2004. In Minnesota, homebirths now account for about one out of every 139 births.

To make sure these infants get the same care as those born in hospitals, the Newborn Screening Program began an outreach effort to help midwives perform newborn hearing screening. Though many midwives already collect blood spots for screening, none had the equipment or training necessary to conduct newborn hearing screening. Grant funding from the Health Resources and Services Administration (HRSA) provided eleven hearing screening machines to the Minnesota Council of Certified Professional Midwives (MCCPM). The Council distributed the equipment to licensed midwives statewide. Any midwife conducting hearing screenings attended a required training session from an audiologist and were assisted in developing and implementing policies and procedures for newborn hearing screening.

In addition, education materials were created specifically for families planning births outside of hospitals. More information can be found on the Minnesota Midwives website at: http://www.minnesotamidwives.org/Newborn_Hearing_Screening.html.

Screening for Severe Combined Immunodeficiency (SCID):

The Commissioner of Health accepted the recommendation of the Newborn Screening Advisory Committee to add SCID (also known as “Bubble Boy Disease”) to the newborn screening panel. The world was introduced to SCID during the 1970s and 80s with the story of David Vetter (pictured below), a boy with SCID, who lived for 12 years in a plastic, germ-free bubble.

Infants with SCID are born without an immune system; making them vulnerable to infections that become serious and often life-threatening. These children no longer need to live in bubbles because bone marrow transplants

are now available. If infants with SCID receive a successful bone marrow transplant before three months of age or before a serious infection, they can lead healthy, normal lives.

Only through newborn screening will diagnosis and treatment for SCID be available early enough to give affected children a chance for a healthy life.



Did you Know?

Educational Outreach: Prenatal Education

.....

Nationwide, parental education about newborn screening usually occurs in the hospital after delivery. Many national organizations have suggested that education about newborn screening would be more effective in the prenatal period. Parent focus groups have shown that expectant parents want to learn very basic information about newborn screening before they deliver.

Minnesota has worked to become one of the first states with a prenatal-focused education plan - complete with a new prenatal brochure, prenatal provider information folder, and a prenatal education website. For more information, see: <http://www.health.state.mn.us/newbornscreening/prenatal.html>.





Q & A

Evan Hromada 18-year-old with Galactosemia

Evan recently graduated from Edina High School. You wouldn't know it by looking at him, but Evan has Galactosemia. A person with Galactosemia is unable to fully break down galactose (a sugar found in milk), which results in a dangerous accumulation that damages the liver, brain, kidneys, and eyes if left untreated.

*Go to <http://www.health.state.mn.us/newbornscreening/evan.html> to listen to the full interview.

1 What is your experience with newborn screening?

Newborn screening saved my life. I was diagnosed with Galactosemia when I was just three days old, which prevented long term health issues and a potential for death.

2 How have your experiences with Galactosemia been?

I have learned a lot; most of all, I have learned that everyone faces adversity and that most of the time it is not something that can be seen.

3 How would your life have been different without newborn screening?

If I wasn't diagnosed as early as I was, it would have been very likely that I would have died or that I would have faced severe set-backs to my health.

4 What do you have to do differently because you have Galactosemia?

The few things I have to do differently is that I have to take calcium supplements, I have to avoid dairy and check ingredients to see what I can eat, and I have to go to the U of M once every six months to test the galactose levels in my blood.

5 When parents learn their baby has a problem like Galactosemia, they are often scared. What do you want them to know?

The first thing I would tell them in all cases is that everything is going to be all right. I would tell them that these disorders are treatable and that newborn screening caught this disorder early enough so that everything should be fine.

6 You are doing so well. What are your plans for the future?

I am going to Marquette next year and plan to study business and hope to study political science also. I will say that I will always consider activism for the issues that are important to me, especially newborn screening.

Answer: B ... 1 in 30,000 chance becomes reality for one family

In 2008, Everett Olson came into the world. Everett's mom, Korissa, initially declined newborn screening. After hospital nurses discussed the importance of testing, she agreed to it. Four days later, the Olsons were told by their son's pediatrician that the newborn screen was positive for Galactosemia. Though Everett had seemed fine his first few days of life, he became very lethargic and jaundiced. Because of newborn screening, Everett was treated right away. Today, Everett is a happy and healthy 4-year-old. His story was recently featured in a video produced by the Save Babies Through Screening Foundation. View the clip at <http://www.youtube.com/watch?v=Q7oEz6pmhPA>.



