



Florida Department of Health

Novel Influenza A (H1N1) Guidance

Focus Area: Clinical Testing,
Treatment and Surveillance

Guidance document number 2010-01

Influenza Testing, Antiviral Treatment and Surveillance Guidance for Clinicians

Version 1

January 8, 2010

Summary:

- Influenza activity is at a low level in Florida. Respiratory Syncytial Virus (RSV), which primarily affects infants and young children, is the only widely active respiratory virus.
- If influenza is suspected, and if the diagnosis would change the management of the patient, specific testing is required. FDOH supports CDC's position that "... most patients with an uncomplicated illness consistent with influenza can be diagnosed clinically and do not require influenza testing for clinical management, including antiviral treatment decisions."

General clinical testing and treatment recommendations by age group:

Recommended testing for a person with severe influenza-like illness where treatment decisions could depend on a virologic diagnosis:

- **For infants and children under age 5**, where RSV is a common pathogen, test for both RSV and influenza via rapid tests. If the child is very ill, the RSV and influenza tests are both negative, and influenza remains an important clinical consideration, obtain RT-PCR laboratory test testing (available commercially) for influenza.
- **For children over age 5, adolescents, and adults**, perform an influenza rapid test first. If positive, manage as 2009 H1N1 influenza. If negative, obtain RT-PCR testing for influenza and also test for other viruses.
- **For persons aged 65 and over**, perform RT-PCR testing that can distinguish strains of influenza from each other, along with specific testing for other viruses.
- Where clinical judgement and the epidemiologic situation indicate that influenza is likely in those severely ill or at high risk of complications, **early empiric antiviral treatment** is indicated.

Surveillance and reporting:

- Report to your county health department people with lab-confirmed or highly suspected influenza who a) have a life-threatening or fatal illness, b) are pregnant or post-partum (up to six weeks) and hospitalized c) have documented repeat influenza infections, d) develop documented influenza in spite of vaccination, e) have documented infections that are highly suspected to be resistant to antiviral therapies or f) are part of outbreaks.
- Outbreaks of particular interest are those occurring in settings not seen during the recent wave of influenza, such as retirement communities or nursing homes, or those that have unusual or severe presentations such as hemorrhagic pneumonia.
- Laboratory testing for influenza is recommended for persons in these groups.
- Reports may also be made to the Bureau of Epidemiology at 850-245-4401.

Use of Florida Bureau of Laboratories:

The main purpose of influenza testing in the Bureau of Laboratories is to support public health surveillance and investigation (see above). Testing for clinical diagnosis is widely available elsewhere. Please consult with your County Health Department before submitting any specimens to the Bureau of Laboratories for influenza diagnosis.

Note: As with all communications about the pandemic due to the novel 2009 influenza A H1N1 virus, this document may become outdated as the situation changes. Documents on this topic after January 8, 2010 supersede this one. For further information please contact the Bureau of Epidemiology at 850-245-4401. Document prepared by: Richard Hopkins, MD, MSPH, Acting State Epidemiologist, and Janet Hamilton, MPH, Florida Department of Health.

Current situation and implications for clinical practice:

As of early 2010, there is very little activity in Florida due to any influenza virus or to any of the viruses that typically cause influenza-like illness in older children or adults, such as parainfluenza virus or adenovirus. Respiratory Syncytial Virus (RSV) is quite active in infants and very young children, as it often is at this time of year. Other influenza viruses may emerge. The various seasonal influenza strains that circulated in early 2009, and which may cause disease in older persons, differ in their patterns of antiviral susceptibility.

If influenza is suspected, and if the diagnosis would change the management of the patient, specific testing is required. We support CDC's position that "... most patients with an uncomplicated illness consistent with influenza can be diagnosed clinically and do not require influenza testing for clinical management, including antiviral treatment decisions." This is true partly because most influenza infections do not require antiviral treatment. See detailed CDC treatment guidance at <http://www.cdc.gov/H1N1flu/recommendations.htm>. Where clinical judgement and the epidemiologic situation indicate that influenza is likely, early empiric antiviral treatment for those severely ill or at high risk of complications is indicated.

The recommended testing sequence should be informed by knowledge of the epidemiologic and virologic situation in the state and, ideally, in your community. If treatment decisions depend on specific virologic diagnosis, it will also be important to understand what antivirals the dominant influenza virus is susceptible to.

