

2010-2011 Seasonal Influenza Testing Recommendations for Clinicians
City of Milwaukee Health Department (MHD)
Updated September 1, 2010

A. Key Points:

1. Influenza-like illness (ILI) – defined as fever plus either cough or sore throat – and lab-confirmed influenza are currently at low prevalence in our community.

2. A small number of cases of H3N2 influenza have been reported in Iowa and other states recently. <www2a.cdc.gov/han/archivesys/ViewMsgV.asp?AlertNum=00316>

3. Because of their low positive predictive value in low-prevalence circumstances, **rapid tests should not be used to diagnose influenza at this time**; instead, RT-PCR testing should be used in select cases of Influenza-like illness (ILI).

4. As the prevalence of influenza increases this fall <www.cdc.gov/flu/weekly/>, these recommendations will be revised to advise when to start and stop rapid testing

5. Delaying antiviral decisions while waiting for RT-PCR test results is not recommended, because anti-virals are most effective if started within 48 hours of symptom onset

6. Therefore, select high-risk patients with influenza-like illness (ILI) should be managed empirically while awaiting results of RT-PCR influenza testing.

B. Whom to test: The MHD recommends, at this time, that RT-PCR testing for influenza in Milwaukee should be limited to:

1. Individuals hospitalized with influenza-like illness (ILI).
2. Patients with progressive, severe, or complicated influenza-like illness.
3. Pregnant women with ILI, regardless of severity.
4. Those rare patients, regardless of illness severity, for whom a confirmed diagnosis of influenza would change decisions regarding clinical care, infection control, or management of close contacts. These might include, for example, immunosuppressed patients, health care workers, or clusters of ILI in congregate living facilities (e.g., nursing homes, jails, etc.).

C. Whom NOT to test: With rare exceptions as noted above, MHD recommends, that individuals with mild symptoms should not be tested.

D. Rapid Tests: Currently rapid flu kits should NOT be used to diagnose influenza at this time, for the following reasons:

1. Rapid test sensitivity ranges from 50%-70%, so rapid tests should never be used to “rule out” influenza virus.

2. Rapid test specificity is suboptimal, so false-positive results for influenza are very likely during periods of relatively low prevalence, such as we are currently experiencing.

3. As seasonal influenza increases in prevalence this fall and decreases this winter, the role of rapid testing will change.

- a. Soon after increasing prevalence of influenza is detected by sentinel practices in southeastern Wisconsin, using rapid testing in Milwaukee can help to determine whether influenza may be the cause of ILI in a particular patient.

- b. After laboratory-confirmed influenza is known to be very prevalent in Milwaukee, then ILI symptoms may have higher positive predictive value than rapid testing for diagnosing influenza in an individual patient.

- c. After peak prevalence of influenza in our community, but while prevalence is still above threshold, rapid influenza testing may again be helpful in diagnosing influenza in individual patients.

E. RT-PCR Tests:

1. Reverse transcriptase polymerase chain reaction testing is extremely sensitive and specific, but has a turn around time of approximately 48 to 72 hours.

2. Now is a good time to review collection and lab requisition procedures with nursing and laboratory staff.

3. Unlike rapid tests, RT-PCR can also determine the subtype of influenza (H3N2 vs. H1N1). This might not be of clinical importance this year since both expected to be circulating are expected to have similar sensitivities to anti-viral medications: a) resistant to amantadine and rimantidine and b) sensitive to oseltamivir and zanamivir

These are guidelines and recommendations only. They do not replace clinicians' judgment, are intended for use only within the City of Milwaukee, and are subject to change as additional clinical and epidemiologic data regarding seasonal influenza becomes available.

Questions regarding this document can be directed to Dr. Paul Hunter at MHD: phunte@milwaukee.gov or 414-286-3521.

See below for related national and state recommendations.

U.S. Centers for Disease Control and Prevention

www.cdc.gov/flu/professionals/diagnosis/rapidlab.htm (excerpted)

- The rapid tests vary in terms of sensitivity and specificity when compared with viral culture or RT-PCR. Product insert information and research publications indicate that:

- Sensitivities are approximately 50-70%

- Specificities are approximately 90-95%

When Is Use of Rapid Diagnostic Tests Beneficial?

- Testing during an outbreak of acute respiratory disease can determine if influenza is the cause.
- During influenza season, testing of selected patients presenting with respiratory illnesses compatible with influenza can help establish whether influenza is present in a specific patient population and help health-care providers determine how to use their clinical judgment for diagnosing and treating respiratory illness. (Testing need not be done for all patients.)
- Otherwise, rapid tests do not address the public health need for influenza virus isolated that can only be obtained through the collection of specimens for viral culture. Influenza virus isolates are essential for determining the match between circulating influenza viruses and those viruses contained in the vaccine and for aiding in the selection of new vaccine strains.

www.slh.wisc.edu/dotAsset/11737.doc

excerpted

Recommendations for Confirmatory Testing

The Wisconsin State Laboratory of Hygiene (WSLH) recommends the following actions when performing rapid “EIA-like” tests for influenza:

- **Arrange confirmatory testing of the following influenza-positive specimens:**
 - **ALL specimens that are influenza-positive after May 1 and before November 15.**
 - **Your first influenza A positive specimens and your first influenza B positive specimens until 1) two consecutive positive samples are confirmed; OR 2) criteria indicate that the prevalence of influenza has increased in your region (as reported in the “*Laboratory Surveillance Report*”).**
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- The accuracy of test results is dependent on **specimen quality and the specimen type.**
 - During periods of **low or no** influenza prevalence:
 - **Confirm positive results by viral culture or PCR testing.**
 - **Positive results are more likely to be false positives than during periods of high prevalence.**
 - **Negative results are more likely to be accurate.**
 - During periods of **high** influenza prevalence:
 - **Negative results are more likely to be false negatives than during periods of low prevalence. You may wish to confirm negative results.**
 - **Positive results are more likely to be accurate.**
 - **Be aware that the nasal mist influenza vaccine is a live attenuated virus and may be detected in viral cultures and rapid influenza tests for up to 3 weeks.**
 - **Provide your clients with the context and the means for result interpretation,** through educational mailings, presentations, or comments provided with the test results.

Contact Carol Kirk (608-262-1021, email cjk@mail.slh.wisc.edu) or Mary Wedig (608-890-0353, email wedig@mail.slh.wisc.edu) if you have questions.