



Pat Quinn, Governor
Damon T. Arnold, M.D., M.P.H., Director

825 North Rutledge Street • Springfield, Illinois 62702-4910 • www.idph.state.il.us

Health Alert
“Frequently Asked Questions” about Influenza Testing
10/6/09

The attached document provides information on laboratory testing for influenza, including the laboratories’ roles, appropriate specimens, submitting specimens, where to find information, turnaround time, etc. It is written in a FAQ, or Frequently Asked Questions, format.

Please review the information and share it with appropriate staff at your facility. If you have questions on this information, please contact me at (217) 782-6562 or by email at Bernard.Johnson@Illinois.gov.

Illinois Department of Public Health
Division of Laboratories
Frequently Asked Questions (FAQs) -10/6/09

1. What testing is performed by IDPH laboratories for influenza?
 - A. The IDPH laboratories test influenza specimens by rRT-PCR (real-time Reverse Transcriptase Polymerase Chain Reaction) which detects portions of the influenza RNA specific to influenza type A or type B; if type A, then subtyping is performed for seasonal H1 and H3, and for novel H1N1.

2. What are the objectives of IDPH laboratory testing for influenza?
 - A. IDPH is funded by the CDC for “surveillance testing.” The objectives of surveillance testing are:
 - a. Determine the epidemiology of influenza strains in Illinois.
 - b. Detect potential viral drift or shift.
 - c. Detect antiviral resistance.

3. Where can I find the most current information concerning IDPH laboratory testing activities for influenza?
 - A. Response: The most current information is available on the internet at www.idph.state.il.us/h1n1_flu/index.htm at the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing.”

4. What is a “Sentinel Site?” Our hospital laboratory has been designated as a Sentinel Lab. Is that the same?
 - A. With regard to influenza, there are a number of Sentinel Influenza Sites throughout the state. These sites have agreed to provide limited numbers of nasopharyngeal swab specimens from patients with influenza-like symptoms to IDPH as part of an ongoing World Health Organization (WHO) program in collaboration with the Centers for Disease Control and Prevention (CDC) to detect and evaluate circulating strains of influenza. Specimens are sent to the IDPH Chicago laboratory for PCR testing and then for viral culture. A limited number of the cultures are forwarded to CDC for further study. Among other things, this information is used to determine the composition of the following season’s influenza vaccine. The term “Sentinel Lab,” however, is used in the context of emergency preparedness activities (bio-terrorism, chemical terrorism, or a natural infectious disease outbreak). Hospital laboratories and private laboratories performing clinical testing are part of the CDC Laboratory Response Network (LRN). If a “Sentinel Lab” analyzes a sample for which they cannot “rule out” a Select Agent (organisms causing anthrax, plague, tularemia, etc.) the laboratory will refer the specimen to the nearest IDPH laboratory for further testing.

5. What specimens are to be tested?
 - A. IDPH has been provided PCR testing materials for surveillance testing. Currently, this includes specimens from hospitalized patients with acute febrile respiratory illness, patients who have recently died while experiencing such symptoms, and certain individuals of congregate groups that are of interest to Local Health Department investigations. For the most current acceptance criteria go to www.idph.state.il.us/h1n1_flu/index.htm and click on the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing” and click on “Information Update on Specimen Submission and Testing for Influenza.”

6. My specimen does not meet the submission criteria; will it be tested?
 - A. No. Specimens that do not meet the testing criteria will not be tested and they will be deemed unacceptable. A report will be issued stating the specimen was unacceptable for testing.