Environmental Laboratory

Overview:

The Environmental Laboratory analyzes a wide range of chemicals. Some of these chemicals occur naturally while others do not. The data generated is used by several state partners [Environmental Health, Minnesota Pollution Control Agency (MPCA), Department of Transportation] and multiple counties to help protect the public's health. The Environmental Laboratory is also involved with developing new methods for detecting contaminants of emerging concern at the federal and state level. As technology has improved, so has the ability to identify various contaminants present in our environment that we could not previously detect. These advancements allow for additional information to be gathered that may affect future environmental and public health decisions.

Environmental Laboratory Testing Means:

Results - to aid decision making by many state, public, and environmental health programs

Reassurance - that water is safe to drink and natural resources are protected

Quality - by using standard methods and written operating procedures

Scientific Expertise - of 40 scientists dedicated to accurate and efficient sample handling and analysis

Answers - to questions about mercury in newborns

Emergency Preparedness & Response - to incidents involving chemical or radiological release

What's in Your Water?

On a daily basis the Environmental Laboratory receives hundreds of water samples from around the state of Minnesota. In 2011 alone, we received 40,893 samples and ran 131,339 analyses. We are a full service laboratory that can analyze water, air, blood, urine, milk, and cattle feed. But our bread and butter is water, and why not? We are the "Land of 10,000 Lakes." The people of Minnesota love their lakes and of course, drinking clean water. The Environmental Laboratory is here to help make sure Minnesotans feel confident about their water.



The public generally knows that drinking cups of surface water is not safe unless it has been treated. However, just looking at, tasting, or smelling a glass of 'clear' water cannot tell you if contaminants are present or not. Laboratory testing of our water is the only way to make an accurate determination of the water quality, and we are here to do just that.

Protecting Minnesota Wild Rice:

The Environmental Laboratory participates in research projects with various state partners. In late 2011, we were presented with an exciting project with the MPCA, funded by the Legacy Amendment Clean Water Fund. MPCA staff were interested in partnering to analyze nutrients and metals to gather information needed for setting a new sulfate standard to protect wild rice growth.

The study will try to determine the potential negative effects of sulfide production in the root zone of wild rice beds. If the biogeochemical model holds, then future sulfate standards could link surface water sulfate concentrations to the



production of sulfide in porewater (the water occupying the spaces between sediment particles), thus ensuring the surface water standard is protective of wild rice.

The study is a collaborative effort among several state organizations, including the University of Minnesota, University of Minnesota at Duluth, Science Museum of Minnesota, MPCA, and the MDH Environmental Laboratory. This unique opportunity allows us to perform comparison studies, work with field and University staff, and develop new laboratory methods in an area that typically does not perform method development.

With a small capital investment and about two months of method development, we were able to get the new methods up and running and prepare other methods to detect lower concentrations. As an added benefit, one of the new methods allowed us to increase our efficiency on the routinely requested phosphate analysis. In June 2012, we received our first samples for this project. We will continue to analyze surface water, porewater, and sediment collected for Sulfate, Sulfide, nutrients, and metals for the next two summers.



The Pregnancy and Newborn Exposure Study:

A group of Environmental Laboratory staff began a new project in partnership with a national study called The Infant Development and Environmental Study (TIDES); (<http://www.urmc.rochester.edu/ob-gyn/research/TIDES.cfm>). The Pregnancy and Newborn Exposure Study (PNES) is a subset of this research and is being conducted at a clinic in Minneapolis participating in TIDES. Samples from the PNES will be analyzed by Environmental Laboratory staff for mercury, cadmium, and lead. Samples will include newborn blood spots (tested for mercury only) and umbilical cord blood. This project will allow researchers to correlate metal concentration in cord blood to the newborn's blood. Participation in the PNES is completely voluntary, requires consent, and only includes women who are already involved in TIDES who deliver their baby at designated hospitals. We have begun receiving samples and will continue to receive and analyze samples through the end of 2012.



