



**Illinois Department of Public Health**

**Division of Laboratories**

**Manual of Services**

**September 2021**

## **Mission Statement**

The mission of Illinois Department of Public Health (IDPH) Division of Laboratories is to support public health epidemiology programs by providing surveillance data.

## **Introduction**

The Division of Laboratories serves Illinois' public health system and environmental protection network with high quality diagnostic and analytical laboratory testing. As enormous strides continue to take place in all medical and scientific disciplines, division personnel located in Carbondale, Chicago, and Springfield strive to maintain advanced laboratory capabilities in order to improve public health and environmental quality throughout Illinois. The Division of Laboratories participates in numerous certification programs to ensure the accuracy of our testing data. The following is a list of those certification programs:

- Clinical Laboratory Improvement Amendments (CLIA) - Each lab in the Division has a CLIA certificate. The objective of the CLIA program is to ensure quality clinical laboratory testing.
- Federal Select Agent Program - Each lab in the Division has a Select Agent Certificate. This certificate is necessary for biological threat agent testing.
- International Standards Organization (ISO) 17025 accredited. The Springfield Lab is accredited for food microbiology testing.
- American Industrial Hygiene Association Laboratory Accreditation Programs (AIHA-LAP, LLC). The Chicago Lab is accredited to test paint, soil, dust wipes, and air filter to determine the level of lead in these samples.
- Certified water microbiology and dairy labs - The Carbondale and Chicago laboratories in the Division are certified by IDPH certification/evaluation officers to perform water and dairy testing.
- United States Food and Drug Administration (FDA) – The Springfield lab holds a certificate for dairy lab grade testing.
- United States Environmental Protection Agency (EPA) –The Springfield Lab is accredited by the EPA for drinking water testing.

This manual is a guide to the testing offered by IDPH, Division of Laboratories, and describes the requirements for submitting samples. At times, it may be difficult to meet these requirements; without them however, the test may be impossible to perform or the quality of results may be compromised. The quality of the laboratory's work depends directly on the quality of samples submitted. By observing these sample requirements, clients help the laboratory to provide uncompromised, high quality test results. All shipping of clinical materials and isolates must be in compliance with the rules and regulations for transport of infectious substances as set forth by the United States Department of Transportation, United States Postal Service, and the International Air Transport Association – Dangerous Goods regulations.

By sending samples to the laboratory, clients enter into a partnership. As in any partnership, good communication is the key to success. The purpose of this manual is to provide information about each of the tests performed and any special requirements for those tests. There will be times when more information is needed than this manual can provide. Appropriate laboratory phone numbers are provided on the first page of this manual. Interpretative consultations for all clinical tests performed by IDPH laboratories are available to all authorized submitters from the director of laboratories or the clinical consultant.

## **Authorization for submitting specimens for testing**

This manual of services covers a large number of testing areas. Each test that is performed by the Division of Labs supports public health programs by providing surveillance data. As a result, it is critical that the testing services provided are authorized by the relevant local health departments (LHDs) and IDPH programs. Throughout this manual of services, information about the requirements to authorize the submission of specimens is provided. Authorization to obtain testing services is based on the need for public health surveillance data with consideration of available private testing availability. Samples or specimens that are submitted to the laboratory without proper authorization will not be tested. Lab staff will contact the submitter and determine if the sample/specimen will be returned or destroyed.

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## General Specimen/Sample Requirements and Information

It is vital to ensure that the quality of samples is not compromised, the etiological agents remain viable, and the samples do not endanger the safety of those delivering or receiving them. The laboratories are required to reject any sample that is leaking or otherwise unsafe. The laboratory will be able to complete testing of samples without delay, if the submitter:

- Provides all the information requested on the appropriate submission form
- Sends pure cultures on fresh media in the appropriate transport container
- Avoids sending cultures on inhibitory media
- Packages sample containers in a leak-proof inner container; ensures that caps are tight to prevent leakage; uses custody seals for environmental samples
- Follows proper chain of custody procedures when submitting forensic samples or samples submitted for regulatory enforcement
- Observes any special temperature requirements
- Ensures that the outside of the mailing container indicates which laboratory section is to receive the samples (e.g., Enteric, Bacteriology, Parasitology, Environmental Chemistry, etc.)
- Avoids shipping over the weekend, except in an emergency
- Conforms to current U.S. Postal Service regulations when shipping by U.S. mail
  - Contact your local post office for more information on these regulations
- Conforms to current U.S. Department of Transportation regulations when shipping by courier or other means

Each test that is performed by the Division of Labs supports public health programs by providing surveillance data. As a result, it is critical that the reports for tests that are conducted by the Division of Labs are provided to submitters, LHDs, and IDPH programs. Results are provided through a combination of mechanisms which include electronic laboratory reporting, fax, and mailed paper results. If you have questions about a particular test and the mechanism by which it is reported, please contact the Springfield laboratory and speak with our Data Management staff at 217-782-6562.

## Division of Laboratories – Hours and Contact Information

Each laboratory location is open and accepts samples/specimens during regular business hours Monday – Friday. Division of Laboratories hours are 8am-4:30pm except on state designated holidays. The State of Illinois holiday schedule is available by clicking this link: [Holiday schedule](#)

To contact IDPH:

TTY (hearing impaired use only)

800-547-0466

### **Carbondale Laboratory**

Illinois Department of Public Health

Division of Laboratories

1155 South Oakland Avenue

Carbondale, IL 62901

Main Number (all sections)

618-457-5131

(Fax) 618-457-6995

### **Chicago Laboratory**

Illinois Department of Public Health

Division of Laboratories

2121 W. Taylor Street

Chicago, IL 60612

Main Number (all sections)

312-793-4760

(Fax) 312-793-8152

### **Springfield Laboratory**

Illinois Department of Public Health

Division of Laboratories

825 N. Rutledge Street

Springfield, IL 62702

Main Number (all sections)

217-782-6562

(Fax) 217-524-7924

## Emergency Response Procedures

Assistance for after-hour emergencies (e.g., human exposure to a potentially rabid animal) is available through the Illinois Emergency Management Agency (IEMA) statewide emergency response system. In these special cases, arrangements can be made to submit samples/specimens or to report public health emergencies by calling the following:

Within Illinois: 217-782-7860

Outside Springfield area: 800-782-7860

TTY (hearing impaired use only) 800-547-0466

Please ask to be directed to IDPH's emergency officer. They can provide you further instructions. If warranted, the emergency officer will arrange to have the closest IDPH laboratory open to receive the samples/specimens and to begin testing that same day.

If a natural or other emergency event causes the closure of one laboratory within the Division, testing services may be transferred to another lab within the Division. In this way, surge capacity for Division is provided by our other labs or through contractual arrangements with other private or public facilities.

## Services Available at U.S. Centers for Disease Control and Prevention

Collaboration between local, state and federal laboratories provides the foundation for a successful nationwide program for the prevention and control of infectious diseases. The U.S. Centers for Disease Control and Prevention (CDC) provides state laboratories with reference and diagnostic services (RDS) for certain rare or unusual procedures. **All RDS samples must be submitted to the CDC by or through the state laboratories.**

The IDPH Division of Laboratories is available to facilitate submission of specimens to CDC for testing that is not available through commercial resources. Submission of specimens to CDC laboratories also requires approval from your LHD or the applicable IDPH Division of Infectious Disease Section. If you have questions about submission of specimens to CDC for testing, please contact your LHD or IDPH at 217-782-2016.

Once approval to submit the specimen has been obtained through the Division of Infectious Disease or LHD, please work with your regional public health laboratory in Carbondale, Springfield or Chicago to complete the appropriate submission form. The CDC may reject the specimen if complete data are not provided. **Do not ship the specimen directly to CDC unless prior arrangements have been made with IDPH.**

CDC provides RDS for:

- Clinical samples to aid in the diagnosis of life-threatening, unusual, or exotic infectious diseases.
- Cultures, paired serum samples, or both from patients suspected of having unusual or infectious diseases.
- Cultures or serum samples obtained from patients who have sporadic infections or who are involved in an outbreak from an organism for which testing reagents are not commercially or widely available.
- Organisms that
  - a) cannot be identified otherwise.
  - b) are isolated from normally sterile anatomic sites.
  - c) are isolated repeatedly from one or more sites of the same patient or group of patients.
  - d) have atypical phenotypic characteristics.
  - e) do not appear to be a “usual” pathogen.
  - f) are associated with nosocomial infections.
- Clinically important serum samples or cultures sent for confirmation.

See submission criterion for various diseases at [CDC](#).



## **Environmental Laboratory Certification**

IDPH has been designated by the U.S. Department of Health and Human Services and the U.S. Environmental Protection Agency as the certifying agency for approval of microbiological laboratories processing official samples of milk and water. The laboratory certification program ensures that approved laboratories use methods and techniques that are in substantial agreement with the current editions of the *Grade A Pasteurized Milk Ordinance*, *Standard Methods for the Examination of Water and Wastewater*, and Official Methods of Analysis of the A.O.A.C. (Association of Official Analytical Chemists). Training workshops and seminars are given to provide continuing education and regulatory updates to environmental laboratory personnel.

### **Guidelines to Follow for Certification of Milk Laboratories and Certified Industry Supervisors of Milk Drug Sites (Capable of Confirming Screening Results)**

1. The applicant seeking certification shall contact IDPH's laboratory evaluation officer to receive a packet containing the Grade A milk laboratory request and agreement form, a copy of the evaluation forms, and personnel questionnaire forms.
2. When the applicant feels the requirements can be met, a written request shall be sent to:  
Laboratory Evaluation Officer  
Illinois Department of Public Health  
Division of Laboratories  
825 N. Rutledge Street  
Springfield, IL 62702
3. Following receipt of the request, the laboratory evaluation officer will, upon a mutually agreeable date, perform an on-site survey including the evaluation of facilities, equipment, procedures, and preliminary quality control records according to the requirements of the *Grade A Pasteurized Milk Ordinance*.
4. Upon successfully meeting the requirements of the evaluation, accreditation is given to the laboratory and conditional certification is given to the certified industry supervisors and analysts.
5. Split milk samples are provided by IDPH to all milk laboratories and certified industry supervisors annually. Analyses of split samples are required by all industry supervisors and analysts and approval shall be revoked for lack of participation or poor performance for two successive submissions.
6. Every two years, certified laboratories and certified industry supervisor sites shall be re-evaluated through on-site inspection by laboratory certification officers.

### **Guidelines to Follow for Approval of Milk Drug (Antibiotics) Screening Sites**

1. The applicant seeking certification shall contact IDPH's laboratory evaluation officer to receive a packet containing the Grade A milk laboratory request and agreement form, a copy of the evaluation forms, and personnel questionnaire forms.
2. When the applicant feels the requirements can be met, a written request shall be sent to:  
Laboratory Evaluation Officer  
Illinois Department of Public Health  
Division of Laboratories  
825 N. Rutledge Street  
Springfield, IL 62702
3. Following receipt of the request, the laboratory evaluation officer will provide training for the prospective industry supervisor. Upon completion of training, the industry supervisor will provide documented training of all prospective analysts. A copy of all training records will be submitted to the laboratory evaluation officer.
4. Upon receipt of the training records, the laboratory evaluation officer will, upon a mutually agreeable date, perform an on-site survey and evaluation of facilities, equipment, performance, procedures, and preliminary quality control records.
5. Upon successfully meeting the requirements of the evaluation, approval is given to the milk drug testing site/industry supervisor and analysts.
6. Split milk samples are provided by IDPH to all milk drug testing sites annually. Analyses of split samples are required by all industry supervisors and analysts and approval shall be revoked for lack of participation or poor performance for two successive submissions.

7. Every two years, approved drug screening sites shall be re-evaluated through on-site inspection by laboratory evaluation officers.
8. It is the responsibility of the approved industry supervisor to train all new analysts and subsequently send training records to the laboratory evaluation officer. Upon review of the training record, the laboratory evaluation officer will either notify the supervisor that training is inadequate or issue a statement that training is acceptable and the analyst is approved to screen milk samples for drugs (antibiotics).

### **Guidelines to Follow for Certification of Water Laboratories**

1. The applicant seeking certification shall contact the IDPH's laboratory certification officer to receive a packet containing a copy of the regulations and requirements, a request for laboratory certification form and a copy of the evaluation and personnel questionnaire forms.
2. When the applicant feels the requirements can be met, a written request shall be sent to:  
Laboratory Certification Officer  
Illinois Department of Public Health  
Division of Laboratories  
825 N. Rutledge Street  
Springfield, IL 62702
3. Following receipt of the request, the laboratory certification officer will, upon a mutually agreeable date, perform an on-site survey and evaluation of facilities, equipment, performance, procedures, and preliminary quality control records. The quality assurance plan must be prepared and in use at the time of the evaluation. Proficiency test samples must be successfully analyzed prior to the evaluation date.
4. Periodic analyses of proficiency test samples are required and laboratory certification shall be revoked for lack of participation or poor performance for two successive submissions.
5. Every two years, certified laboratories shall be re-evaluated through on-site inspection by laboratory certification officers.

## ***Bacillus anthracis* (Anthrax)**

<b>Test Name:</b>	Identification of <i>Bacillus anthracis</i> (potential bio-threat agent)
<b>Method Name:</b>	Rapid presumptive identification by real-time polymerase chain reaction (PCR) assay. Confirmation by biochemical identification of culture isolate
<b>Results:</b>	Negative/Positive for the identification of <i>B. anthracis</i> .  <i>Note: If the test is negative and the isolate is genus Bacillus, speciation will not be performed.</i>
<b>Reference Ranges:</b>	Negative for <i>B. anthracis</i>
<b>Clinical Significance:</b>	Humans can become infected with <a href="#">B. anthracis</a> by handling products or consuming undercooked meat from infected animals. Infection may also result from inhalation of <i>B. anthracis</i> spores from contaminated animal products such as wool or the intentional release of spores during a bioterrorist attack. Human-to-human transmission has rarely been reported, and only with the cutaneous form of the disease. Three forms of anthrax occur in humans: cutaneous, gastrointestinal, and inhalation.
<b>Submission Criteria:</b>	Request testing if you suspect an isolate may be <i>B. anthracis</i> . See <a href="#">ASM.org</a> for the rule-out/in protocols. Submit a pure isolate/culture on an agar slant with any media that will support growth. Do not submit the isolate on an agar plate unless the specimen is being transported by courier. Do not perform further tests. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn-around Time:</b>	Presumptive PCR: 1 day Culture confirmation: 5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Bioterrorism Threat Agents

The IDPH laboratories test for the presence of the following potential bioterrorism threat agents:

Biothreat Agent*	Disease	Preferred Specimen Type(s)
<i>Bacillus anthracis</i>	Anthrax	Referred Isolate
<i>Brucella spp.</i>	Brucellosis	Referred Isolate
<i>Burkholderia pseudomallei/mallei</i>	Melioidosis/Glanders	Referred Isolate
<i>Coxiella burnetii</i>	Q Fever	Whole blood
<i>Francisella tularensis</i>	Tularemia	Referred Isolate
<i>Variola virus</i>	Smallpox	Swabs; scabs
<i>Yersinia pestis</i>	Plague	Referred Isolate

\*See links on individual agent page for more information on specimen collection and submission for each threat agent

The sentinel laboratory plays a key role in the early detection of these threat agents by recognizing the potential of having isolated one of the bacterial agents or that a patient presents with clinical symptoms consistent with the contraction of the agent. The [American Society of Microbiology](#) has developed protocols for your use in the presumptive identification of a bacterial threat agent (see link) and the CDC has developed an algorithm for clinical diagnosis of the various disease syndromes caused by the orthopox viruses (including Smallpox).