7. Where can I find the current criteria for specimen submission to the IDPH laboratories?
- A. Criteria for acceptable specimens are on the internet at www.idph.state.il.us/h1n1_flu/index.htm at the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing” and click on “Information Update on Specimen Submission and Testing for Influenza.”
8. Where can I find instructions for specimen collection and shipping?
- A. Instructions are on the internet at www.idph.state.il.us/h1n1_flu/index.htm at the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing” and click on “Instructions for Respiratory Virus Specimen Collection and Submission.”
9. Where can I obtain a requisition form?
- A. Requisition forms are available by contacting the IDPH laboratory in Springfield, Shipping Unit at (217) 524-6222; or, as an Adobe Acrobat file (pdf) on the internet at www.idph.state.il.us/h1n1_flu/index.htm at the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing” and click on “Request for Respiratory/Influenza Testing.”
10. I tried to enter results for the Respiratory/Influenza Testing Form like I do for the Arbovirus Form, but could only print it. Do you know why it is different?
- A. The Arbovirus Form is a “fillable” PDF document, meaning that data can be entered into it before it is printed. The PDF file for the Respiratory/Influenza Testing Form does not have this feature. Consequently, it has to be printed and then filled out by hand.
11. What types of specimens will IDPH test?
- A. CDC recommends that a nasopharyngeal swab or nasal swab be submitted; however, a throat swab, dual nasopharyngeal/throat swab, or nasal aspirate is also acceptable.
12. Can I send sputum?
- A. Yes. However, the CDC recommends that either a nasopharyngeal swab or nasal swab be submitted, and that a throat swab, dual nasopharyngeal/throat swab, or nasal aspirate is also acceptable. Although virus should be detectable from sputum, due to its highly viscous nature, the specimen may not be usable and would therefore be reported as unsatisfactory.
13. Can I send tissue?
- A. No. These specimens need to be referred to the CDC. Coordinate with IDPH Infectious Diseases/ Immunizations 217-785-7165.
14. Can I send in a dry swab?
- A. No. Based on the most current CDC guidance, swabs must be submitted in Viral Transport Medium. Dry swabs will be reported as unsatisfactory.
15. Do you perform drug susceptibility testing?
- A. No.
16. Can I send specimens during the weekend?
- A. At this time the IDPH laboratories are not scheduled to receive specimens during the weekend, but that can change. Please store and refrigerate the specimens at 2-8 °C and send them on Monday. The best test results are obtained from specimens properly collected and stored no more than 4 days.

17. Do I need to send specimens overnight?

A. For best results specimens should be maintained at 2-8° C and tested within 4 days of specimen collection.

18. What should I put into the Authorization Code on the requisition form?

A. for Hospital: If the specimen is from a hospitalized patient, nothing. Mark the appropriate criteria under “Patient Information.”

A. for Sentinel Influenza Site: Complete the field with the code S#####, where the 5-digit number is the Sentinel Site code number assigned to your facility by the CDC (Centers for Disease Control and Prevention); Refer to ID/Immunization Program 217-785-7165.

A. for “Congregate Facilities”; that is, nursing homes, long-term care facilities, dormitories, etc.: Contact your Local Health Department to determine if there is a public health issue of interest. If approved for submission, an Authorization Code will be issued. Enter the Local Health Department Approval Code.

19. If a specimen tests positive with a rapid influenza test, should I send a specimen to IDPH?

A. If patient management depends upon further characterization of the patient’s condition, testing should be arranged with a private laboratory, unless the patient’s condition meets acceptance criteria for submission to the IDPH laboratory. In any event, if follow-up PCR testing is to be performed, it is extremely important to send a second specimen for this testing, not the remaining material from a rapid influenza test, which will inhibit PCR and culture testing.

20. Our rapid test results and the results obtained by testing at the IDPH laboratory are contradictory. Why would this be the case? Should IDPH repeat the assay?

A. Rapid influenza tests are only for screening purposes and are known to produce false-positive and false-negative results. The CDC molecular rRT-PCR assay is a confirmatory test and is much more sensitive and specific than the rapid tests.

A. If a specimen has been tested by a rapid influenza test, it is extremely important to send a second specimen, not the remaining material from the rapid test, which will inhibit PCR and culture testing.

A. Repeating the assay on the same specimen will not change the outcome.

21. Where do I find a list of private laboratories that perform influenza PCR testing?

A. This list is available on the internet at www.idph.state.il.us/h1n1_flu/index.htm at the “Health Care Providers” link. Then, scroll down the page to the section “Influenza Testing” and click on “Laboratories offering Influenza PCR.”