Tough Times Call for Tough Decisions:

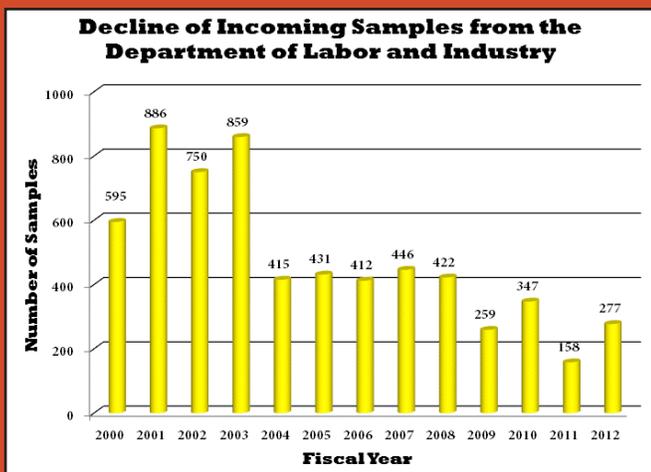
The beginning of FY12 did not start off well due to the state shutdown. After three weeks of keeping only the most critical water testing activities going, the state budget was passed and the entire laboratory was able to return to work. With this service disruption behind us, we had hard business decisions to make in order to provide quality data while working within our budget.

Many factors made our tasks more difficult and more expensive. We saw an increase in legal disputes and new agency initiatives. We strove to find a balance between meeting both national standards and our clients' needs. And of course, we have the constant challenge of providing the highest quality data available.

Increased quality comes at a cost and when we evaluate the return on investment, sometimes we are unable to continue offering certain analytical services.

In spring 2012, we announced that we were no longer able to provide analytical services to our partner of more than 30 years, the Department of Labor and Industry. We had been the industrial hygiene laboratory for the State. However, with fewer incoming samples and aging instrumentation, we were unable to financially justify continuing to provide the service. It was an unfortunate decision, but we need to balance an efficient use of resources while maintaining quality work.

Decline of Incoming Samples from the Department of Labor and Industry

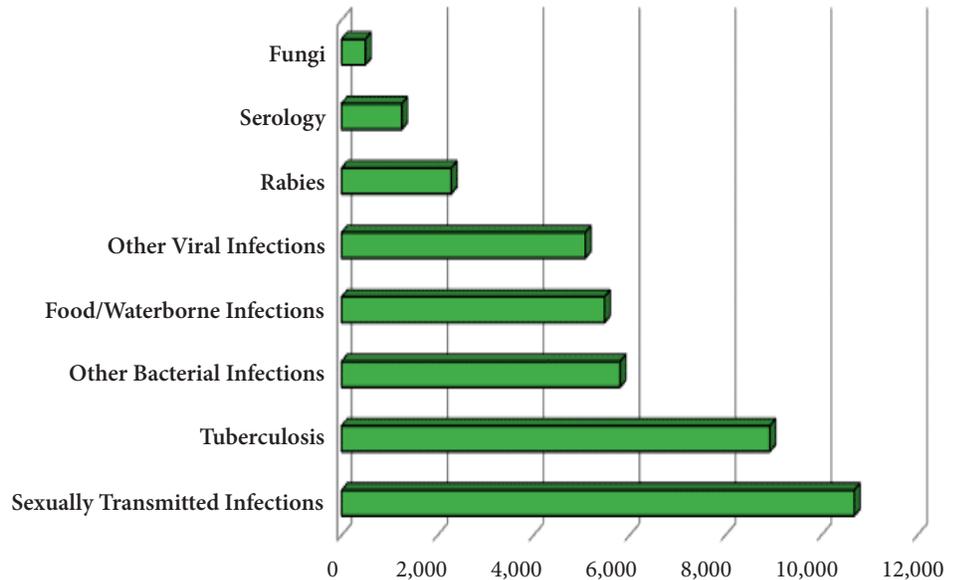


Infectious Disease Laboratory

Overview:

The Clinical Laboratory recently changed its name to the Infectious Disease Laboratory (IDL). The IDL performs diagnostic, characterization, and surveillance testing of infectious diseases recognized for public health importance. The testing categories represented on the right contribute to Minnesota's (and the nation's) infectious disease prevention and control. A total of 44,450 tests were performed by the IDL in FY12.

FY12 Specimen Testing Totals by Testing Type



Identifying Antibiotic Resistance:

Alarming, infections caused by antibiotic resistant bacteria are on the rise worldwide, often spreading through healthcare settings. Our ability to rapidly and accurately detect and identify these bacteria is crucial to controlling and preventing infections. Swift identification and urgent reporting also assist health care professionals in caring for patients.