If you, as a sentinel laboratory suspect a patient infected with any of these agents, you should contact your [LHD](#) or IDPH's Communicable Disease Control Section at 217-782-2016.

The IDPH utilizes protocols developed by the Centers for Disease Control and Prevention's Laboratory Response Network for the definitive identification of the biothreat agents. If an isolate tests negative for a biothreat agent further identification will NOT be performed.

Environmental sample testing is also available through special arrangement for Biological Threat agents. Please contact the Division of Labs if environmental testing is requested. Use the [Threat Agent Laboratory Test Request](#) form for environmental sample submission.

## ***Brucella spp. (brucellosis)***

<b>Test Name:</b>	Culture identification of <i>Brucella spp.</i> (potential biothreat agent)
<b>Method Name:</b>	Rapid presumptive identification by real-time polymerase chain reaction (PCR) assay. Confirmation by biochemical identification of culture isolate
<b>Results:</b>	Negative/Positive for <i>Brucella spp.</i> , <i>Brucella abortus</i> , <i>Brucella suis</i> , <i>Brucella melitensis</i> , or <i>Brucella canis</i> . <i>Note: If the tests are negative and the isolate is the genus Brucella, further speciation tests will not be performed.</i>
<b>Reference Ranges:</b>	Negative for <i>Brucella spp.</i>
<b>Clinical Significance:</b>	<i>Brucella sp.</i> are facultative intracellular gram negative staining bacilli capable of producing the disease " <a href="#">Brucellosis</a> " in humans. The disease is likely acquired by contact with animals infected with <i>Brucella abortus</i> , <i>Brucella suis</i> , <i>Brucella melitensis</i> , and occasionally <i>Brucella canis</i> or by ingestion of infected meat or milk. Animals most commonly infected include sheep, cattle, goats, pigs, and dogs. Symptoms of brucellosis may include fever, night sweats, chills, weakness, malaise, headache, and anorexia. A physical examination may reveal lymphadenopathy and hepatosplenomegaly. A definitive diagnosis of brucellosis is made by recovering the organism from blood, fluid (including urine), or tissue specimens.
<b>Submission Criteria:</b>	Request testing if you suspect an isolate may be <i>Brucella spp.</i> See <a href="#">ASM.org</a> for the rule-out/in protocols. Submit a pure isolate/culture submitted on an agar slant with any media that will support growth. Do not submit the isolate on an agar plate unless the specimen is being transported by courier. Primary clinical specimens or blood culture bottles are not acceptable specimens. Do not perform further tests. <b>Note:</b> Brucellosis is the most commonly reported laboratory-associated bacterial infection. Certain characteristics of the bacterium, such as its low infectious dose and ease of aerosolization contribute to the risk of infection by the organism in a laboratory setting. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required; submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	Presumptive PCR: 1 day Culture confirmation: 5-7 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

***Burkholderia pseudomallei* (Meliodosis)**  
***Burkholderia mallei* (Glanders)**

<b>Test Name:</b>	Identification of <i>Burkholderia pseudomallei</i> and <i>Burkholderia mallei</i> ( <u>potential biothreat agents</u> )
<b>Method Name:</b>	Rapid presumptive identification by real-time polymerase chain reaction (PCR) assay. Confirmation by biochemical identification of culture isolate
<b>Results:</b>	Negative/Positive for the identification of <i>Burkholderia pseudomallei</i> Negative/Positive for the identification of <i>Burkholderia mallei</i>  <i>If the tests are negative and the isolate is the genus Burkholderia, further speciation will not be performed.</i>
<b>Reference Ranges:</b>	Negative for the identification of <i>B. pseudomallei</i> and <i>B. mallei</i>
<b>Clinical Significance:</b>	<i>B. pseudomallei</i> is the cause of melioidosis, a disease prevalent in Southeast Asia and northern Australia. Chronic infections can mimic <i>Mycobacterium tuberculosis</i> infections by producing granulomatous lesions in tissues. <i>B. mallei</i> causes glanders. Acute infections cause septicemia and death while chronic infections cause nodules that can ulcerate. Survivors can be carriers. Definitive confirmation of infection is critical for effective antibiotic therapeutic intervention.
<b>Submission Criteria:</b>	Request testing if you suspect an isolate may be <i>Burkholderia spp.</i> See <a href="http://ASM.org">ASM.org</a> for the rule-out/in protocols. Submit a pure isolate/culture submitted on an agar slant with any media that will support growth. Do not submit the isolate on an agar plate unless the specimen is being transported by courier. Primary clinical specimens or blood culture bottles are not acceptable specimens. Do not perform further tests. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	Presumptive PCR: 1 day Culture confirmation: 4 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

***Carbapenem Resistant Enterobacteriaceae (CRE) &  
Carbapenem Resistant Pseudomonas aeruginosa (CRPA) &  
Other related  $\beta$ -lactamase Producing Gram Negative Bacteria***

<b>Test Name:</b>	Antimicrobial Resistance Testing for Carbapenem Resistant Enterobacteriaceae (CRE), Carbapenem Resistant <i>Pseudomonas aeruginosa</i> (CRPA), and related species
<b>Method Name:</b>	Biochemical Species Identification; mCIM: Carbapenemase activity; MultiPlex PCR: $\beta$ -lactamase genes
<b>Results:</b>	Species Identification mCIM: Carbapenemase Activity Detected/Not Detected PCR: $\beta$ -lactamase detected/Not detected $\beta$ -lactamase Genes Detected: CMY, DHA, CTX-M-14, CTX-M-15, VIM, NDM, IMP, KPC, and OXA-48, MOX, ACC, FOX, DHA, EBC, CMY-2
<b>Reference Ranges:</b>	No carbapenem resistance detected in culture; No $\beta$ -Lactamase gene families (CMY, DHA, CTX-M-14, CTX-M-15, VIM, NDM, IMP, KPC, and OXA-48), or plasmid-associated ampC $\beta$ -Lactamase gene families (MOX, ACC, FOX, DHA, EBC, CMY-2) detected by real-time multi-plex PCR.
<b>Clinical Significance:</b>	Beta-lactam-resistant Gram-negative organisms, producing multiple $\beta$ -actamases, are difficult to distinguish phenotypically and necessitate specific detection methods to identify clinically important $\beta$ -lactamases. Some of the most disconcerting of these organisms, and the ones that pose serious threats to hospitalized patients, are the CRE and CRPA. These organisms often demonstrate resistance to many other classes of antibiotics and may harbor a combination of $\beta$ -lactamase genes. Genetic identification of these resistance mechanisms, along with species identification, and phenotypic tests for the evaluation of carbapenemase-producing isolates, is therefore critical for infection control and antimicrobial outbreak surveillance.
<b>Submission Criteria:</b>	Local Health Department authorization

Specimen Acceptance Criteria:

See Website for more information: <http://www.dph.illinois.gov/sites/default/files/publications/cre-educational-packet-11-2014-uploaded040416.pdf>

Pure isolate of suspected CRE or CRPA grown on slant or plate media (such as blood, nutrient, or to-soy agar) or other  $\beta$ -lactamase producing Gram Negative bacteria such as Acinetobacter species.

CRE

- Isolate belongs to Enterobacteriaceae family
- Resistant to at least one carbapenem
- MIC of >4  $\mu$ g/mL for imipenem, meropenem, or doripenem
- MIC of >2  $\mu$ g/mL for ertapenem

CRPA

- Isolate identified as *P. aeruginosa*
- Resistant to at least one carbapenem
- MIC of >8  $\mu$ g/mL for imipenem, meropenem, or doripenem

<b>Rejection Criteria:</b>	Specimens are rejected if they are not viable isolates, improper specimen identification, specimens other than those detailed above; no authorization; broken specimen tube.
<b>Authorization:</b>	Contact Local Health Department for authorization.
<b>Turn Around Time:</b>	5-15 business days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	N/A
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>  Copy of submitting clinical laboratory Antimicrobial Susceptibility Testing (AST) results required for IDPH to confirm that the isolate meets the CRE/CRPA definition for testing to obtain preliminary indication that isolate may be pan-resistant.



***Chlamydia trachomatis/Neisseria gonorrhoeae***  
**(Molecular STD Screening Panel)**

<b>Test Name:</b>	Detection of <i>Neisseria gonorrhoeae</i> (GC) and/ <i>Chlamydia trachomatis</i> (CT)
<b>Method Name:</b>	Qualitative target amplification nucleic acid probe test.
<b>Results:</b>	Positive/Negative for the detection of <i>Neisseria gonorrhoeae</i> (GC) and/or <i>Chlamydia trachomatis</i> (CT)
<b>Reference Ranges:</b>	Negative for the detection of <i>Neisseria gonorrhoeae</i> and <i>Chlamydia trachomatis</i>
<b>Clinical Significance:</b>	<i>Neisseria gonorrhoeae</i> infection of women can lead to pelvic inflammatory disease, infertility, ectopic pregnancy, and chronic pelvic pain. In men <i>Neisseria gonorrhoeae</i> can lead to acute urethritis and dysuria. <i>Chlamydia trachomatis</i> infections in women can cause long-term sequelae such as pelvic inflammatory disease and infertility, in addition to the birth of underweight babies. <i>Chlamydia trachomatis</i> –infection of men can result in acute urethritis or epididymitis and chronic proctitis. Transmission of <i>N. gonorrhoeae</i> and <i>C. trachomatis</i> occurs through sexual contact, but can also take place in the birth canal leading to neonatal conjunctivitis and/or <i>Chlamydia pneumoniae</i> . Infections with <i>C. trachomatis</i> and <i>N. Gonorrhoeae</i> are common in extragenital sites in certain populations, such as MSM. Since extragenital infections are common in MSM, and most infections are asymptomatic, annual screening is recommended. No recommendations for extragenital screening exist for women, but rectal and oropharyngeal infections are not uncommon.
<b>Submission Criteria:</b>	Endocervical swab, vaginal swab, rectal swab, throat swab and male and female urine specimens. Urine (neat) must be transferred into the urine collection tube within 24 hours of collection. See specimen collection instruction at this <a href="#">link</a> .
<b>Rejection Criteria:</b>	The specimen is too old for testing (Urine: Must be tested within 30 days of collection and be stored at 2-30°C; Swab: Must be tested within 60 days of collection and be stored at 2-30°C); expired swab collection kit or urine transport tube; no identifier on specimen; improperly collected specimen, quantity not sufficient or tube over-filled, provider not authorized for testing, tube contains more than one swab.
<b>Authorization:</b>	Providers are authorized by the IDPH; Office of Disease Control; STD Section at 217-782-2747. A provider number will be given which should be included on the submission form.
<b>Turn Around Time:</b>	4 business days
<b>Ship to:</b>	<a href="#">Carbondale IDPH Lab</a>
<b>Shipping Kits:</b>	Contact the Springfield laboratory at 217-782-6562.
<b>Submission Form:</b>	STI forms may be obtained by faxing the <a href="#">Clinical Supplies Requisition Form</a> to the Springfield Laboratory or calling the Springfield Laboratory. Please do not photocopy forms.

## ***Coxiella burnetii* (Q Fever), Molecular**

<b>Test Name:</b>	Identification of <i>C. burnetii</i>
<b>Method Name:</b>	Polymerase Chain Reaction (PCR) for <i>C. burnetii</i>
<b>Results:</b>	Negative /Positive/Presumptive for the identification of <i>C. burnetii</i>
<b>Reference Ranges:</b>	Negative for the identification of <i>C. burnetii</i>
<b>Clinical Significance:</b>	<a href="#">Q fever</a> is a worldwide disease with acute and chronic stages caused by the bacteria <i>Coxiella burnetii</i> . Cattle, sheep, and goats are the primary reservoirs although a variety of animal species may be infected. Organisms are excreted in milk, urine, and feces of infected animals. At birth, the organisms are shed in high numbers within the amniotic fluids and the placenta. The organism is extremely hardy and resistant to heat, drying, and many common disinfectants which enable the bacteria to survive for long periods in the environment. Infection of humans usually occurs by inhalation of these organisms from air that contains airborne barnyard dust contaminated by dried placental material, birth fluids, and excreta of infected animals. Other modes of transmission to humans, including tick bites, ingestion of unpasteurized milk or dairy products, and human to human transmission, are rare. Humans are often very susceptible to the disease, and very few organisms may be required to cause infection.
<b>Submission Criteria:</b>	Acceptable specimens include: <ul style="list-style-type: none"><li>a. Blood collected in purple top/EDTA tube.</li><li>b. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.</li></ul>
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	1 day
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Ebola Zaire Virus

<b>Test Name:</b>	Identification of Ebola Zaire Virus in Acute Specimens
<b>Method Name:</b>	Real-Time, Reverse Transcriptase -Polymerase Chain Reaction (PCR) for the identification of Ebola Zaire Virus (NP and VP40 gene target assays)
<b>Results:</b>	Negative / Positive/Equivocal/Inconclusive for the identification of Ebola Zaire Virus RNA
<b>Reference Ranges:</b>	Negative for the identification of Ebola Zaire Viral RNA
<b>Clinical Significance:</b>	<p>Ebola virus is detected in blood only after onset of symptoms, most notably fever, which accompany the rise in circulating virus within the patient's body. It may take up to three days after symptoms start for the virus to reach detectable levels. Ebola infection is extremely contagious, making the identification of infected individuals a public health emergency. Ebola spreads through direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with blood or body fluids of a person who is sick with or has died from Ebola, objects (like needles and syringes) that have been contaminated with body fluids from a person who is sick with Ebola or the body of a person who has died from Ebola, infected fruit bats or primates (apes and monkeys), and possibly from contact with semen from a man who has recovered from Ebola. There are no vaccines or pharmaceuticals to treat Ebola Virus infection. Testing by EUA (Emergency Use Authorization) was approved by the Secretary of Health and Human Services in January 2016.</p>
<b>Submission Criteria:</b>	<p>Acceptable specimens include: Note: See CDC guidance for collection, transport, and submission at this <a href="#">link</a>.</p> <p>Whole blood is the preferred specimen type for EVD testing. Serum, plasma and urine are also acceptable specimens for testing. Urine should not be the sole specimen type tested from a patient and must be sent with a paired specimen.</p> <ol style="list-style-type: none"><li>Whole blood – Collect two lavender top blood tubes containing whole blood preserved with EDTA (minimum volume of 4mL each). Collect blood in plastic tubes only. Do not collect in glass tubes. Do not centrifuge specimens. Store and transport specimens at 2-8°C.</li><li>Serum – Collect serum in a gold top serum separator tube and centrifuge to separate. Store and transport specimens at 2-8°C.</li><li>Plasma – Collect whole blood into commercially available anticoagulant-treated tubes e.g., EDTA-treated (lavender tops) or citrate-treated (light blue tops). Cells are removed from plasma by centrifugation for 10 minutes at 1,000–2,000xg using a refrigerated centrifuge. The resulting supernatant is designated plasma. Following centrifugation, it is important to immediately transfer the liquid component (plasma) into a clean polypropylene tube using a Pasteur pipette. Store and transport specimens at 2-8°C.</li><li>Urine – Collect urine in a 15ml conical plastic tube. Store and transport specimens at 2-8°C.</li></ol>
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	Prior approval from your LHD is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.