Previous influenza-like illness this year, or vaccination against the seasonal and/or the 2009 H1N1 influenza viruses, do not provide complete protection against influenza, and should not be assumed to rule out an influenza diagnosis.

Readily available rapid influenza tests designed for physician office use are much more likely to produce false negative results in persons with 2009 H1N1 influenza A infection than in persons with the seasonal influenza strains for which the tests were designed. Thus a positive result on a rapid test is reliable for this organism, but a negative result is not. RT-PCR testing for influenza, including the new virus, has become widely available in commercial and hospital laboratories, and thus the state public health laboratory is not the only source of such testing.

General testing recommendations by age group:

Currently, significant viral respiratory illness in *infants and toddlers under age 5* is more likely to be due to RSV than to influenza. For infants and young children of an age where RSV is a common pathogen, test for both RSV and influenza via rapid tests. If the child is very ill, the

RSV and influenza tests are both negative, and influenza remains an important clinical consideration, obtain RT-PCR testing for influenza.

For *older children, adolescents, and adults under age 65*, the current recommended testing sequence for a person with severe influenza-like illness where treatment decisions could depend on a virologic diagnosis includes: Perform an influenza rapid test first. If positive, manage as 2009 H1N1 influenza. If negative, test for influenza by RT-PCR and also test for other viruses.

For *persons aged 65 and over*, the current recommended testing for a person with severe influenza-like illness where treatment decisions could depend on a virologic diagnosis is RT-PCR testing that can distinguish strains of influenza from each other, along with specific testing for other viruses. The various seasonal influenza strains that circulated in early 2009, and which may cause disease again in future in older persons, differ in their patterns of antiviral susceptibility. While waiting for specific virologic diagnosis, manage according to available epidemiologic information. See www.doh.state.fl.us/disease_ctrl/epi/swineflu/index.html

Background and prospects for the near future:

Influenza of the novel strain now known as 2009 H1N1 appeared in Florida in late April, 2009. It caused gradually increasing disease throughout the summer, with a rapid upswing in late August. As measured in multiple surveillance systems, Florida had a substantial wave of influenza lasting about 8 weeks, through late October, and then a steady decline in activity till mid-December, when this wave of influenza appeared to have run its course.

The 2009 wave of pandemic H1N1 influenza was unusual in that people over age 65 were relatively spared, unlike a normal influenza season when those over age 65 experience high rates of hospitalization and death in comparison to younger age groups. During this wave, the highest incidence rates were in children and young adults, while highest hospitalization and death rates were in middle-aged adults, especially those with chronic underlying medical conditions that put them at increased risk of severe disease.

During the summer and fall of 2009, 50 to 80% of all people with influenza-like illness for whom clinicians ordered laboratory testing for influenza had influenza, and virtually all influenza detected was of the novel 2009 H1N1 influenza A strain. Thus FDOH advised clinicians to assume that influenza-like illness was in fact influenza, and to initiate antiviral treatment, when indicated, early in the illness without waiting for laboratory confirmation.

Another wave of influenza during our cooler winter weather is likely. The likelihood of such a wave is somewhat reduced if we achieve high vaccination levels against both seasonal and 2009 H1N1 influenza, and if people continue to be vigilant about staying home when ill, keeping sick children home, covering their coughs, and washing hands frequently.

If we have such a wave, it may be due to the 2009 H1N1 virus, to one or more of the influenza viruses we have had with us for the past 30 years (H3N2 or the seasonal H1N1 virus, or influenza B), or a mixture. The 2009 H1N1 virus may or not may not evolve to a form that is easier to transmit, that is resistant to antivirals, that affects older adults more severely, that causes more (or less) serious disease in those affected, or that has drifted away antigenically from the strain that the vaccine was made against. So far there is no sign of any of these happening anywhere in the world. The Department of Health Bureau of Laboratories plays a key role in documenting which viruses are circulating in Florida.

If a new virus emerges, it may be detectable early in people who have repeat influenza infections, who develop influenza in spite of vaccination, and in people who are part of outbreaks, especially if the outbreaks are in settings not seen during the recent wave of influenza, for example retirement communities or nursing homes, or if the outbreaks have unusual or severe presentations such as hemorrhagic pneumonias.