Two of the most serious antibiotic resistance mechanisms are *Klebsiella pneumoniae* carbapenemase (KPC) and New Delhi metallo-beta-lactamase (NDM). Bacteria with KPC or NDM resistance mechanisms are untreatable by nearly all antibiotics currently available. The IDL performs tests to detect these and other forms of antibiotic resistance.



In 2011, bacteria with KPC were identified in 21 patients throughout Minnesota, which is relatively low compared to other regions in the United States. Bacteria that carry NDM are usually related to receiving medical care abroad and are rarer than KPC; only two patients have been identified in Minnesota since 2011.

The IDL has been instrumental in establishing collaborative surveillance with our MDH Healthcare Associated Infections (HAI) group, hospital laboratories, and infectious disease specialists statewide. The surveillance benefits local communities by keeping an eye on bacteria of emerging public health concern and protecting the health of all Minnesotans.

The Infectious Disease Laboratory...

supports the prevention and control of diseases of public health significance by:

1

Performing tests on patient specimens to determine the presence or absence of disease-causing agents

2

Characterizing agents submitted by other laboratories

3

Testing in response to public health emergencies

4

Training and consulting with other laboratory, medical, and public health colleagues

5

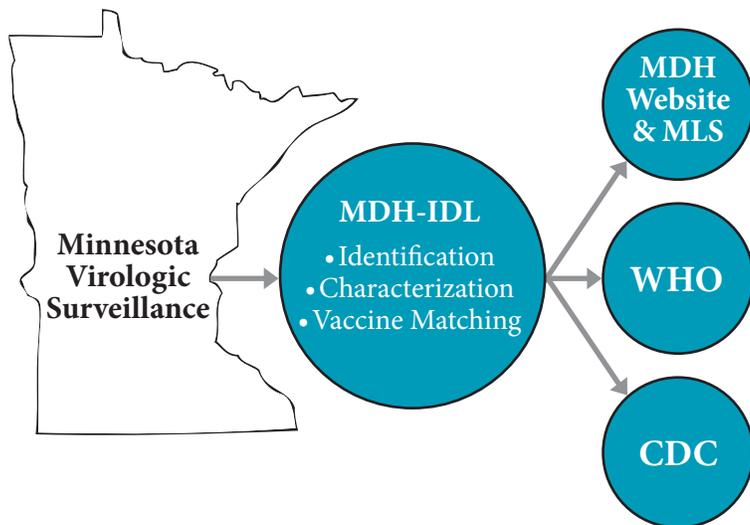
Participating in applied research such as laboratory method development

Impact of the Influenza Surveillance System:

The IDL influenza surveillance system is designed to track flu activity from around the state and detect novel flu strains. Clinical laboratories throughout Minnesota participate in virologic surveillance by sending specimens for flu detection and further viral characterization to the IDL. Symptoms of other respiratory illnesses are very similar to flu. Therefore, specific identification of circulating respiratory viruses is advantageous for patient treatment, clinician awareness, and public health intervention. Minnesota virologic surveillance uses a combination of molecular and classical virology techniques that

allow a large number of specimens to be screened, provides quick turnaround time, and increases the likelihood that unidentified viruses will be accurately detected. The IDL is becoming one of only a handful of laboratories that continue to use hemagglutination inhibition detection as the only method for determining if current circulating flu strains are those covered in the recent flu vaccine. As a result, the data generated from the Minnesota virologic surveillance and other state public health laboratories substantially impacts what strains the Centers for Disease Control (CDC) and the World Health Organization (WHO) use for future vaccines.

Minnesota virologic surveillance provides rapid communication of results statewide. Local flu surveillance data is communicated through the MDH website and the Minnesota Laboratory System (MLS) computer network, an outreach program to healthcare providers. Healthcare professionals are able to use this information to make important decisions for patient care. The IDL flu surveillance system acquires, analyzes, and produces results that enable local communities to respond to the unpredictability of flu season.



Case Story:

In August 2011, three specimens arrived at the IDL that tested positive for the foodborne bacterium *Salmonella* Enteritidis. DNA fingerprinting revealed that all three had the same fingerprint pattern, SE1B173, which had never been seen before in Minnesota. The MDH Infectious Disease Epidemiology, Prevention and Control (IDEPC) Division interviewed each of the three case patients using a 12-page food consumption interview form but no link to any common food source was found.