**Turn Around Time:** 2 days

**Ship to:** [Chicago IDPH Lab](#)

**Submission Form:** [Communicable Disease Test Requisition Form](#)

## Enteric Pathogens Overview

<b>Test Name:</b>	Enteric Pathogen Culture (includes Clinical and referred isolates)
<b>Method Name:</b>	<a href="#">Salmonella</a> , <a href="#">Shigella</a> , <a href="#">Shiga Toxin Producing E. coli</a> , <a href="#">Vibrio</a> , <a href="#">Yersinia</a> , (includes identification, serotyping and molecular shiga-toxin). For routine Salmonella, shiga-toxin producing E. coli and Vibrio isolates, whole genome sequencing (WGS) is performed and results are sent to the CDC PulseNet national database.
<b>Results:</b>	Negative or confirmation of <i>Salmonella</i> , <i>Shigella</i> , Shiga Toxin producing <i>E. coli</i> , <i>Vibrio</i> , <i>Yersinia</i> . WGS data submitted to CDC PulseNet national database for cluster analysis and outbreak detection ( <b>WGS for epidemiological use only</b> ).
<b>Reference Ranges:</b>	Negative or confirmation of <i>Salmonella</i> , <i>Shigella</i> , Shiga Toxin producing <i>E. coli</i> , <i>Vibrio</i> , <i>Yersinia</i>
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	Clinical - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours  Referred Isolates – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant], or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Authorization:</b>	For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016. No authorization number is required. Submission is required by Illinois Administrative Rule Part 690.
<b>Turn Around Time:</b>	10 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Enteric Pathogens Whole Genome Sequencing (For Epidemiology use only)

<b>Test Name:</b>	Whole Genome Sequencing (WGS) - PulseNet.
<b>Method Name:</b>	Salmonella, Escherichia, Listeria, Vibrio, and Campylobacter – For routine Enteric isolates, whole genome sequencing (WGS) is performed and results are sent to the CDC PulseNet national database
<b>Results:</b>	WGS data submitted to CDC PulseNet national database for cluster analysis and outbreak detection <b>(WGS for epidemiological use only)</b>
<b>Reference Ranges:</b>	N/A
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild, self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	Clinical or Environmental Isolate - Isolate submitted at room temperature on nonselective slant such as TSA, HIA, etc. Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	7 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

***Escherichia coli (shiga toxin producing)***

<b>Test Name:</b>	Isolation and identification of shiga toxin-producing <i>E. coli</i>
<b>Method Name:</b>	Culture and biochemical reactions are used for the isolation, identification, and serotyping of <i>E. coli</i> .  Real-time polymerase chain reaction assay is used for the identification of shiga toxin (types 1 and 2)- producing <i>E. coli</i> .
<b>Results:</b>	Negative for the detection of Shiga toxin-producing <i>E. coli</i> .
<b>Reference Ranges:</b>	Negative for the detection shiga toxin producing <i>E. coli</i> .
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild, self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	Clinical - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours; Referred Isolates – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant] or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Turn Around Time:</b>	7 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Francisella tularensis (tularemia)***

<b>Test Name:</b>	Culture Identification of <i>F. tularensis</i> ( <u>potential biothreat agent</u> )
<b>Method Name:</b>	Rapid presumptive identification by real-time polymerase chain reaction (PCR) assay  Confirmation by biochemical identification of culture isolate
<b>Results:</b>	Negative/Positive for the identification of <i>F. tularensis</i> .  <i>Note: If the test is negative and the isolate is the genus Francisella, speciation will not be performed.</i>
<b>Reference Ranges:</b>	Negative for the identification of <i>F. tularensis</i>
<b>Clinical Significance:</b>	<a href="#">Tularemia</a> is a rare infectious disease that can attack the skin, eyes, lymph nodes, lungs, and less often, other internal organs. It is caused by the bacterium <i>Francisella tularensis</i> which is transmitted by several routes such as insect bites and direct exposure to an infected animal. The infection is highly contagious and potentially fatal. Early confirmation of infection aids in appropriate antibiotic therapeutic intervention.
<b>Submission Criteria:</b>	Request testing if you suspect an isolate may be <i>F. tularensis</i> . See <a href="#">ASM.org</a> for the rule-out/in protocols for <i>F. tularensis</i> . Submit an isolate on an agar slant with any media that will support growth. Do not submit the isolate on an agar plate unless the specimen is being transported by courier. Do not perform further tests. <b>Note:</b> <i>Francisella tularensis</i> is highly infectious when grown in culture, and laboratory-acquired infections have been documented. The isolation of <i>F. tularensis</i> from clinical specimens, especially if unanticipated, can generate concern among laboratory workers about possible exposure. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	Presumptive PCR: 1 day Culture confirmation: 5-7 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>



## ***Haemophilus influenzae***

<b>Test Name:</b>	Identification of <i>Haemophilus influenzae</i>
<b>Method Name:</b>	Biochemical confirmation of <i>Haemophilus influenzae</i> Antiserum slide agglutination to identify serogroups (epidemiological purposes only)
<b>Results:</b>	Positive/Negative for the detection of <i>Haemophilus influenzae</i> Serogroups detected; a, b, c, d, e and f.
<b>Reference Ranges:</b>	Negative for <i>Haemophilus influenzae</i>
<b>Clinical Significance:</b>	<i>H. influenzae</i> can affect many organ systems. Type "b" can cause septicemia, meningitis, septic arthritis, and purulent pericarditis. Non-"b" bacteria can cause disease similar to type "b." Nontypeable <i>H. influenzae</i> can cause invasive disease.
<b>Submission Criteria:</b>	Isolate grown on a chocolate agar slant. If sent by courier, isolates grown on chocolate agar plates are also acceptable. Submissions of <i>H. influenzae</i> isolates from sterile body sites (blood, CSF, or synovial fluids) are required by the state.
<b>Rejection Criteria:</b>	Improperly filled out Requisition form; no patient identifier on specimen; mismatched names; broken or leaking specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	3-5 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Human Immunodeficiency Virus (HIV), Types 1 and 2 – Serum

<b>Test Name:</b>	Detection of HIV Types 1 and 2 Antibody and p24 Antigen
<b>Method Name:</b>	Chemiluminescent microparticle immunoassay (CMIA) for the detection of HIV antibodies/p24 antigen
<b>Results:</b>	Positive/Negative for HIV-1 antibody/p24 antigen Positive/Negative for HIV-2 antibody  NOTE: If the test is positive, additional confirmatory testing to differentiate HIV-1 from HIV-2 and/or for direct detection of the HIV-1 RNA by the polymerase chain reaction assay will be performed according to the HIV testing algorithm.
<b>Reference Range:</b>	Negative for the detection of HIV-1/HIV-2 antibodies/p24 antigen
<b>Clinical Significance:</b>	Early detection of <a href="#">HIV</a> in the acute phase, using the CMIA, is essential to the rapid linkage of individuals infected with HIV to care and prevention of transmission.
<b>Submission Criteria:</b>	Collect 2 mL of blood in a gold top/serum separator tube (SST). Allow blood to clot at room temperature. Centrifuge for 10 minutes. Blood collected in a serum separator tube (SST) and centrifuged should be shipped in a cooler on cold packs on the same day as collected. Every effort should be made to ship specimens on the same day as collected. If it is not possible to ship the same day as collected, store at 2-8°C and ship in a cooler on cold packs the next business day. Label specimens with a unique identifier. Provide a completed HIV/STD requisition form with the specimen.
<b>Rejection Criteria:</b>	Specimens will be rejected if they are: <ul style="list-style-type: none"><li>• Grossly hemolyzed</li><li>• No submission form is provided</li><li>• Insufficient quantity</li><li>• No unique identifier on specimen</li><li>• Broken or leaking specimen</li><li>• Specimen greater than 7 days old from collection if stored and shipped cold</li><li>• Specimen greater than 3 days old from collection if stored and shipped at room temperature</li></ul>
<b>Authorization:</b>	Prior approval from the IDPH; Office of Disease Control; STD Section at 217-782-2747 is necessary.
<b>Turn Around Time:</b>	2 days for screening; 2-3 days for additional tests
<b>Ship to:</b>	<a href="#">Carbondale IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield IDPH Lab at 217-782-6562
<b>Submission Form:</b>	STI forms may be obtained by faxing the <a href="#">Clinical Supplies Requisition Form</a> to the Springfield Laboratory or calling the Springfield Laboratory. Please do not photocopy forms.

## Influenza Virus

<b>Test Name:</b>	Detection of Influenza
<b>Method Name:</b>	Real time Reverse Transcriptase Polymerase Chain Reaction
<b>Results:</b>	<b>Positive and Negative</b> for the detection of Influenza A, subtypes H3, H1N1 pdm2009, H3N2 variant, and Influenza B, subtypes Yamagata (YAM) and Victoria (VIC). Avian influenza H5N1 and H7N9 are tested only if epidemiologically consistent with infection.
<b>Reference Ranges:</b>	Negative for Influenza A and Influenza B.
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of possible outbreaks of Influenza.
<b>Submission Criteria:</b>	Specimens should be collected during the acute phase of illness (within 3 days of onset). Complete the appropriate submission form including authorization outbreak code (see Authorization section below) for each specimen. Acceptable swab specimens (submitted in viral transport medium) include nasopharyngeal, nasal, throat, and dual nasopharyngeal/throat. Acceptable non-swab specimens include nasal aspirates, nasal washes, Bronchoalveolar lavages, tracheal aspirates, bronchial washes, sputum, lung tissue, and viral cultures. <a href="#">Click here for further instructions.</a> Store and ship specimens at 4°C. Specimens must be received at the IDPH laboratory within 72 hours of collection. The 72 hours limitation may be waived if specimens have been immediately frozen following collection and shipped on dry ice (contact the IDPH Laboratory for further information concerning freezing and shipping of frozen influenza specimens).
<b>Rejection Criteria:</b>	Specimens other than those outlined in the submission criteria section above; improperly completed submission form; specimens without submission form; submission form/specimen tube do not match; no patient identifier on specimen; broken specimen tube; specimens sent as dry swabs (no VTM); specimens shipped at improper temperatures; specimen stored and shipped at 4°C when received greater than 72 hours from collection; specimens shipped at room temperature.
<b>Authorization:</b>	Individual specimen authorization is not needed for sentinel sites. All others submissions need approval from your LHD. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016. Additional information can be found at this <a href="#">link</a> .
<b>Turn Around Time:</b>	3-5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Respiratory/Influenza Submission Form.</a>

## Influenza/COVID-19 Virus

<b>Test Name:</b>	Detection of Influenza and COVID-19
<b>Method Name:</b>	Real time Reverse Transcriptase Polymerase Chain Reaction
<b>Results:</b>	<b>Positive and Negative</b> for the detection of Influenza A, Influenza B and COVID-19.
<b>Reference Ranges:</b>	Negative for Influenza A, Influenza B and COVID-19.
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of possible outbreaks of Influenza and COVID-19.
<b>Submission Criteria:</b>	Specimen type includes upper and lower respiratory specimens such as nasopharyngeal or oropharyngeal swabs, sputum, lower respiratory tract aspirates, bronchoalveolar lavage, and nasopharyngeal wash/aspirate or nasal aspirate. The minimum sample volume required is 2ml in VTM. Collection should occur as quickly as possible and performed according to standard technique and placed in viral transport media (VTM).
<b>Rejection Criteria:</b>	Rejection criteria include but are not limited to those with: <ol style="list-style-type: none"><li>1. Mismatched requisitions</li><li>2. Specimens without patient identifiers</li><li>3. Specimens stored or shipped incorrectly</li><li>4. Specimens collected using expired viral transport media</li></ol> Specimens without IDPH Communicable Disease Program/Local Health Department (LHD) testing pre-approval and for which approval cannot be obtained after specimen receipt.
<b>Authorization:</b>	Individual specimen authorization is not needed for sentinel sites. All others submissions need approval from your LHD. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016. Additional information can be found at this <a href="#">link</a> .
<b>Turn Around Time:</b>	3-5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">COVID-19/INFLUENZA Laboratory Test Requisition</a>

## Lead, Blood

<b>Test Name:</b>	Quantification of lead levels in blood
<b>Method Name:</b>	Inductively coupled plasma mass spectrometry (ICP-MS)
<b>Results:</b>	Lead measurements are reported as microgram/deciliter blood ( $\mu\text{g/dL}$ ). Detection level is 1 $\mu\text{g/dL}$ .
<b>Clinical Significance:</b>	Early detection of lead poisoning allows for the effective clinical management of patients. Complications of lead poisoning include learning Disabilities, impaired growth, impaired hearing, IQ decline, mental retardation, and death.
<b>Submission Criteria:</b>	<p><b>Micro Specimens:</b> For capillary specimens, fill EDTA micro-collection tube to at least above the first line marked on the tube. 100ul (microliter) of whole blood is required.</p> <p><b>Macro Specimens:</b> Submit a minimum of 1mL (milliliter) of whole blood drawn into a trace metal free vacutainer containing either EDTA or Heparin anticoagulant.</p> <p>Mix both capillary and venous specimens by gentle inversion five to 10 times. The specimen must be labeled with the patient's full name and date of birth. For capillary specimens, use a black permanent marker. Place <b>each</b> specimen into an <b>individual</b> small plastic bag. <b>Blood lead specimens should reach the Chicago laboratory within 15 days of collection.</b> For more information see the following for <a href="#">specimen collection</a>.</p>
<b>Rejection Criteria:</b>	Insufficient volume of blood: clotted blood; specimens collected in wrong container (e.g. Serum Tubes); no patient identifier on specimen; requisition form not submitted; patient identifier on specimen and requisition form do not match; leaking specimen, specimens greater than 45 days old.
<b>Authorization:</b>	Prior approval through the local health department or IDPH Environmental Health Division is required.
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	Blood Lead forms may be obtained by faxing the <a href="#">Clinical Supplies Requisition Form</a> to the Springfield Laboratory or calling the Springfield Laboratory. Please do not photocopy forms.