22. If I receive a positive result for novel H1N1 influenza from a private lab, does the IDPH want to confirm this result?

A. No. Unless there are reasons to question the results of a CLIA-certified laboratory, there would be no reason to have their results confirmed by IDPH or any other laboratory.

23. To which IDPH laboratory should I send approved influenza specimens?

A. Specimens that meet acceptance criteria may be sent to any of the three IDPH laboratories. Their addresses and contact information are:

IDPH Carbondale Laboratory
1155 S. Oakland Ave.
Carbondale, IL 62901-5237
TEL: (618) 457-5131
FAX: (618) 457-6995

IDPH Chicago Laboratory
2121 West Taylor St.
Chicago, IL 60612-7260
TEL: (312) 793-4760
FAX: (312)793-4765

IDPH Springfield Laboratory
825 N. Rutledge St.
Springfield, IL 62702
TEL: (217) 782-6562
FAX: (217) 524-7924

24. Must I refrigerate the specimen prior to shipping it? Do I need to send specimens with ice packs?

- A. Refrigerating specimens is recommended to preserve the integrity of the virus. However, a specimen that is not refrigerated will not be discarded for testing by PCR, as PCR detects RNA even if the virus is not viable. If viral culture of the specimen is desired for strain typing, a refrigerated specimen is necessary.
- A. For best results, specimens should be sent with ice packs and tested within 4 days of collection.

25. Why won't IDPH test my specimen?

- A. IDPH has funding and testing materials from CDC for influenza surveillance. This does not include clinical diagnostic testing; that is, testing solely for patient care. Although results are returned to physicians for qualifying specimens, the results are generally not timely with respect to patient care decisions.

26. Will IDPH supply collection kits?

- A. IDPH will supply collection kits for hospitals, coroners and medical examiners, and to Local Health Departments for specimens meeting acceptable submission criteria.

27. I sent specimens in a Styrofoam cooler which was not returned to me. How do I get it back?

- A. IDPH laboratories do not have resources to routinely return all Styrofoam coolers and packing boxes.

28. When can I expect a test result? Can you tell me when a particular specimen will be tested /reported?

- A. Testing TAT is 5 working days.

29. How can I find the status of my specimen?

- A. Contact the IDPH laboratory to which the specimen was sent.

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30. If the PCR test is so rapid, why does it take so many days to obtain a result?

- A. A single specimen can be processed in less than a day by PCR. However, the laboratory is receiving hundreds of specimens per day. The workload will determine how testing is performed. For example, a small sample set can be run for both type A and B, and all subtypes in one day. However, when large numbers of specimens are received, in order to maximize the use of instrument time and testing materials, the different tests may be run in separate batches, which will extend the time required to obtain final results. Ultimately, the laboratories can only do a limited volume of testing per day, due to instruments and staffing. Each day that the number of specimens received exceeds the maximum number that can be tested adds to the turnaround time.

31. What does an indeterminate result mean?

- A. It is not possible to determine whether the virus was either present or absent. The specimen submitted either did not have enough material to obtain a valid result, or there was material present in the specimen which was inhibitory to the PCR reaction.

32. What does an inconclusive result mean?

- A. Of the two markers assayed for novel influenza H1N1, only one was reactive and the other was not reactive. Both markers have to be reactive in order to conclude that novel influenza H1N1 RNA was detected.

33. What is the sensitivity/specificity of the PCR test?

A. Assays based on the Polymerase Chain Reaction (PCR) provide the best sensitivity and specificity of any test method available at this time. The CDC real-time Reverse Transcriptase-PCR (rRT-PCR) assay was developed by the CDC and approved by the FDA. Its performance characteristics should be considered state-of-the-art.

34. The report has incorrect demographic information. If I tell you the information over the phone, would you change it and send me an amended report?

A. CLIA requires that changes made by the submitter be documented in writing. To meet this requirement you may fax the requested changes to the appropriate laboratory.

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