A month later, two more specimens were identified with the same SE1B173 pattern. Using sophisticated interview questionnaires and re-interviewing previous cases, the IDEPC found that all five cases reported high egg consumption, with two cases mentioning organic eggs specifically. On October 7, the IDEPC launched an investigation. The Minnesota Department of Agriculture (MDA) was notified and proceeded to conduct a trace-back investigation on the eggs. Within seven days, MDA linked egg Company A as being the supplier to the grocery stores where the eggs had been purchased. Further study demonstrated that consuming organic eggs from Company A was statistically associated with illness. On October 14, MDA inspectors visited Company A's farm and sampled the barn and processing areas. The samples were positive for *Salmonella* contamination, which prompted Company A to issue a voluntary recall of all eggs packed at the farm. Grocery stores, food wholesalers, restaurants, and foodservice companies in Minnesota, Wisconsin, and Michigan were urgently made aware of the risks of these eggs. MDA and MDH issued a joint press release notifying the public of the outbreak and subsequent recall.

Company A depopulated their farm, thoroughly cleaned the environment, and ultimately tested negative for *Salmonella* before egg production resumed. The combination of in-depth food consumption questionnaires, the use of DNA fingerprinting techniques, and the interagency communication between MDH and MDA worked to solve the outbreak, which ultimately stopped the source of contamination and prevented further human disease.

Other FY12
Foodborne
Outbreaks
Investigated
in Minnesota

Pathogen	Food
<i>Campylobacter coli</i>	Raw Milk
<i>Salmonella</i> Enteritidis	Eggs
<i>Salmonella</i> Typhimurium	Watermelon
<i>E. coli</i> O157	Prepackaged Salad; Romaine Lettuce
<i>E. coli</i> O157 and <i>Cryptosporidium parvum</i>	Unpasteurized Apple Cider
Enterohemorrhagic <i>E. coli</i>	Black Forest Ham
Group A <i>Streptococcus</i>	Cooked Pasta
<i>Campylobacter jejuni</i>	Raw Milk

Environmental Laboratory Accreditation Program

Overview:

The Minnesota Environmental Laboratory Accreditation Program (MN-ELAP) performs the following types of assessments:

- onsite
- application
- documentation review
- proficiency testing

16

New or revised procedures MN-ELAP prepared for conformance to the updated national standards published by The NELAC Institute (TNI)

131

Environmental laboratories accredited by MN-ELAP

Permit Requirements:

Effective January 1, 2012, MN-ELAP started offering exemptions from the national standard for quality control, personnel, and the frequency of proficiency testing requirements for laboratories analyzing samples for compliance with National Pollutant Discharge Elimination System (NPDES) permits.

Workgroups:

MN-ELAP established a series of workgroups to identify and prioritize improvements to compliance assistance materials and tools. The workgroups are led by Advisory Committee members or their designees. Each workgroup, with membership drawn from across interested parties, has been tasked with defining the purpose of each workgroup and the resulting deliverables. The workgroups were formed around the products identified by the Advisory Committee, which included the following:

- create and revise templates and forms related to laboratory accreditation;
- revise and enhance the Environmental Laboratory Data Online (ELDO) accreditation system;
- compare the 2003 NELAC standard to the 2009 TNI Standard and review existing comparison tool for usefulness; and
- develop data integrity and ethics training resources and information.

15

Recognized accreditation programs that assess and accredit laboratories to the requirements of the national standard



66

Annual routine onsite assessments conducted by MN-ELAP

Advisory Inspections:

The 2012 Minnesota Legislature passed bills allowing regulated entities in the State of Minnesota to request an advisory inspection to comply with state laws. The compliance assistance already provided by MN-ELAP meets this purpose.

Preparedness & Emergency Response

Overview:

The PHL plays a key role in training clinical microbiology laboratories on identification, notification, and referral of potential agents of bioterrorism, such as *Bacillus anthracis*. The PHL is an active member of the CDC Laboratory Response Network (LRN). This network provides training and outreach, and it develops and maintains collaboration with external partners to aid in the rapid detection of biological and chemical threats. PHL staff is qualified to perform analytical methods and provide training to sentinel laboratories (clinical laboratories on the front lines of disease detection, see story on page 15) and first responders.