## ***Legionella* Urinary Antigen**

<b>Test Name:</b>	Detection of <i>Legionella</i> Urinary Antigen
<b>Method Name:</b>	Immunochromatographic membrane assay
<b>Results:</b>	<p><b>Presumptive Positive</b> for <i>L. pneumophila</i> serogroup 1 antigen in urine, suggesting current or past infection.</p> <p><b>Presumptive Negative</b> for <i>L. pneumophila</i> serogroup 1 antigen in urine, suggesting no recent or current infection. Infection due to <i>Legionella</i> cannot be ruled out since other serogroups and species may cause disease, antigen may not be present in urine in early infection, and the level of antigen present in the urine may be below the detection limit of the test.</p>
<b>Reference Range:</b>	Negative
<b>Clinical Significance:</b>	<i>Legionella pneumophila</i> is responsible for 80-90% of reported cases of <i>Legionella</i> infection with serogroup 1 accounting for greater than 70% of all legionellosis. This test allows for presumptive early diagnosis of <i>Legionella pneumophila</i> serogroup 1 infection through detection of a specific soluble antigen present in the urine of patients with Legionnaires' Disease. <i>Legionella pneumophila</i> serogroup 1 antigen has been detected in urine as early as three days after the onset of symptoms.
<b>Submission Criteria:</b>	Urine specimens ONLY; random collection; >2 mL of urine. Collect in a sterile specimen container. Specimens must be shipped refrigerated or frozen
<b>Rejection Criteria:</b>	Any specimen other than urine; < 2 mL of urine; non-sterile specimen container; received room temperature; improperly completed submission form; specimen without submission form; submission form/specimen container do not match; no patient identifier on specimen; broken / leaking specimen container.
<b>Authorization:</b>	Submissions need approval from the Communicable Disease Control Section of IDPH at 217-782-2016.
<b>Turn Around Time:</b>	1 day
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## **Listeria monocytogenes (For Epidemiology use only.)**

<b>Test Name:</b>	Whole Genome Sequencing (WGS) - PulseNet.
<b>Method Name:</b>	Listeria – For routine Listeria isolates, whole genome sequencing (WGS) is performed and results are sent to the CDC PulseNet national database
<b>Results:</b>	WGS data submitted to CDC PulseNet national database for cluster analysis and outbreak detection <b>(WGS for epidemiological use only)</b>
<b>Reference Ranges:</b>	N/A
<b>Clinical Significance:</b>	Cause of Listeriosis, a serious infection usually caused by eating food contaminated with the bacteria Listeria monocytogenes. The disease primarily affects older adults, pregnant women, newborns, and adults with weakened immune systems. Symptoms include fever, muscle aches, and diarrhea.
<b>Submission Criteria:</b>	Clinical or Environmental Isolate - Isolate submitted at room temperature on nonselective slant such as TSA, HIA, etc. Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Novel Coronavirus (MERS-CoV) or NCV-2012, Molecular

<b>Test Name:</b>	Identification of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) or NCV-2012
<b>Method Name:</b>	Reverse Transcriptase - Polymerase Chain Reaction (PCR) for MERS-CoV
<b>Results:</b>	Negative /Presumptive Positive/Equivocal for the identification of MERS-CoV
<b>Reference Ranges:</b>	Negative for the identification of MERS-CoV
<b>Clinical Significance:</b>	Human infection with MERS-CoV can produce symptoms from mild to severe; these symptoms include severe acute respiratory illness with fever, cough, and shortness of breath. Some patients also have shown gastrointestinal distress and/or renal failure. No cases have been confirmed in the USA, but this virus has a potential to spread to the US and poses a public health risk. The virus can be transmitted from person-to-person, and has high levels of both morbidity and mortality (almost 50%). Testing by EUA (Emergency Use Authorization) was approved by the Secretary of Health and Human Services on May 30, 2013.
<b>Submission Criteria:</b>	Acceptable specimens include: <ul style="list-style-type: none"><li>a. Nasopharyngeal or Oropharyngeal Swabs</li><li>b. Sputum</li><li>a. Lower Respiratory Tract aspirates/washes</li><li>b. Serum – collected in a gold top/serum separator tube (SST)</li></ul>
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	Prior approval from your LHD with an outbreak investigation number is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.
<b>Turn Around Time:</b>	2 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>



## Novel Coronavirus (2019-Novel Coronavirus (nCoV)), Molecular

<b>Test Name:</b>	CDC 2019-Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel
<b>Method Name:</b>	Real Time Reverse Transcriptase - Polymerase Chain Reaction (PCR) for 2019-nCoV
<b>Results:</b>	<b>2019-nCoV detected</b> – Presumptive positive 2019-nCoV (will require confirmatory testing by CDC); <b>Inconclusive; Not Detected; Invalid</b>
<b>Reference Ranges:</b>	Not Detected for all targets on panel (Detected for Internal Control)
<b>Clinical Significance:</b>	Human infection with 2019-nCoV can produce symptoms from mild to severe; these symptoms include severe acute respiratory illness with fever, cough, and shortness of breath. Some patients also have shown gastrointestinal distress and/or renal failure. The virus can be transmitted from person-to-person. Testing by EUA (Emergency Use Authorization) was approved by the Secretary of Health and Human Services on February 4, 2020.
<b>Submission Criteria:</b>	Specimen type includes upper and lower respiratory specimens such as nasopharyngeal or oropharyngeal swabs, sputum, lower respiratory tract aspirates, bronchoalveolar lavage, and nasopharyngeal wash/aspirate or nasal aspirate collected from individuals who meet CDC criteria for 2019-nCoV testing. The minimum sample volume required is 2ml in VTM. Collection should occur as quickly as possible and performed according to standard technique and placed in viral transport media (VTM). The optimum specimen type and timing for peak viral levels during infections caused by 2019-nCoV have not been determined. Collection of multiple specimens from the same patient may be necessary to detect the virus.
<b>Rejection Criteria:</b>	Rejection criteria include but are not limited to those with:  <ol style="list-style-type: none"><li>5. Mismatched requisitions</li><li>6. Specimens without patient identifiers</li><li>7. Specimens stored or shipped incorrectly</li><li>8. Specimens collected using expired viral transport media</li></ol> Specimens without IDPH Communicable Disease Program/Local Health Department (LHD) testing pre-approval and for which approval cannot be obtained after specimen receipt.
<b>Authorization:</b>	Testing authorization must be obtained before submitting a specimen. Approval can be obtained through patients Local Health Department or through the State Communicable Diseases Program staff. An IDPH <a href="#">Communicable Diseases Laboratory Test Requisition</a> must accompany specimens and include the: test ordered, full patient name and identifiers (including sex and date of birth), source of specimen, date of collection, the submitting organization, referring physician if appropriate, and contact information. A <a href="#">CDC PUI form</a> must also be completed and submitted with the specimen(s).
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">COVID-19 Laboratory Test Requisition</a>

## Measles Virus (Rubeola)

<b>Test Name:</b>	Detection of Measles virus (Rubeola)
<b>Method Name:</b>	Real-time reverse transcriptase polymerase chain reaction  Shipment of sera specimens to CDC is also available.
<b>Results:</b>	Negative and Positive for the detection of Measles RNA
<b>Reference Ranges:</b>	Negative for Measles
<b>Clinical Significance:</b>	<p><a href="#">Measles</a> virus is a member of the family Paramyxoviridae, genus Morbillivirus. Clinical infection with measles virus is characterized by high fever, cough, coryza, conjunctivitis, malaise, Koplik's spots inside the mouth, and rash developing behind the ears and over the forehead, spreading to the trunk.</p> <p>Measles is highly contagious with an incubation period of 4-12 days. Infected individuals are contagious from the first appearance of symptoms until 3-5 days after the rash appears.</p>
<b>Submission Criteria:</b>	Preferred specimens are nasopharyngeal washes transported in viral transport medium. Throat or nasopharyngeal swabs in viral transport medium (VTM), viral carrier medium (VCM), or universal transport media (UTM) are also acceptable. Swabs must be submitted cold (ice packs) and shipped for overnight delivery. Swabs must be received within 8 days of collection and arrive at the laboratory at ≤ 25°C. For additional information on specimen submission please click <a href="#">here</a> .
<b>Rejection Criteria:</b>	Unacceptable specimens include those with mismatched requisitions, specimens without patient identifiers, specimens without prior approval for testing (See authorization.), specimens not shipped in VTM, VCM or UTM, any non-respiratory specimens, any specimens not shipped cold (ice packs), and specimens not received within 8 Days of collection.
<b>Authorization:</b>	Prior approval from your LHD with an outbreak investigation number is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Mumps Virus

<b>Test Name:</b>	Detection of Mumps virus
<b>Method Name:</b>	Real-time reverse transcriptase polymerase chain reaction
<b>Results:</b>	Negative and Positive for the detection of mumps RNA
<b>Reference Ranges:</b>	Negative for mumps
<b>Clinical Significance:</b>	<p><a href="#">Mumps</a> virus is a member of the family <i>Paramyxoviridae</i>, genus <i>Rubularvirus</i>. Clinical infection with mumps virus is characterized by parotitis with complications such as meningitis, pancreatitis, and orchitis. Although the majority of infections are benign, more serious but rare consequences of infection include encephalitis, cerebellar ataxia, and hearing loss.</p> <p>Mumps is highly contagious with an incubation period of 16-18 days, but can range from 12-25 days. Infected individuals are contagious from a few days before until 5 days after the onset of parotitis.</p>
<b>Submission Criteria:</b>	Specimens for mumps testing are swab specimens collected from the buccal cavity and placed in viral transport medium (VTM), viral carrier medium (VCM), or universal transport medium (UTM). Swabs must be submitted cold (ice packs) and shipped for overnight delivery. Swabs must be received within 8 days of collection and arrive at the laboratory at $\leq 25^{\circ}\text{C}$ . For additional information on Mumps submission please click <a href="#">here</a> .
<b>Rejection Criteria:</b>	Unacceptable specimens include those with mismatched requisitions, specimens without patient identifiers, specimens without prior approval for testing (see authorization), specimens not shipped in VTM, VCM or UTM, any non-buccal specimens, any specimens not shipped cold (ice packs), and specimens not received within 8 Days of collection.
<b>Authorization:</b>	Prior approval from your LHD with an outbreak investigation number is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Mycobacterium tuberculosis*, Acid Fast Bacilli (AFB) Smear Analysis**

**Test Name:** Detection of acid fast bacilli (AFB) in primary clinical specimens

**Method Name:** AFB detected by Auramine-Rhodamine stain and fluorescent microscopy

**Results:**

# AFB Detected	Result Reported
0 AFB per slide	Negative
1-3 AFB per slide	Equivocal; report # detected in the comment section along with a request for the provider to send another specimen.
4-9 AFB per slide	Rare
>10 AFB per slide	Few
>1 AFB per field	Many

**Reference Ranges:** Negative for the detection of *AFB*.

**Clinical Significance:** AFB may signify *M. tuberculosis* infection. Test does not distinguish from *M. tuberculosis* versus non-tuberculous AFB. Test does not distinguish between live versus dead infection.

**Submission Criteria:** [Click here for acceptable specimens; collection and shipping instructions.](#)

**Rejection Criteria:** Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube; specimen received greater than 10 days after collection.

**Authorization:** Local Health Departments are authorized to submit specimens. Other private submitters will require LHD approval to submit specimens.

**Turn Around Time:** 24 Hours

**Ship to:** [Chicago IDPH Lab](#)

**Shipping Kits:** Call the Chicago IDPH laboratory at 312-793-4760.

**Submission Form:** [Communicable Disease Test Requisition Form](#)

## ***Mycobacterium tuberculosis*, Primary Clinical Specimens**

<b>Test Name:</b>	Direct detection of the <i>M. tuberculosis</i> in primary clinical specimens
<b>Method Name:</b>	Detection of rifampin-resistant <i>Mycobacterium tuberculosis</i> complex (MTBC) by Cepheid GeneXpert Assay.
<b>Results:</b>	1) MTB NOT DETECTED 2) MTB DETECTED; Rifampin Resistance NOT DETECTED 3) MTB DETECTED; Rifampin Resistance DETECTED 4) MTB DETECTED; Rifampin Resistance INTERMEDIATE 5) INVALID; (The presence or absence of MTB cannot be determined)
<b>Reference Ranges:</b>	MTBC not detected; Rifampin resistance not detected.
<b>Clinical Significance:</b>	Direct detection of the rifampin-resistant <i>M. tuberculosis</i> complex provides early presumptive evidence of infection; allows for early therapeutic intervention and patient isolation. The test does not distinguish among the members of the <i>M. tuberculosis</i> complex ( <i>M. tuberculosis</i> , <i>M. bovis</i> , <i>M. bovis</i> BCG, <i>M. canettii</i> , <i>M. africanum</i> , <i>M. caprae</i> , <i>M. microti</i> , <i>M. pinnipedii</i> ). Test does not distinguish between live versus dead infection.
<b>Submission Criteria:</b>	<a href="#">Click here for acceptable specimens; collection and shipping instructions.</a>
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	Local Health Departments are authorized to submit specimens. Other private submitters will require LHD approval to submit specimens.
<b>Turn Around Time:</b>	24 Hours
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Chicago IDPH laboratory at 312-793-4760.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Mycobacterium tuberculosis*, Culture confirmation**

