

## **Information for clinicians regarding novel H1N1 or swine influenza A virus**

### **Executive Summary**

To date, there have been reports of at least 39 laboratory confirmed cases of H1N1 or swine flu in Kanawha County. Below, you will find the most updated case definitions as well as the groups at high risk for flu complications. Such patients as well as those requiring hospitalization should be priority tested for the H1N1 or swine flu. Since rapid influenza antigen test kits have unknown sensitivity and specificity to detect this virus, the CDC recommends that Real-time RT-PCR be done for confirmation. You may also consider testing in other patients to establish if H1N1 or swine flu is occurring in your patient population (as part of an outbreak of an influenza-like illness) which might impact your prescribing practices. Current knowledge and practice suggestions are listed but subject to change with further guidance from the CDC.

### **Transmission**

The H1N1 or swine flu infection is transmitted in ways similar to other influenza viruses. Seasonal human influenza viruses are spread from person to person primarily through large-particle respiratory droplets (e.g., when an infected person coughs or sneezes near a susceptible person). This requires close contact because droplets do not remain suspended in the air and generally travel only a short distance (< 6 feet). Contact with contaminated surfaces is another possible source of transmission. The estimated incubation period is unknown and could range from 1-7 days, but more likely 1-4 days. Persons with H1N1 or swine flu infection should be considered infectious from one day before to 7 days following illness onset. Younger children might be infectious for up to 10 days. Influenza-like-illness (ILI) is defined as fever temperature of 100°F [37.8°C] or greater and a cough and/or a sore throat in the absence of another known cause.

### **Case Definitions for Infection with Novel Influenza A (H1N1) Virus**

A **suspected** case of H1N1 or swine flu is defined as a person who does not meet the confirmed or probable case definition, and is not swine or H1N1 test negative, and is/has:

- a previously healthy person < 65 years hospitalized for ILI

**OR**

- ILI and has an epidemiologic link in the past 7 days to a confirmed case or probable case

A **confirmed** case of H1N1 or swine flu is defined as a person with an influenza-like illness with laboratory confirmed swine influenza A (H1N1) virus infection by one or more of the following tests:

1. real-time RT-PCR
2. viral culture

A **probable** case of H1N1 or swine flu is defined as a person with an influenza-like-illness who is:

- positive for influenza A, but negative for human H1 and H3 by influenza RT-PCR

**Groups at higher risk for seasonal influenza complications include:**

- Children less than 5 years old
- Persons aged 65 years or older
- Children and adolescents (less than 18 years) who are receiving long-term aspirin therapy and who might be at risk for experiencing Reye syndrome after influenza virus infection
- Pregnant women
- Adults and children who have chronic pulmonary, cardiovascular, hepatic, hematological, neurologic, neuromuscular, or metabolic disorders
- Adults and children who have immunosuppression (including immunosuppression caused by medications or by HIV)
- Residents of nursing homes and other chronic-care facilities.

Although data on the spectrum of illness is not yet available for this H1N1 or swine flu virus, clinicians should expect complications to be similar to seasonal influenza: exacerbation of underlying chronic medical conditions, upper respiratory tract disease (sinusitis, otitis media, croup) lower respiratory tract disease (pneumonia, bronchiolitis, status asthmaticus), cardiac (myocarditis, pericarditis), musculoskeletal (myositis, rhabdomyolysis), neurologic (acute and post-infectious encephalopathy, encephalitis, febrile seizures, status epilepticus), toxic shock syndrome, and secondary bacterial pneumonia with or without sepsis.

**Which patients should be tested for H1N1 or swine influenza virus?**

Clinicians should test persons for the H1N1 or swine flu virus if they have an acute febrile respiratory illness or sepsis-like syndrome. However, it is not recommended that worried well or mildly ill and otherwise healthy persons undergo testing, especially if the diagnosis is unlikely to change your clinical management. In New York City, 95% of patients with H1N1 or swine flu met the case definition for influenza-like illness (subjective fever plus cough and/or sore throat). Certain groups may have atypical presentations including infants, elderly and persons with compromised immune systems. Priority for testing includes persons who 1) require hospitalization or 2) are at high-risk for severe disease (as listed above).

To test for H1N1 or swine flu virus, a nasopharyngeal swab or aspirate, nasal swab plus a throat swab or nasal wash, or tracheal aspirate should be collected. Persons who perform nasal and tracheal aspirate collections on ill persons require appropriate personal protective equipment. Specimens should be sent to the West Virginia Office of Laboratory Services for real-time RT-PCR which is the recommended test for confirmation of H1N1 or swine flu cases. Rapid influenza antigen test kits have unknown sensitivity and specificity to detect human infection with H1N1 or swine flu virus in clinical specimens. Therefore, a negative rapid test could be a false negative and should not be assumed a final diagnostic test for H1N1 or swine flu virus infection.

**Antiviral Treatment for H1N1 or swine flu Influenza**

Treatment is recommended for:

1. All hospitalized patients with confirmed, probable or suspected novel influenza (H1N1).
2. Patients who are at higher risk for seasonal influenza complications (see above).

If a patient is not in a high-risk group or is not hospitalized, healthcare providers should use clinical judgment to guide treatment decisions. When evaluating children, please be aware that the risk for severe complications from seasonal influenza among children younger than 5 years old is highest among children younger than 2 years old. Furthermore, please keep in mind that aspirin or aspirin-containing products should not be administered to any confirmed or suspected ill case of H1N1 or swine flu aged 18 years old and younger due to the risk of Reye syndrome. Many patients who have had H1N1 or swine flu virus infection, but who are not in a high-risk group have had a self-limited respiratory illness similar to typical seasonal influenza. For most of these patients, the benefits of using antivirals may be modest. Therefore, testing, treatment and chemoprophylaxis efforts should be directed primarily at persons who are hospitalized or at higher risk for influenza complications.

Evidence for benefits from antiviral treatment in studies of seasonal influenza is strongest when treatment is started within 48 hours of illness onset. However, some studies of oseltamivir treatment of hospitalized patients with seasonal flu have indicated benefit, including reductions in mortality or duration of hospitalization even for patients whose treatment was started more than 48 hours after illness onset. Recommended duration of treatment is five days.

Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir can be considered for the following:

1. Close contacts of cases (confirmed, probable, or suspected) who are at high-risk for complications of influenza
2. Health care personnel, public health workers, or first responders who have had a recognized, unprotected close contact exposure to a person with H1N1 or swine flu virus infection (confirmed, probable, or suspected) during that person's infectious period.

Please continue to regularly communicate with your local and state health officials for the latest information on this topic. Should you require further information or have questions, please do not hesitate to contact us. You may also visit the following websites for updated information:

- Kanawha-Charleston Health Department: [www.kchdvw.org/h1n1](http://www.kchdvw.org/h1n1)
- WV Department of Health and Human Resources: [www.wvdep.org](http://www.wvdep.org)
- Centers for Disease Control and Prevention: [www.cdc.gov/h1n1flu](http://www.cdc.gov/h1n1flu)
- World Health Organization: [www.who.int/en](http://www.who.int/en)