Preparedness Pays Off - Anthrax in Minnesota:



On August 5, 2011, the PHL was notified by a sentinel laboratory that they had grown a distinctive *Bacillus* species of bacteria that causes anthrax disease. The patient, a 61-year-old man, was admitted to the hospital the previous day with what appeared to be pneumonia. The man had been vacationing in a number of western states for the previous three weeks. The laboratory that tested the culture had been trained in LRN procedures by the PHL, so when they could not rule out anthrax, hospital staff immediately notified the PHL of the isolate, and its rapid transport to the PHL was arranged.

The Facts

- * Anthrax is an infectious disease acquired through the skin, inhaled into the lungs, or ingested from food.
- * 115 sentinel laboratories and 433 laboratorians in Minnesota are trained to recognize anthrax.
- * 54 samples were tested by PHL for the anthrax investigation described on this page.



The PHL used CDC LRN methods to confirm that the isolate was indeed *Bacillus anthracis*. Anthrax is a disease that occurs naturally in the U.S., but it can also be used as an agent of bioterrorism, as happened in 2001 when letters containing anthrax spores were sent through the U.S. Mail. The PHL sent the isolate to the CDC, where it was determined that standard antibiotics could be used as treatment and that it appeared to be a naturally occurring anthrax bacillus and not related to bioterrorism.

To determine how the patient acquired anthrax, environmental samples were tested. The PHL and the Minnesota National Guard 55th Civil Support Team (CST) collected samples from the patient's car, including rocks collected by the patient, elk antlers he purchased at a roadside stand, and even parts of the car itself. All samples tested negative for anthrax.

Although the source of the anthrax remains unknown, the LRN trainings provided by PHL and the partnerships developed as a result of the trainings, led to a rapid response. Fortunately, because of early detection by the alert sentinel hospital and the efforts of clinical, CDC, and MDH personnel, the patient responded to treatment and survived his infection.