<b>Test Name:</b>	Culture confirmation of <i>M. tuberculosis</i> complex infection.
<b>Method Name:</b>	Confirmation of AFB in culture by Cepheid GeneXpert Assay. Detection of rifampin-resistant Mycobacterium tuberculosis complex (MTBC) by Cepheid GeneXpert Assay
<b>Results:</b>	1) MTB NOT DETECTED 2) MTB DETECTED; Rifampin Resistance NOT DETECTED 3) MTB DETECTED; Rifampin Resistance DETECTED 4) MTB DETECTED; Rifampin Resistance INTERMEDIATE 5) INVALID (The presence or absence of MTB cannot be determined)
<b>Reference Ranges:</b>	MTBC not detected; Rifampin resistance not detected.
<b>Clinical Significance:</b>	Culture identification provides confirmation of infection with the <i>M. tuberculosis</i> complex and confirms detection in primary sputum by NAAT. The test does not distinguish among the members of the <i>M. tuberculosis</i> complex ( <i>M. tuberculosis</i> , <i>M. bovis</i> , <i>M. bovis</i> BCG, <i>M. canettii</i> , <i>M. africanum</i> , <i>M. caprae</i> , <i>M. microti</i> , <i>M. pinnipedii</i> ). The laboratory does not identify non-tuberculous Mycobacterium cultures.
<b>Submission Criteria:</b>	<a href="#">Click here for acceptable specimens; collection and shipping instructions.</a> Mycobacterium isolates. Submit on agar slant tubes; ( <a href="#">See shipping instructions</a> )
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube; primary specimen received greater than 10 days after collection.
<b>Authorization:</b>	Local Health Departments are authorized to submit specimens. Other private submitters will require LHD approval to submit specimens.
<b>Turn Around Time:</b>	Variable – dependent upon culture growth rate
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Chicago IDPH laboratory at 312-793-4760.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Mycobacterium tuberculosis*, Drug Susceptibility in Culture**

<b>Test Name:</b>	Identification of first line drug susceptible/resistant isolates of the <i>M. tuberculosis</i> complex in culture.
<b>Method Name:</b>	Growth of the <i>M. tuberculosis</i> complex in MGIT cultures supplemented with the following first line drugs: Rifampin; tested at a concentration of 1 µg/ml Isoniazid (INH); tested at concentrations of 0.1 µg/ml and 0.4 µg/ml Ethambutol; tested at a concentration of 5.0 µg/ml Pyrazinamide (PZA); tested at a concentration of 100 µg/ml  <i>Note: Second line drugs not tested</i>
<b>Results:</b>	Drug Susceptible/resistant
<b>Reference Ranges:</b>	Susceptible for all drugs tested.
<b>Clinical Significance:</b>	The efficacy of drug therapy in the treatment of <i>M. tuberculosis</i> complex disease can be compromised by the infection with or development of a drug-resistant TB strain. It is vitally important to understand when a patient is infected with a drug-resistant strain so therapy can be changed to limit the spread of the infection and to improve clinical outcome. The IDPH laboratory performs the drug susceptibility assay on all new TB isolates. Thereafter, the test is only performed for patients that are not responding to therapy (although they are adhering to their drug regimen) AND it has been more than 60 days since the original or previous drug susceptibility test was performed for the patient.
<b>Submission Criteria:</b>	1. <a href="#">Click here for acceptable specimens; collection and shipping instructions.</a> 2. <i>Mycobacterium tuberculosis</i> complex isolates. Submit on agar slant tubes;
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	Local Health Departments are authorized to submit specimens. Other private submitters will require LHD approval to submit specimens.
<b>Turn Around Time:</b>	7-10 days after the identification of culture isolate as <i>M. tuberculosis</i> complex
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Chicago IDPH laboratory at 312-793-4760.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Mycobacterium tuberculosis* Strain Genotyping**

<b>Test Name:</b>	Identification of <i>Mycobacterium tuberculosis</i> strain by genotyping
<b>Method Name:</b>	Molecular based assays performed by the Michigan Department of Community Health
<b>Results:</b>	Strain identification reported to the state for epidemiological investigations. Submitters are not forwarded the results.
<b>Reference Ranges:</b>	Not applicable.
<b>Clinical Significance:</b>	Strain typing allows for epidemiological studies to be performed to identify infection clusters, routes or transmission, and outbreaks of <i>M. tuberculosis</i> .
<b>Submission Criteria:</b>	All facilities are obligated by law to forward <i>M. tuberculosis</i> isolates to the state Mycobacteriology laboratory for genotyping. Submit the isolates on a agar slant tube ( <a href="#">See shipping instructions</a> ).
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	Local Health Departments are authorized to submit specimens. Other private submitters will require LHD approval to submit specimens.
<b>Turn Around Time:</b>	NA
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Chicago IDPH laboratory at 312-793-4760.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>



## ***Neisseria gonorrhoeae* Culture**

<b>Test Name:</b>	Identification of <i>Neisseria gonorrhoeae</i>
<b>Method Name:</b>	Biochemical confirmation of <i>Neisseria gonorrhoeae</i>
<b>Results:</b>	Positive/Negative for the detection of <i>Neisseria gonorrhoeae</i>
<b>Reference Ranges:</b>	Negative for <i>Neisseria gonorrhoeae</i>
<b>Clinical Significance:</b>	<i>N. gonorrhoeae</i> is always considered a pathogen when isolated from human sources. It is sexually transmitted and can be isolated from genital, rectal, and throat specimens. The organism is capable of dissemination and has been isolated from blood and joint fluid.
<b>Submission Criteria:</b>	Isolate grown on a chocolate agar slant. If sent by courier, isolates grown on chocolate agar plates are also acceptable.
<b>Rejection Criteria:</b>	Improperly filled out Requisition form; no patient identifier on specimen; mismatched names; broken or leaking specimen tube.
<b>Authorization:</b>	Submission of specimens for <i>N. gonorrhoeae</i> testing requires authorization from the IDPH; Office of Disease Control; STD Section. The STD Section can be reached at 217-782-2747.
<b>Turn Around Time:</b>	3-5 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	N/A
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Neisseria meningitidis***

<b>Test Name:</b>	Identification of <i>Neisseria meningitidis</i>
<b>Method Name:</b>	Biochemical confirmation of <i>Neisseria meningitidis</i> Antiserum slide agglutination to identify serogroups (epidemiological purposes only)
<b>Results:</b>	Positive/Negative for the detection of <i>Neisseria meningitidis</i> Serogroups detected: A, B, C, D, W135, X, Y, and Z
<b>Reference Ranges:</b>	Negative for <i>Neisseria meningitidis</i>
<b>Clinical Significance:</b>	<i>N. meningitidis</i> infection in normally sterile site (such as spinal fluid and blood) is highly pathogenic and life threatening and required to be submitted according to Illinois Administrative Rule Part 690.
<b>Submission Criteria:</b>	Isolate grown on a chocolate agar slant. If sent by courier, isolates grown on chocolate agar plates are also acceptable. Hospitals are required to submit known <i>Neisseria meningitidis</i> isolates to the IDPH labs for confirmatory identification and serogrouping.
<b>Rejection Criteria:</b>	Improperly filled out submission form; no patient identifier on specimen; mismatched names; broken or leaking specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	3-5 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	N/A
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Newborn Screening Panel

- Test Name:** Newborn Screening Panel  
Please see the following link for a detailed description of testing in the Newborn Screening section. Information about the Newborn Screening program is available [here](#).
- Methods:** Varies between disorders; more details available upon request
- Results:** Normal, Borderline, Positive, Unsatisfactory, Invalid (reported per disorder)

### Endocrine Disorders

- Congenital adrenal hyperplasia (CAH)
- Congenital hypothyroidism (TSH)

### Hemoglobinopathies

#### Metabolic Disorders

- Biotinidase deficiency
- Galactosemia
- Cystic fibrosis (CF) first tier screening for elevated immunoreactive trypsinogen (IRT)
- Cystic fibrosis second tier genetic mutation analysis on the top 4% IRT concentrations.

#### Amino acid disorders

- Phenylketonuria (PKU) / Hyperphenylalaninemia
- Maple syrup urine disease (MSUD)
- Tyrosinemia, type 1 and possibly type 2 or type 3 - tyrosine levels may not be sufficiently elevated for detection
- Homocystinuria / Hypermethioninemia

#### Urea cycle disorders

- Citrullinemia (argininosuccinate synthetase deficiency)
- Argininosuccinic aciduria (argininosuccinate lyase deficiency)
- Argininemia

#### Organic acid disorders

- 2-methylbutyryl-CoA dehydrogenase deficiency (2MBD)
- 3-methylcrotonyl-CoA carboxylase deficiency (3MCC)
- 3-hydroxy-3-methylglutaric-CoA lyase deficiency (3HMG)
- 3-methylglutaconic aciduria (3MGA)
- Glutaric aciduria, type 1 (GA1)
- Propionic acidemia (PA)
- Isovaleric acidemia (IVA)
- Methylmalonic acidemia (MMA)
- Malonic aciduria (MA)
- Beta-ketothiolase deficiency (BKT)
- Multiple carboxylase deficiency (MCD)

#### Fatty acid oxidation disorders

- Short chain acyl-CoA dehydrogenase deficiency (SCAD)
- Medium/Short chain L-3-hydroxyacyl-CoA-dehydrogenase deficiency (M/SCHAD)
- Isobutyryl-CoA dehydrogenase deficiency (IBCD)
- Medium chain acyl-CoA dehydrogenase deficiency (MCAD)
- Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency (LCHAD)
- Very long chain acyl-CoA dehydrogenase deficiency (VLCAD)
- Trifunctional protein deficiency (TFPD)
- Carnitine palmitoyl transferase deficiency type 2 (CPT2)

- Carnitine palmitoyl transferase deficiency type 1 (CPT1A)
- Carnitine/acylcarnitine translocase deficiency (CACT) - neonatal form, extremely rare
- Carnitine uptake defect (CUD) - may not be reliably detected in first days of life
- Multiple acyl-CoA dehydrogenase deficiency (MADD) / Glutaric aciduria, type 2 (GA2)

**Severe Combined Immunodeficiency (SCID) and other T-Cell Lymphopenias**

**Lysosomal Storage Diseases**

- Fabry Disease
- Gaucher Disease
- Pompe Disease
- Krabbe Disease
- Niemann Pick Disease
- Hurler's Disease (MPS-I)
- Hunter Syndrome (MPS-II)

**Adrenoleukodystrophy (ALD)**

**Spinal Muscular Atrophy (SMA)**

<b>Reference Ranges:</b>	Dependent upon test/analyte; provided upon request
<b>Clinical Significance:</b>	Newborn screening provides an opportunity to rapidly identify otherwise healthy-appearing infants who are at high risk of developing various conditions. Early intervention can have significant reductions in morbidity and mortality, while reducing health care costs associated with treatment of lifelong debilitating conditions. A screening test cannot confirm or rule out a particular condition. Stated differently, newborn screening is not a diagnostic test. It identifies individuals who may have the condition so that definitive follow-up testing can be offered to determine if the condition is truly present. See also: <a href="http://www.babysfirsttest.org/newborn-screening/screening-101">www.babysfirsttest.org/newborn-screening/screening-101</a> .
<b>Submission Criteria:</b>	Acceptable specimens must be collected on special filter paper specimen cards supplied by the Department. Newborn screening blood spot specimens should be collected as soon as possible after the first 24 hours of life. If the newborn is to be discharged from the birth center prior to 24 hours of age, the specimen should be collected before discharge. After drying, the specimen cards should be sent by courier to the Department's Newborn Screening Laboratory in Chicago for testing.
<b>Rejection Criteria:</b>	Unsatisfactory specimen reports indicate the specimen was improperly collected, handled or submitted, as determined by the Department's Division of Laboratories. Specimens must be of good quality to assure reliable, valid newborn screening; unsatisfactory specimens require collection and submission of a new sample to assure that every baby receives a valid newborn screening. Unsatisfactory results are reported from the program by a letter indicating the nature of the specimen and the need for immediate repeat specimen collection. The letter is sent by mail to the submitting physician or facility. Additional information about specimen collection and submission is available <a href="#">here</a> .
<b>Turn Around Time:</b>	4 days for abnormal test results and 10 days for normal test. Positive or abnormal results are provided as quickly as possible.
<b>Authorization:</b>	No authorization number is required.
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>

**Shipping Kits:**

Call the Springfield Laboratory at 217-782-6562. Call for more information about this service 217-785-8101.

**Submission Form:**

Newborn Screening Submission Form

## Norovirus (Norwalk-like virus, NLV)

<b>Test Name:</b>	Detection of Norovirus
<b>Method Name:</b>	Molecular detection (RT-PCR) of Norovirus Types G1 & G2
<b>Results:</b>	Norovirus types G1 & G2 Detected or Not Detected ( <b>Norovirus for epidemiological use only</b> ).
<b>Reference Range:</b>	Norovirus not detected
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of possible outbreaks of <a href="#">Norovirus</a> .
<b>Submission Criteria:</b>	Collected stool specimens should be stored refrigerated after collection, shipped cold on ice packs, and received within 7 days from collection. All specimens must be labeled with a unique identifier. Refer to the following link for further collection and submission information. <a href="#">Patient Instructions for Stool Collection</a> .
<b>Rejection Criteria:</b>	Specimen other than stool; Improperly completed test request; No patient identifier on specimen; broken or leaking specimen; specimen shipped and/or received at improper temperature; specimen received greater than 7 days from collection, specimen not received within 24 hours of shipping.
<b>Authorization:</b>	Prior approval from your LHD with an outbreak investigation number is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Orthopoxvirus Screen, Molecular

- Test Name:** Screening assay to detect the following Orthopoxviruses: *Variola*, *Vaccinia*, cowpox, monkeypox, camelpox, ectromelia, and gerbilpox
- Method Name:** Real time polymerase chain reaction assay
- Results:** Positive/Negative for the detection of Orthopoxvirus. Assay does not distinguish among the viruses.
- Reference Ranges:** Negative for the detection of Orthopoxvirus
- Clinical Significance:** This test is intended for patients that present with a vesicular/pustular rash illness of unknown of origin with a low to moderate risk of having contracted *Variola* virus (Smallpox). If the test result is positive, further appropriate reflex testing would need to be done to identify the specific orthopoxvirus contracted.
- Submission Criteria:** Evaluation of patients for potential Orthopox infection/testing is based on the [Acute, Generalized Vesicular or Pustular Rash Illness Protocol](#).

Specimen Type	Room Temp	2° C to 8° C	-20° C to -70° C
Vesicle/Pustule skin or crust	NO	YES (up to 24 hours)	YES
Slide of fluid	YES	YES (up to 24 hours)	NO
Swab of lesion fluid	NO	YES (up to 24 hours)	YES
Punch Biopsy (no formalin)	NO	YES (up to 24 hours)	YES
Ocular impression (slide)	YES	YES (up to 24 hours)	NO
Swab of ocular site	NO	YES (up to 24 hours)	YES
Serum-gold top/SST	NO	YES (up to 24 hours)	YES (if aliquoted)

All specimen tubes must be labeled with at least the patient name. Ship the specimens as soon as possible after collection. Follow storage conditions listed in the table above.

- Rejection Criteria:** Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube; calcium alginate swab specimens.
- Authorization:** No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection.
- Turn Around Time:** 1-2 days
- Ship to:** [Carbondale, Chicago, or Springfield IDPH Lab](#)
- Submission Form:** [Communicable Disease Test Requisition Form](#)

## ***Plasmodium spp. (Malaria)***

<b>Test Name:</b>	Detection of <i>Plasmodium spp.</i> (Malaria)
<b>Method Name:</b>	Polymerase Chain Reaction (PCR) for <i>Plasmodium spp.</i>
<b>Results:</b>	Negative/Positive for <i>Plasmodium falciparum</i> , <i>Plasmodium vivax</i> , <i>Plasmodium malariae</i> or <i>Plasmodium ovale</i> .
<b>Reference Ranges:</b>	Negative for <i>Plasmodium sp.</i>
<b>Clinical Significance:</b>	<p><a href="#">Malaria</a> is a major tropical disease caused primarily by 4 species of the protozoa <i>Plasmodium</i>: <i>Plasmodium falciparum</i>, <i>Plasmodium vivax</i>, <i>Plasmodium malariae</i>, and <i>Plasmodium ovale</i>. Malaria infects approximately 500 million people and causes 1.5 to 2.7 million deaths annually. Ninety percent of the deaths occur in sub-Saharan Africa and most of these occur in children &lt;5 years old; it is the leading cause of mortality in this age group. This disease is also widespread in Central and South America, Hispaniola, the Indian subcontinent, the Middle East, Oceania, and Southeast Asia. In the United States, individuals at risk include travelers to and visitors from endemic areas.</p> <p>PCR is a sensitive and specific method of detection for <i>Plasmodium</i> species DNA in peripheral blood. PCR may be more sensitive than conventional microscopy in very low parasitemias, and is more specific for species identification.</p>
<b>Submission Criteria:</b>	Submit a purple-capped (EDTA) blood tube. Complete patient demographics (patient's first and last name, date of birth, ethnicity, and date of onset. Preliminary microscopic observations including semi-quantitation, such as low level of parasitemia, etc., should be included on page two in the "Other Pertinent Information" section of the Communicable Diseases Laboratory Test Requisition form.
<b>Rejection Criteria:</b>	Specimen received without a test request form. Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimens not submitted according to submission criteria.
<b>Authorization:</b>	All hospitals are required to send positive a purple-capped (EDTA) blood tube to the IDPH's Springfield laboratory for confirmation of malaria.
<b>Turn Around Time:</b>	1 day
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>



## Rabies Virus (animal)

<b>Test Name:</b>	Detection of Rabies virus in animals
<b>Method Name:</b>	Direct fluorescent antibody ( <b>DFA</b> ) <b>test</b> for the detection of <b>rabies</b> virus proteins in animal tissues.
<b>Results:</b>	Positive, Negative, and Inconclusive for the detection of rabies virus.
<b>Clinical Significance:</b>	Early detection allows for rapid post exposure treatment of exposed individuals. Since clinical rabies is most often fatal, rapid treatment can be life-saving. See the IDPH Communicable Disease website for more information <a href="#">here</a> .
<b>Submission Criteria:</b>	Submit whole animals for specimens weighing less than 2 pounds (i.e., bat, mouse). Submit only the head if the animal weighs 2-20 pounds (i.e., dog, cat, raccoon). Brain tissue must be undamaged, allowing proper identification of specific brain sections. The specimen should be submitted immediately after collection and shipped on ice.
<b>Rejection Criteria:</b>	Non-mammalian species. Specimens with damaged or decomposed tissue that cannot be identified. Use of preservative other than refrigeration. Specimens received without all required brain sections
<b>Authorization:</b>	Rabies specimens must be submitted through the local Animal Control, local Health Department, or a veterinarian.
<b>Turn Around Time:</b>	2 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Rabies Submission Form</a>

## Respiratory Pathogens Panel 2 – GenMark ePlex®

<b>Test Name:</b>	GenMark ePlex® Respiratory Pathogens Panel
<b>Method Name:</b>	The test is a multiplexed nucleic acid <i>in vitro</i> diagnostic test intended for use on the ePlex Instrument for the simultaneous qualitative detection and identification of multiple respiratory viral and bacterial nucleic acids.
<b>Results:</b>	Adenovirus (A-F); Coronavirus (229E, HKU1, NL63, OC43); Human metapneumovirus; Human Rhinovirus/Enterovirus; Influenza A; Influenza A H1; Influenza A H1-2009; Influenza A H3; Influenza B; Parainfluenza Virus 1; Parainfluenza Virus 2; Parainfluenza Virus 3; Parainfluenza Virus 4; Respiratory Syncytial Virus A; Respiratory Syncytial Virus B; <i>Chlamydia pneumoniae</i> ; <i>Mycoplasma pneumoniae</i> ; SARS-CoV-2
<b>Reference Ranges:</b>	Not Detected for all targets on panel (Detected for Internal Control)
<b>Clinical Significance:</b>	Influenza and Influenza-Like illness (ILI) are the most common cause of acute illness in developed countries, causing an estimated 500 million non-influenza cases yearly in the United States alone.
<b>Submission Criteria:</b>	<p>An IDPH Communicable Diseases Laboratory Test Requisition must accompany specimens and include the: test ordered, full patient name and identifiers (including sex and date of birth), source of specimen, date of collection, the submitting organization, referring physician if appropriate, and contact information.</p> <p>Specimen type is a Nasopharyngeal Swab (NP Swab) specimen. Collection should be performed according to standard technique and placed in viral transport media (VTM) or universal transport media (UTM).</p> <p>Clinical specimens should be stored refrigerated after collection at (2-8°C). Specimens are valid for up to 12 hours at room temperature (15-30°C) up to 10 days after collection while refrigerated. Specimens can also be stored at -20°C or -80°C for 12 months with up to 2 freeze/thaw cycles. Minimum testing volume is 200 µL.</p>
<b>Rejection Criteria:</b>	<p>Rejection criteria include but are not limited to those with:</p> <p>Mismatched requisitions; Specimens without patient identifiers; Specimens stored or shipped incorrectly; Specimens collected using of expired VTM; Specimens without IDPH Communicable Disease Program/Local Health Department (LHD) testing pre-approval and for which approval cannot be obtained after specimen receipt.</p>
<b>Authorization:</b>	Testing authorization must be obtained before submitting a specimen. Approval can be obtained through the patients LHD or through the State Communicable Diseases Program staff. Specimens submitted through ILINet for surveillance that are negative for influenza and SARS-CoV-2 will be reflexed to this test.
<b>Turn Around Time:</b>	<3 business days of receiving the specimen
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	N/A
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a> ; ILINet Influenza form

## ***Salmonella spp.***

<b>Test Name:</b>	Isolation and identification of <i>Salmonella spp.</i>
<b>Methods:</b>	Culture and biochemical reactions are used for the isolation and identification of <i>Salmonella spp.</i> Isolates are further analyzed to identify serotypes/strains for epidemiological purposes.
<b>Results:</b>	Positive/Negative for the detection of <i>Salmonella spp.</i>
<b>Reference Ranges:</b>	Negative for the detection <i>Salmonella spp.</i>
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	<b>Clinical</b> - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours;  <b>Referred Isolates</b> – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant] or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Turn Around Time:</b>	7 days
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Whole Genome Sequencing of SARS-CoV-2 (For Epidemiological use only)

<b>Test Name:</b>	Whole Genome Sequencing of SARS-CoV-2
<b>Methods:</b>	Whole Genome Sequencing of SARS-CoV-2 for the detection of variants.
<b>Results:</b>	Pangolin Lineage variant information for surveillance and outbreak detection <b>(WGS for Epidemiological use only)</b>
<b>Reference Ranges:</b>	N/A
<b>Clinical Significance:</b>	Human infection with 2019-nCoV can produce symptoms from mild to severe; these symptoms include severe acute respiratory illness with fever, cough, and shortness of breath. Some patients also have shown gastrointestinal distress and/or renal failure. The virus can be transmitted from person-to-person. Whole Genome Sequencing of SARS-CoV-2 assay is intended for use as an aid in identifying variant information in individuals with SARS-CoV-2.
<b>Submission Criteria:</b>	Specimen type includes upper and lower respiratory specimens such as nasopharyngeal or oropharyngeal swabs, sputum, lower respiratory tract aspirates, bronchoalveolar lavage, and nasopharyngeal wash/aspirate or nasal aspirate collected from individuals who meet CDC criteria for 2019-nCoV testing. The minimum sample volume required is 2ml in VTM. Collection should occur as quickly as possible and performed according to standard technique and placed in viral transport media (VTM). The optimum specimen type and timing for peak viral levels during infections caused by 2019-nCoV have not been determined.
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances. Specimens with gross hemolysis. Specimens that have been heat-inactivated.
<b>Turn Around Time:</b>	5 days
<b>Authorization:</b>	No authorization number is required.
<b>Ship to:</b>	<a href="#">Springfield or Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Shigella spp.***

<b>Test Name:</b>	Isolation and identification of <i>Shigella spp.</i>
<b>Methods:</b>	Culture and biochemical reactions are used for the isolation and identification of <i>Shigella spp.</i> Isolates are further analyzed to identify serotypes/strains for epidemiological purposes.
<b>Results:</b>	Positive/Negative for the detection of <i>Shigella spp.</i>
<b>Reference Ranges:</b>	Negative for the detection <i>Shigella spp.</i>
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	<b>Clinical</b> - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours;  <b>Referred Isolates</b> – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant] or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Turn Around Time:</b>	7 days
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Syphilis (*Treponema pallidum*)

<b>Test Name:</b>	Detection of <i>Treponema pallidum</i> (Syphilis) antibodies
<b>Method Name:</b>	Chemiluminescent microparticle immunoassay (CMIA) for the detection of antibodies to <i>Treponema pallidum</i> .  <b>NOTE:</b> If the test is positive, additional confirmatory testing by RPR and TP-PA will be performed according to the Syphilis testing algorithm.
<b>Results:</b>	Reactive or nonreactive for treponemal antibodies.
<b>Reference Range:</b>	Nonreactive for treponemal antibodies.
<b>Clinical Significance:</b>	Early detection of <a href="#">syphilis</a> , using the CMIA as a screening test, allows for rapid treatment and limits further spread of the disease. Additional information about the stage of syphilis infection can be obtained from the RPR and TP-PA tests. Left untreated, syphilis can cause devastating systemic problems and increased risk for co-infection with HIV.
<b>Submission Criteria:</b>	Collect 5 mL blood in a gold top/serum separator tube (SST). Allow blood to clot at room temperature. Centrifuge for 10 minutes. Label specimens with a unique identifier. Blood collected in a serum separator tube (SST) and centrifuged should be shipped in a cooler on cold packs on the same day as collected. Every effort should be made to ship specimens on the same day as collected. If it is not possible to ship the same day as collected, store at 2-8°C and ship on cold packs the next business day. Provide a completed HIV/STD requisition form with the specimen.
<b>Rejection Criteria:</b>	Specimens will be rejected if they are: <ul style="list-style-type: none"><li>• Grossly hemolyzed specimens.</li><li>• No submission form. Insufficient quantity.</li><li>• No unique identifier on specimen.</li><li>• Broken or leaking specimen.</li><li>• Specimen greater than 7 days old from collection if stored and shipped cold.</li><li>• Specimen greater than 3 days old from collection if stored and shipped room temperature.</li></ul>
<b>Authorization:</b>	Providers are authorized by the IDPH; Office of Disease Control; STD Section at 217-782-2747. A provider number will be given which should be included on the submission form.
<b>Turn Around Time:</b>	2 for CMIA screening; 3-5 days for additional tests
<b>Ship to:</b>	<a href="#">Carbondale IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield IDPH Lab at 217-782-6562.
<b>Submission Form:</b>	STI forms may be obtained by faxing the <a href="#">Clinical Supplies Requisition Form</a> to the Springfield Laboratory or calling the Springfield Laboratory. Please do not photocopy forms.

## **Varicella-zoster Virus (chicken pox), Molecular**

<b>Test Name:</b>	Detection of Varicella-zoster Virus (VZV)
<b>Method Name:</b>	Real time polymerase chain reaction
<b>Results:</b>	Positive and Negative for the detection of VZV DNA
<b>Reference Ranges:</b>	Negative for the detection of VZV DNA
<b>Clinical Significance:</b>	This test is intended for patients that present with a vesicular/pustular rash illness of unknown of origin with a low to moderate risk of having contracted <i>Variola</i> virus (Smallpox). Depending on the clinical presentation, this test can be useful if the orthopoxvirus screening assay is negative.
<b>Submission Criteria:</b>	<p>Evaluation of patients for potential Orthopox infection/testing is based on the <a href="#">Acute, Generalized Vesicular or Pustular Rash Illness Protocol</a>.</p> <p>Acceptable specimens include:</p> <ol style="list-style-type: none"><li>Roof or crust of vesicle</li><li>Swab (Dacron or rayon) of vesicle</li><li>Dried vesicular fluid on a slide (touch prep)</li><li>Fresh biopsy (no formalin)</li><li>Dry or wet swab of lesion. Dry swab preferred for PCR</li><li>Viral cell culture lysate (only when non-variola orthopox virus is suspected)</li></ol> <p>All specimen tubes must be labeled with at least the patient name. Ship the specimens as soon as possible after collection. Store the specimens in a refrigerator or freezer if shipping is delayed. Punch biopsy and tissue culture specimens must be shipped on ice. Other specimen types can be shipped at ambient temperature.</p>
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube; calcium alginate swab specimens.
<b>Authorization:</b>	Prior approval from your LHD with an outbreak investigation number is required. For questions, please contact your LHD or the Communicable Disease Control Section of the IDPH at 217-782-2016.
<b>Turn Around Time:</b>	1-2 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Variola virus (Smallpox), Molecular

**Test Name:** Detection of variola virus (potential biothreat agent)

**Method Name:** Real time polymerase chain reaction  
Note: All testing performed at CDC.

**Results:** Positive and Negative for the detection of variola virus

**Reference Ranges:** Negative for the detection of variola virus

**Clinical Significance:** This test is intended for patients that present with a vesicular/pustular rash illness of unknown origin with a high risk of having contracted Variola virus (Smallpox). Smallpox is one of the most dangerous infections known and although the World Health Organization has declared that smallpox has been eradicated globally, the virus is considered as a potential agent of bioterrorism.

**Submission Criteria:** Evaluation of patients for potential Orthopox infection/testing is based on the [Acute, Generalized Vesicular or Pustular Rash Illness Protocol](#).

Acceptable specimens include:

Specimen Type	Room Temp	2° C to 8° C	-20° C to -70° C
Vesicle/Pustule skin or crust	NO	YES (up to 24 hours)	YES
Slide of fluid	YES	YES (up to 24 hours)	NO
Swab of lesion fluid	NO	YES (up to 24 hours)	YES
Punch Biopsy (no formalin)	NO	YES (up to 24 hours)	YES
Ocular impression (slide)	YES	YES (up to 24 hours)	NO
Swab of ocular site	NO	YES (up to 24 hours)	YES
Serum-gold top/SST	NO	YES (up to 24 hours)	YES (if aliquoted)

All specimen tubes must be labeled with at least the patient name. Ship the specimens as soon as possible after collection. Follow storage conditions listed in the table above. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.