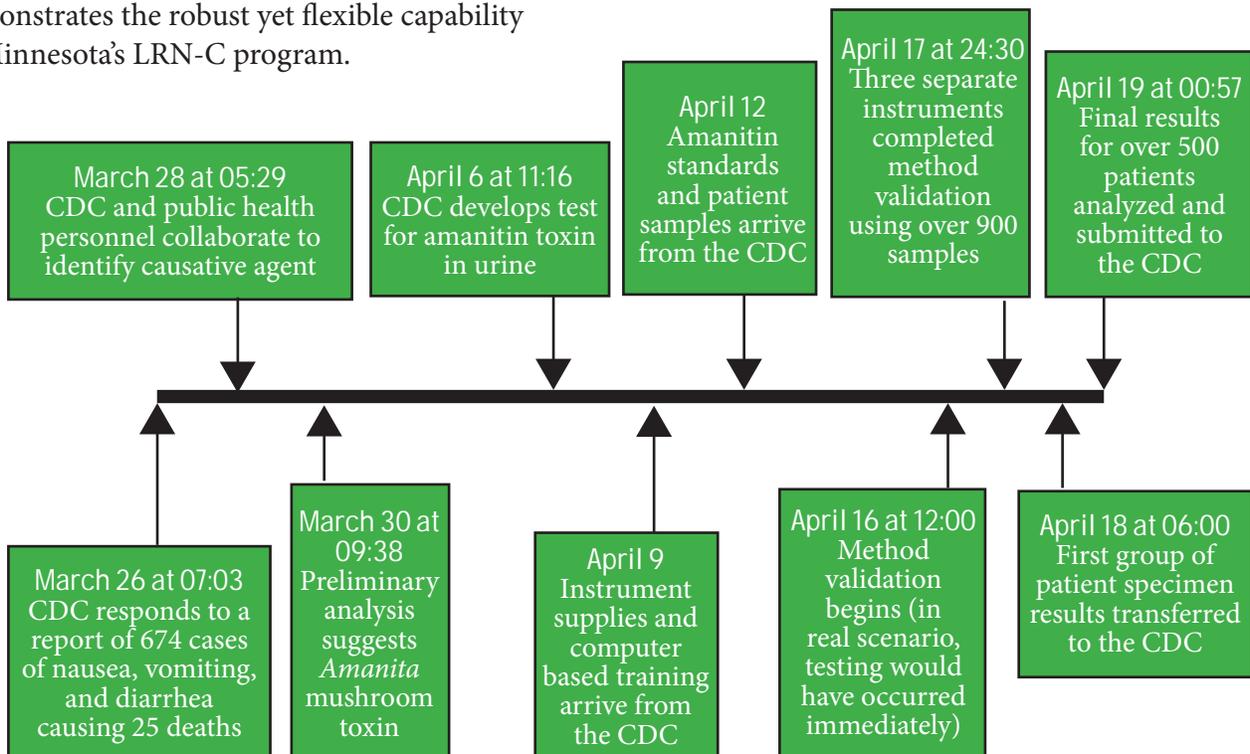


What if a mass exposure event occurs, and it is not a chemical the laboratory can currently test for? . . .

“Death Cap” Mushroom Surge Exercise:

As a member of the Chemical Laboratory Response Network (LRN-C), the PHL is validated to test for over three dozen chemicals in the blood or urine of patients that may have been exposed to chemical warfare agents or toxic industrial compounds.

The spring 2012 CDC surge capacity exercise looked at the LRN-C’s top laboratories’ ability to quickly incorporate new methodology and begin processing patient samples for a chemical not currently tested for. The scenario involved over 14,000 victims exposed to the deadly *Amanita* mushroom, otherwise known as the “death cap” mushroom. The PHL performed over 900 tests in just under 36 hours to validate an analytical method on three instruments. This was followed by analyzing over 518 patient specimens. Patient sample results were reported to the CDC in less than 63 hours from the start of the exercise. This surge capacity exercise demonstrates the robust yet flexible capability of Minnesota’s LRN-C program.





Suspicious Substance Sample Collection and Hazards Screening Training:

The PHL is responsible for identifying suspicious substances that could pose a threat to the public. Extreme precautions must be taken when receiving these samples because many substances are harmful even in very small quantities. To help ensure the safety of staff and protect our laboratory facilities, PHL implements safety measures prior to the sample's arrival.

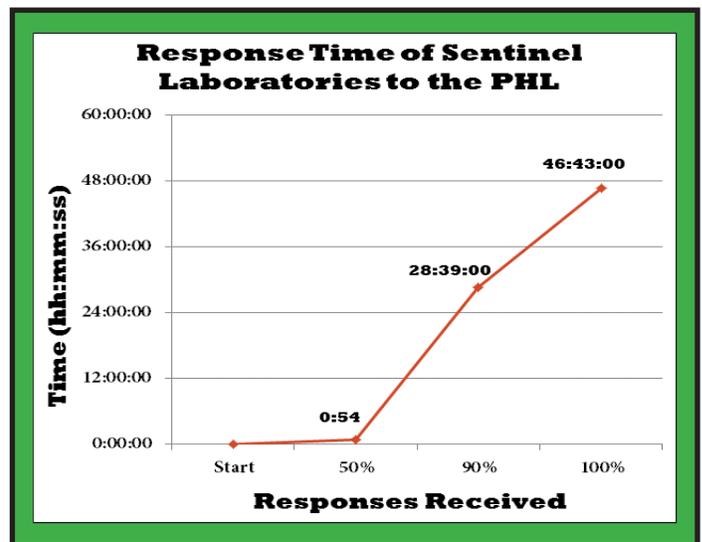
Beginning in January 2012, PHL emergency preparedness staff embarked on a training program with the state Chemical Assessment Teams (CATs) and other hazardous materials (HAZMAT) responders on procedures for safely collecting field testing substances and transporting samples to the PHL for testing. Field tests help the CAT and HAZMAT teams screen for hazardous properties (e.g. radiation, explosiveness, and corrosivity) that may pose a risk to the public, to the first responders, and to laboratory staff. Proper sample characterization and collection are critical elements for an emergency responder to know.

Hazards Screening Training	FY12 Data
HAZMAT teams trained	14
Individuals trained	303
Hours of training provided	100

Ready or Not: Is this Anthrax?

In May 2012, the PHL conducted an exercise to assess the testing and communication capabilities of the MLS sentinel laboratories. Communication was tested by sending out a MLS Laboratory Alert to all of the sentinel laboratories and response times were measured (See Table Below). To test their laboratory capabilities, one sample was sent to each of the 115 advanced sentinel laboratories. Their task was to either "rule out" or refer the isolate back to PHL. Overall; 91% of laboratories performed some level of testing and reported their results. Among those laboratories, 86% of them correctly either ruled out or referred the isolate to PHL for additional testing.