**Rejection Criteria:** Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube; calcium alginate swab specimens.

**Authorization:** No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.

**Turn Around Time:** 1-2 days

**Ship to:** [Carbondale, Chicago, or Springfield IDPH Lab](#)

**Submission Form:** [Communicable Disease Test Requisition Form](#)



## ***Vibrio spp.***

<b>Test Name:</b>	Isolation and identification of <i>Vibrio spp.</i>
<b>Method Name:</b>	Culture and biochemical reactions are used for the isolation, identification and serotyping of <i>Vibrio spp.</i>
<b>Results:</b>	Positive/Negative for the detection of <i>Vibrio spp.</i>
<b>Reference Ranges:</b>	Negative for the detection <i>Vibrio spp.</i>
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	Clinical - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours; Referred Isolates – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant], or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Turn Around Time:</b>	7 days
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## ***Yersinia pestis (Plague)***

<b>Test Name:</b>	Culture Identification of <i>Yersinia pestis</i> (potential biothreat agent)
<b>Method Name:</b>	Rapid presumptive identification by real-time polymerase chain reaction (PCR) assay  Confirmation by biochemical identification of culture isolate
<b>Results:</b>	Negative/Positive for the identification of <i>Y. pestis</i>  <i>Note: If the test is negative and the isolate is the genus Yersinia, speciation will not be performed.</i>
<b>Reference Ranges:</b>	Negative for the identification of <i>Y. pestis</i>
<b>Clinical Significance:</b>	<a href="#">Plague</a> is a disease that affects humans and other mammals. It is caused by the bacterium <i>Yersinia pestis</i> . Humans usually get plague after being bitten by a rodent flea that is carrying the bacterium or by handling an infected animal. Plague is infamous for killing millions of people in Europe during the Middle Ages. Today, modern antibiotics are effective in treating plague. Without prompt treatment, the disease can cause serious illness or death. Presently, human plague infections continue to occur in the western United States, but significantly more cases occur in parts of Africa and Asia.
<b>Submission Criteria:</b>	Request testing if you suspect an isolate may be <i>Y. pestis</i> . See <a href="http://ASM.org">ASM.org</a> for the rule-out/in protocols.  Submit a pure isolate/culture submitted on an agar slant with any media that will support growth. Do not submit the isolate on an agar plate unless the specimen is being transported by courier. Do not perform further tests. Environmental sample testing is also available through special arrangement. Please contact the Division of Labs if environmental testing is requested.
<b>Rejection Criteria:</b>	Specimens other than those detailed above; improperly filled out test request form; no patient identifier on specimen; broken specimen tube.
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.
<b>Turn Around Time:</b>	Presumptive PCR: 1 day Culture confirmation: 4 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

***Yersinia sp.***

<b>Test Name:</b>	Isolation and identification of <i>Yersinia spp.</i>
<b>Method Name:</b>	Culture and biochemical reactions are used for the isolation and identification of <i>Yersinia spp.</i>
<b>Results:</b>	Positive/Negative for the detection of <i>Yersinia spp.</i>
<b>Reference Ranges:</b>	Negative for the detection <i>Yersinia spp.</i>
<b>Clinical Significance:</b>	Enteric pathogens cause a variety of human diseases. The severity of the disease depends on the virulence of the strain and the condition of the host and can be a mild self-limiting gastroenteritis or become more severe, with bacteremia or typhoid fever, which can be life threatening. Early detection allows for effective management and identification of possible outbreaks.
<b>Submission Criteria:</b>	Clinical - Stool submitted at room temperature in Cary-Blair vial or swab; received by IDPH within 72 hours; Referred Isolates – Submit isolate at room temperature on slant [e.g., BHI, Heart infusion (HI) slant], or on sealed plates on solid media that is non-inhibitory (e.g., BAP). Indicate source on request form and specimen
<b>Rejection Criteria:</b>	Specimen received without unique identifier (name or other ID) on the specimen, or the identifier does not match the identifier on the submission form. Specimen received without date of collection. Specimen received without submission form. Specimens not submitted according to submission criteria or according to rules and regulations for transporting clinical specimens or infectious substances.
<b>Turn Around Time:</b>	7 days
<b>Authorization:</b>	No authorization number is required. Submission is required by Illinois Administrative Rule Part 690. Please notify your LHD if you suspect this infection. Clinical specimens should be discussed with a LHD.
<b>Ship to:</b>	<a href="#">Chicago or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call the Springfield Laboratory at 217-782-6562.
<b>Submission Form:</b>	<a href="#">Communicable Disease Test Requisition Form</a>

## Aerobic and Coliform Count in Dairy Products using Petri-film

**Test Name:** Aerobic and Coliform Count in Dairy Products

**Method Name:** Petri-film

**Results:** Reported as Petrifilm Aerobic Count (PAC) per 1ml or 1 gram and Petri-film Coliform Count per 1ml or 1 gram

**Reference Ranges:** Acceptable results are as follows:

	Grade A Finished Products	Grade B Finished Products	Grade A Raw Samples	Grade B Raw Samples
PAC	≤20,000	≤50,000	≤300,000	≤1,000,000 for cheese plants and ≤500,000 for ice cream plants
HSCC	≤10	≤20	N/A	N/A

**Clinical Significance:** High bacterial counts in dairy samples could indicate the presence of pathogenic bacteria. Pathogenic bacteria in dairy samples could lead to an outbreak of illness among consumers.

**Submission Criteria:** Samples collected for analysis must be refrigerated (0° to 4.5°C) at the time of collection. Samples received <3 hours from time of collection may be ≤7°C if the samples are cooler than when they were collected. Record the times and dates of sample collection for each set of samples. Upon receipt in the laboratory, the temperature of each set of samples is determined by recording the temperature of a separate container that has been treated exactly like the samples and transported with them. This pilot sample must be at least ½ the size of the largest container in the cooler.

**Rejection Criteria:** Testing will not be performed if samples are not within the required temperature range (0° to 4.5°C) or are not received within the time required to start testing (60 hours). Samples received in leaky containers will also be rejected.

**Authorization:** Dairy samples are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food, Drugs and Dairy, as part of the Grade A Milk Program.

**Turn Around Time:** 5 days

**Ship to:** [Carbondale, Chicago, or Springfield Lab](#)

**Shipping Kits:** No shipping kits are provided by IDPH laboratory. Milk sanitarians transport samples in coolers provided by their own regional offices.

**Submission Form:** Dairy Sample Submission Form

## Alkaline Phosphatase in Dairy Samples

<b>Test Name:</b>	Alkaline Phosphatase in Dairy Samples
<b>Method Name:</b>	Charm Paslite
<b>Results:</b>	Reported as positive or not found. If positive, reported as residual phosphatase, microbial phosphatase, or reactivated phosphatase present.
<b>Reference Ranges:</b>	>350 mU/L is considered a positive result.
<b>Clinical Significance:</b>	Detection of improper milk pasteurization or the addition of raw milk to pasteurized milk.
<b>Submission Criteria:</b>	Samples collected for analysis must be refrigerated (0° to 4.5°C) at the time of collection. Samples received <3 hours from time of collection may be ≤7°C if the samples are cooler than when they were collected. Record the times and dates of sample collection for each set of samples. Upon receipt in the laboratory, the temperature of each set of samples is determined by recording the temperature of a separate container that has been treated exactly like the samples and transported with them. This pilot sample must be at least ½ the size of the largest container in the cooler.
<b>Rejection Criteria:</b>	Testing will not be performed if samples are not within the required temperature range (0° to 4.5°C) or are not received within the time required to start testing (60 hours). Samples received in leaky containers will also be rejected.
<b>Authorization:</b>	Dairy samples are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food and Dairy, as part of the Grade A Milk Program.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield Lab</a>
<b>Shipping Kits:</b>	No shipping kits are provided by IDPH laboratory. Milk sanitarians transport samples in coolers provided by their own regional offices.
<b>Submission Form:</b>	Dairy Sample Submission Form

## Total Coliform and E. coli Coliform in Water – Colilert

<b>Test Name:</b>	Determination of Total coliforms and <i>E. coli</i> in water
<b>Method Name:</b>	Colilert Presence/Absence, Quanti-Tray 51 & Quanti-Tray 2000
<b>Results:</b>	For Drinking Waters: Total coliform and E. coli Present or Not Found per 100 mL for P/A and Total coliform and E. coli count/100 mL for QT 51 and QT 2000 For Bathing Beaches: E. coli count/100 mL for QT 2000
<b>Reference Range:</b>	Total and E. coli coliform Not Found or <1/100 mL
<b>Clinical Significance:</b>	Detection of coliform bacteria in <a href="#">water</a> is an indicator of the overall bacteriological quality of the water. Coliform presence is an indicator that the water may contain other pathogenic or disease-causing bacteria. The presence of E. coli in bathing beaches can cause illness if ingested by bathers.
<b>Submission Criteria:</b>	Use only laboratory supplied collection containers. Sample bottles must be filled to the fill line on the bottle. Include sample identification/location, date and time of collection, sample type and collector's name. Submit 120-150 mL of within 30 hours of collection. Use IDPH approved water submission form appropriate for sample type.
<b>Rejection Criteria:</b>	Samples received that are greater 30 hours from collection. Samples received without a complete test requisition. No date and time of collection. Samples leaked or broken in transit. Samples containing an interfering substance.
<b>Authorization:</b>	Prior approval from the local health department or regional office is required.
<b>Turn Around Time:</b>	3 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call Springfield IDPH Lab at 217-782-6562
<b>Submission Form:</b>	Use IDPH approved water submission form appropriate for sample type

***E. coli* O157:H7 and Shiga Toxin Producing *E. coli* (STEC)  
in Food and Environmental Swabs/Sponges**

<b>Test Name:</b>	<i>E. coli</i> O157:H7 in Food and Environmental Swabs/Sponges
<b>Method Name:</b>	PCR Method for STEC, BioMerieux VIDAS Method for <i>E. coli</i> O157:H7 or Cultural Method for <i>E. coli</i> O157:H7 (cultural method performed only if PCR and/or VIDAS instrument and/or reagents are not available)
<b>Results:</b>	Reported as detected or not detected.
<b>Reference Ranges:</b>	<i>E. coli</i> O157:H7 or Shiga Toxin Producing <i>E. coli</i> not detected.
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of a possible outbreak of <i>E. coli</i> O157:H7 or STEC.
<b>Submission Criteria:</b>	Samples should be representative of the food being tested. Sample size should be 200-400 grams (minimum of 25 g) of food per test requested. Food samples less than 25 grams may be tested if necessary, but the results may not be representative of the sample. Frozen samples should be kept frozen until received in the laboratory. Refrigerated samples should be kept refrigerated until received in the laboratory. Environmental swab/sponge samples are to be kept cool until testing can be performed. They can be sent in the same cooler as food samples if both are being submitted. Samples should be shipped or transported to the laboratory so that they arrive at the laboratory as soon as possible after collection. Each sample should be logged onto a Food Investigation Submission Form. If more than one sample is submitted, a Sample Cover Sheet must also be filled out. The necessary information includes source, location, temperature, date, time of collection, collector's name, symptoms, and test(s) requested.
<b>Rejection Criteria:</b>	Testing may not be performed if sample labeling or submission form data is insufficient.
<b>Authorization:</b>	Food samples are accepted only from regional, county, or city sanitarian personnel. The sanitarian contacts the epidemiologist of IDPH Infectious Disease Division and/or the Food and Dairy Division to receive assistance in determining the necessity of testing food samples for <i>E. coli</i> O157:H7. After it is determined by the Division of Infectious Disease and/or the Division of Food and Dairy that testing is necessary, the IDPH laboratory should be contacted with the method of shipment and the expected time of arrival.
<b>Turn Around Time:</b>	7 days
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Foodborne Illness Kit: Supplies included in this kit are provided by IDPH Division of Laboratories. To submit order: Telephone 217 782-6562. Fax 217 524-7924 or mail <a href="#">Springfield IDPH Lab</a> .
<b>Submission Form:</b>	Sample Cover Sheet and Food Investigation Submission Form

## Environmental Lead

<b>Test Name:</b>	Environmental Lead
<b>Method Name:</b>	Determination of Lead in by Inductively Coupled Plasma Atomic -Emission Spectroscopy
<b>Results:</b>	Results reported as for: Dust Wipe: ug/wipe, Air Filter: ug/air filter, paint: %, and Soil: ug/g
<b>Reference Ranges:</b>	Dust Wipe: < 5 ug, Air Filter <5 ug, Paint <0.005%, and Soil <10 ug/g
<b>Clinical Significance:</b>	Source of lead exposure need to be identified. Prolonged exposure to lead causes health problems, including delayed mental and physical development and learning deficiencies in infants and young children.
<b>Submission Criteria:</b>	The Chicago IDPH laboratory is accredited for Paint, Soil; Dust Wipe, and Air Filter matrices by the American Industrial Hygiene Association Laboratory Accreditation Program (AIHA-LAP, LLC) according to requirements of the National Lead Laboratory Accreditation Program (NLLAP). The laboratory will supply sample tubes and dust wipe media upon request. Paint chips should be free of underlying matrix and are analyzed as submitted. Submit paint sample in 50ml centrifuge or digestion tubes. A minimum of 200 mg of paint sample is required for analysis. Submit soil samples in 50 mL centrifuge or digestion tubes. A minimum of 1.0 gm. of soil sample is required for analysis. Only dust wipes supplied by the laboratory or wipe materials meeting ASTM E 1792 requirements will be analyzed. Dust wipe samples must be collected separately in 50 ml. centrifuge or digestion tubes to avoid cross contamination. A control should be supplied along with each batch of submitted wipe samples. Various foods, toys, flatware and other items (matrices not accredited by AIHA-LAP, LLC) can also tested as "Other" upon request. Contact the laboratory for instructions.
<b>Rejection Criteria:</b>	Wipes not supplied by laboratory or wipe materials not meeting ASTM E1792 requirements will be not be accepted. Paint and soil samples not meeting minimum required quantity may not be analyzed. Samples with missing or incomplete forms or sample not properly identified will not be analyzed by laboratory.
<b>Authorization:</b>	Paint Chips, Dust Wipes, Soil samples, Air Filter, and "Other" samples will be accepted only from IDPH Division of Environmental Health or LHD.
<b>Turn Around Time:</b>	1-5 days
<b>Ship to:</b>	<a href="#">Chicago IDPH Lab</a>
<b>Shipping Kits:</b>	Call Chicago Chemistry Laboratory at 312-793-3050.
<b>Submission Form:</b>	Lead Sample Submission Form



## Inhibitory Substances in Dairy Samples – Charm

<b>Test Name:</b>	Inhibitory Substances in Dairy Samples
<b>Method Name:</b>	Charm SL-3
<b>Results:</b>	Reported as positive for Beta-lactam or Beta-lactam not found.
<b>Reference Ranges:</b>	Beta-lactam not found
<b>Clinical Significance:</b>	To detect the presence of 6 of 6 Beta-lactam antibiotics in raw milk, which would indicate that the raw milk was obtained from an unacceptable source. The presence of Beta-lactam antibiotics would also invalidate the coliform and aerobic bacteria counts by inhibiting growth.
<b>Submission Criteria:</b>	Samples collected for analysis must be refrigerated (0° to 4.5°C) at the time of collection. Samples received <3 hours from time of collection may be ≤7°C if the samples are cooler than when they were collected. Record the times and dates of sample collection for each set of samples. Upon receipt in the laboratory, the temperature of each set of samples is determined by recording the temperature of a separate container that has been treated exactly like the samples and transported with them. This pilot sample must be at least ½ the size of the largest container in the cooler.
<b>Rejection Criteria:</b>	Testing will not be performed if samples are not within the required temperature range (0° to 4.5°C) or are not received within the time required to start testing (60 hours). Samples received in leaky containers will also be rejected.
<b>Authorization:</b>	Dairy samples are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food, Drugs and Dairy, as part of the Grade A Milk Program.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab.</a>
<b>Shipping Kits:</b>	No shipping kits are provided by IDPH laboratory. Milk sanitarians transport samples in coolers provided by their own regional offices.
<b>Submission Form:</b>	Dairy Sample Submission Form

## Inhibitory Substances in Dairy Samples – Delvotest

<b>Test Name:</b>	Inhibitory Substances in Dairy Samples
<b>Method Name:</b>	Delvotest P 5-Pack
<b>Results:</b>	Reported as positive or not found.
<b>Reference Ranges:</b>	Beta-lactam not found
<b>Clinical Significance:</b>	To detect the presence of 4 of 6 Beta-lactam antibiotics in raw milk and finished milk products which would indicate that the raw milk was obtained from an unacceptable source. The presence of Beta-lactam antibiotics would also invalidate the coliform and aerobic bacteria counts by inhibiting growth.
<b>Submission Criteria:</b>	Samples collected for analysis must be refrigerated (0° to 4.5°C) at the time of collection. Samples received <3 hours from time of collection may be ≤7°C if the samples are cooler than when they were collected. Record the times and dates of sample collection for each set of samples. Upon receipt in the laboratory, the temperature of each set of samples is determined by recording the temperature of a separate container that has been treated exactly like the samples and transported with them. This pilot sample must be at least ½ the size of the largest container in the cooler.
<b>Rejection Criteria:</b>	Testing will not be performed if samples are not within the required temperature range (0° to 4.5°C) or are not received within the time required to start testing (60 hours). Samples received in leaky containers will also be rejected.
<b>Authorization:</b>	Dairy samples are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food, Drugs and Dairy, as part of the Grade A Milk Program.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	No shipping kits are provided by IDPH laboratory. Milk sanitarians transport samples in coolers provided by their own regional offices.
<b>Submission Form:</b>	Dairy Sample Submission Form

## **Detection of Legionella from Environmental Waters**

<b>Test Name:</b>	Detection of <i>Legionella</i> species by Culture, PCR, and IDEXX Legiolert
<b>Method Name:</b>	Culture, PCR, and IDEXX Legiolert
<b>Results:</b>	Culture, PCR, and IDEXX Legiolert methods are used in combination to detect and isolate <i>Legionella</i> species from potable and non-potable water using PCR and culture methods. The Legiolert test detects <i>Legionella pneumophila</i> at $\geq 10$ organisms/100mL when using potable water and <i>Legionella pneumophila</i> at $\geq 10$ organisms/mL ( $\geq 1000$ organism/100 mL) when testing non-potable water.
<b>Reference Range:</b>	<i>Legionella</i> species Not Detected, <i>Legionella pneumophila</i> Not Detected
<b>Clinical Significance:</b>	<i>Legionella</i> is commonly found in environmental sources, typically in man-made warm water systems. The mode of transmission from these reservoirs is aerosolization, aspiration or direct inoculation into the airway. Direct person-to-person transmission does not occur. The spectrum of illness caused by <i>Legionella</i> species ranges from a mild, self-limited flu-like illness (Pontiac fever) to a disseminated and often fatal disease characterized by pneumonia and respiratory failure (Legionnaires disease). Risk factors include smoking, chronic lung disease, and immunosuppression.
<b>Submission Criteria:</b>	Use only laboratory supplied collection containers. Include sample identification/location, date and time of collection, sample type and collector's name. Submit 1 Liter of bulk water within 30 hours of collection. Submit flocked swabs in 3 – 7 ml of source water collected in approved sterile collection tubes within 30 hours of collection. Use IDPH approved water submission form appropriate for sample type.
<b>Rejection Criteria:</b>	Samples received that are greater 30 hours from collection. Unapproved swabs types (i.e. wood shafted, calcium alginate). Swabs not collected in source water (i.e. dry swabs). Samples received without a completed test requisition. No date and time of collection. Samples leaked or broken in transit. Samples containing an interfering substance.
<b>Authorization:</b>	Prior approval from the local health department or regional office is required.
<b>Turn Around Time:</b>	9 days
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call Springfield IDPH Lab at 217-782-6562.
<b>Submission Form:</b>	Use IDPH approved water submission form appropriate for sample type.

## ***Listeria* species in Food and Environmental Swab/Sponge Samples**

<b>Test Name:</b>	<i>Listeria</i> species in Food and Environmental Swab/Sponge Samples
<b>Method Name:</b>	PCR Method, BioMerieux VIDAS Method or Cultural Method (cultural method performed only if PCR and/or VIDAS instrument and/or reagents are not available)
<b>Results:</b>	Reported as <i>Listeria monocytogenes</i> detected or not detected. Also, if another <i>Listeria</i> species is found, it is reported as <i>Listeria</i> species detected. Species detected will be specified.
<b>Reference Ranges:</b>	<i>Listeria</i> species not detected
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of a possible outbreak of <i>Listeria monocytogenes</i> or other <i>Listeria</i> spp.
<b>Submission Criteria:</b>	Samples should be representative of the food being tested. Sample size should be 200-400 grams (minimum of 25 g) of food per test requested. Food samples less than 25 grams may be tested if necessary, but the results may not be representative of the sample. Frozen samples should be kept frozen until received in the laboratory. Refrigerated samples should be kept refrigerated until received in the laboratory. Environmental swab/sponge samples are to be kept cool until testing can be performed. They can be sent in the same cooler as food samples if both are being submitted. Samples should be shipped or transported to the laboratory so that they arrive at the laboratory as soon as possible after collection. Each sample should be logged onto a Food Investigation Submission Form. If more than one sample is submitted, a Sample Cover Sheet must also be filled out. The necessary information includes source, location, temperature, date, time of collection, collector's name, symptoms, and test(s) requested.
<b>Rejection Criteria:</b>	Testing may not be performed if sample labeling or submission form data is insufficient.
<b>Authorization:</b>	Food samples and environmental swab/sponge samples are accepted only from regional, county, or city sanitarian personnel. The sanitarian contacts the epidemiologist of IDPH Infectious Disease Division and/or the Food, Drugs and Dairy Division to receive assistance in determining the necessity of testing samples for <i>Listeria</i> . After it is determined by the Division of Infectious Disease and/or the Division of Food, Drugs and Dairy that testing is necessary, the IDPH laboratory should be contacted with the method of shipment and the expected time of arrival.
<b>Turn Around Time:</b>	7 days
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Foodborne Illness Kit: Supplies included in this kit are provided by IDPH Division of Laboratories. To submit order: Telephone 217 782-6562. Fax 217 524-7924 or mail to <a href="#">Springfield IDPH Lab</a> .
<b>Submission Form:</b>	Sample Cover Sheet and Food Investigation Submission Form

## Residual Bacterial Count in Milk Container

<b>Test Name:</b>	Residual Bacterial Count in Milk Containers
<b>Method Name:</b>	Petri-film
<b>Results:</b>	Reported as a Petri-film Aerobic Count (PAC) per container and Petri-film Coliform Count per container
<b>Reference Ranges:</b>	0 cfu's in milk container
<b>Clinical Significance:</b>	The detection of bacteria in the pasteurized milk container indicates a failure to sterilize containers by the dairy facility.
<b>Submission Criteria:</b>	Milk containers are received at room temperature with the lids securely in place.
<b>Rejection Criteria:</b>	Containers with no lids or cracked containers.
<b>Authorization:</b>	Milk containers are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food, Drugs, and Dairy, as part of the Grade A Milk Program.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab.</a>
<b>Shipping Kits:</b>	No shipping kits are provided by IDPH laboratory. Milk sanitarians transport containers at room temperature.
<b>Submission Form:</b>	Dairy Sample Submission Form

## ***Ricin communis* (ricin) Toxin**

<b>Test Name:</b>	Identification Ricin Toxin
<b>Method Name:</b>	Time-Resolved Fluorescence Immunoassay (TRF) for Ricin Toxin
<b>Results:</b>	Ricin Toxin
<b>Reference Ranges:</b>	Negative or Reactive for Ricin Toxin
<b>Clinical Significance:</b>	<p>Ricin toxin is a substance found in castor beans (species <i>Ricinus communis</i>). It would take a deliberate act to make ricin toxin and use it as a poison. Unintentional exposure to ricin is highly unlikely, unless through the ingestion of castor beans. Symptoms depend upon the type and level of exposure. Inhalational exposure results in difficulty breathing, fever, cough and chest tightness, leading up to excess fluid in the lungs and respiratory failure. Ingestional exposure leads to vomiting, diarrhea, dehydration, seizures and eventual kidney, liver and spleen failure. There no antidote to exposure; only supportive care can be given. Death usually occurs in 36-72 hours.</p>
<b>Submission Criteria:</b>	<p>Acceptable specimens include:</p> <ul style="list-style-type: none"><li>a. Environmental sample</li></ul>
<b>Rejection Criteria:</b>	Samples not pre-screened by a certified HAZMAT team for explosive, chemical and radiological contamination; samples not submitted by the FBI, CST, or other designated law enforcement.
<b>Authorization:</b>	No authorization number is required. Please notify your LHD if you suspect this infection.
<b>Turn Around Time:</b>	2 days for TRF
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Submission Form:</b>	<a href="#">Threat Agent Laboratory Test Requisition</a> (also serves as a chain of custody form).

## ***Salmonella* in Food and Environmental Swab/Sponge Samples**

<b>Test Name:</b>	<i>Salmonella</i> in Food and Environmental Swab/Sponge Samples
<b>Method Name:</b>	PCR Method, BioMerieux VIDAS Method or Cultural Method (cultural method performed only if PCR and/or VIDAS instrument and/or reagents are not available)
<b>Results:</b>	Reported as detected or not detected.
<b>Reference Ranges:</b>	<i>Salmonella species</i> not detected
<b>Clinical Significance:</b>	Early detection allows for effective clinical management and identification of a possible outbreak of <i>Salmonella</i> .
<b>Submission Criteria:</b>	Samples should be representative of the food being tested. Sample size should be 200-400 grams (minimum of 25 g) of food per test requested. Food samples less than 25 grams may be tested if necessary, but the results may not be representative of the sample. Frozen samples should be kept frozen until received in the laboratory. Refrigerated samples should be kept refrigerated until received in the laboratory. Environmental swab/sponge samples are to be kept cool until testing can be performed. They can be sent in the same cooler as food samples if both are being submitted. Samples should be shipped or transported to the laboratory so that they arrive at the laboratory as soon as possible after collection. Each sample should be logged onto a Food Investigation Submission Form. If more than one sample is submitted, a Sample Cover Sheet must also be filled out. The necessary information includes source, location, temperature, date, time of collection, collector's name, symptoms, and test(s) requested.
<b>Rejection Criteria:</b>	Testing may not be performed if sample labeling or submission form data is insufficient.
<b>Authorization:</b>	Food samples and environmental swab/sponge samples are accepted only from regional, county, or city sanitarian personnel. The sanitarian contacts the epidemiologist of IDPH Infectious Disease Division and/or the Food, Drugs and Dairy Division to receive assistance in determining the necessity of testing samples for <i>Salmonella species</i> . After it is determined by the Division of Infectious Disease and/or the Division of Food, Drugs and Dairy that testing is necessary, the IDPH laboratory should be contacted with the method of shipment and the expected time of arrival.
<b>Turn Around Time:</b>	7 days
<b>Ship to:</b>	<a href="#">Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Foodborne Illness Kit: Supplies included in this kit are provided by IDPH Division of Laboratories. To submit order: Telephone 217 782-6562. Fax 217 524-7924 or mail <a href="#">Springfield IDPH Lab</a> .
<b>Submission Form:</b>	Sample Cover Sheet and Food Investigation Submission Form

## Total Coliform in Dairy Water – MTF

<b>Test Name:</b>	Determination of Total coliform in Dairy Glycol Water
<b>Method Name:</b>	Multiple Tube Fermentation (MTF)
<b>Results:</b>	Reported as Total coliform <1 not found /100 ml or ≥1 present /100ml
<b>Reference Range:</b>	Total coliform <1 not found
<b>Clinical Significance:</b>	Detection of coliform bacteria in glycol water is an indicator of the overall bacteriological quality of the water. Coliform presence is an indicator that the water may contain other pathogenic or disease-causing bacteria.
<b>Submission Criteria:</b>	Use only laboratory supplied collection containers. Sample bottles must be filled to the fill line on the bottle. Include sample identification/location, date and time of collection, sample type, and collector's name. Samples must be submitted within 30 hours of collection.
<b>Rejection Criteria:</b>	Samples received more than 30 hours after collection. Samples received without a complete test requisition. No date and time of collection. Samples leaking or broken in transit. Samples containing an interfering substance.
<b>Authorization:</b>	Dairy glycol water samples are accepted from milk sanitarians employed by the IDPH regional offices. Testing requirements and frequency of testing are determined by the FDA and monitored by the IDPH Division of Food, Drugs and Dairy, as part of the Grade A Milk Program.
<b>Turn Around Time:</b>	5 days
<b>Ship to:</b>	<a href="#">Carbondale, Chicago, or Springfield IDPH Lab</a>
<b>Shipping Kits:</b>	Call Springfield IDPH Lab at 217-782-6562
<b>Submission Form:</b>	Dairy Water Sample Submission Form