Data generated from this exercise will enable PHL to target specific training and education to individual facilities. The results will also guide efforts to more accurately classify LRN sentinel laboratories based on changes in laboratory practice and testing capability. Communication practices will be modified in response to specifically identified gaps in existing policies, procedures, and systems to better prepare laboratories for an actual emergency.

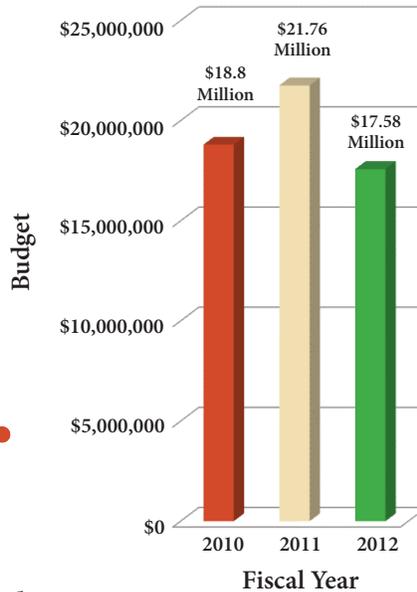


Laboratory Happenings & Budget

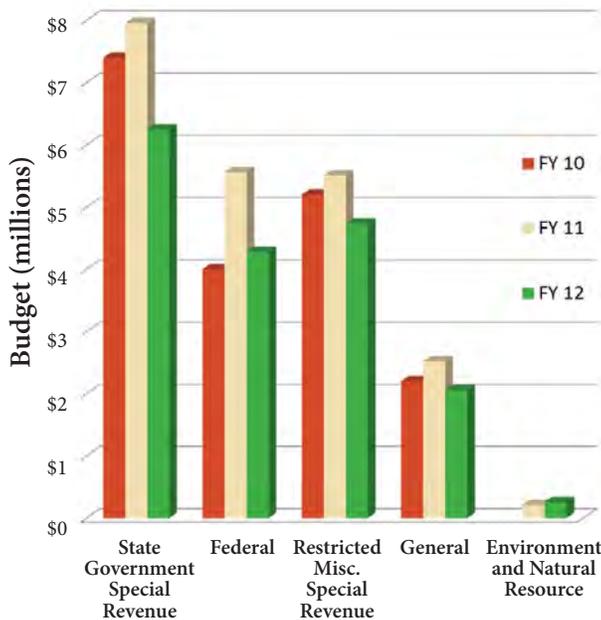
A LOOK at the BUDGET



PHL Budget - A Look Back at Past Three Fiscal Years



Breakdown of Budget by Fund Categories from FY10 - FY12



Fund Categories

For a description of fund categories, visit <http://www.health.state.mn.us/divs/phl/funds.html>

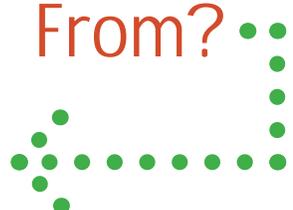
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For past annual reports and budgets, please go to <http://www.health.state.mn.us/divs/phl/pastreports.html>

PHL Awards

- Betsy Edlund and Jeff Brenner from the Environmental Laboratory and Pat McCann from Environmental Health won the Outstanding Poster Award at the 2012 Winter Conference on Plasma Spectrochemistry for their poster entitled, "Determination of Total Mercury in Residual Dried Bloodspots of Newborns from the Lake Superior Basin Region of Minnesota, Wisconsin, and Michigan."
- Stefan Saravia from Preparedness and Emergency Response received the "Outstanding State Agency Partner" award from Homeland Security and Emergency Management at the 2012 Governor's Conference for the training and outreach he's provided to the state's chemical assessment teams.
- The Newborn Screening Program won the 2012 Early Hearing Detection and Intervention (EHDI) Website of the Year Award at the Annual EHDI Meeting in St. Louis.
- In May 2012, the Newborn Screening Program won the Minnesota Association of Government Communicators Award of Excellence for their prenatal education brochure.

Where Do The Funds Come From?



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<http://www.health.state.mn.us/divs/phl/index.html>

The 2012 PHL Annual Report is available at:
www.health.state.mn.us/divs/phl/annualreport2012.pdf

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