

April 24, 2009

Laboratory Guidance on Human Cases of Swine Influenza

Dear Colleagues:

On April 21, the Centers for Disease Control and Prevention (CDC) released an *MMWR Dispatch* <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm58d0421a1.htm> describing two cases of typical febrile respiratory illness in children from adjacent counties in California associated with a swine influenza A (H1N1) virus identified through routine influenza surveillance. Yesterday, CDC reported to public health officials across the nation the identification of an additional three cases in California and two cases in Texas. There has been no apparent exposure to swine among those infected, and there does appear to be person-to-person transmission among family members. All seven isolates have identical unique genetic sequences previously unseen in human or swine surveillance in the United States.

The five children and two adults infected have recovered, but there is concern that because there is evidence of human transmission and because this strain is substantially different from circulating human H1N1 strains, there may be limited immunity among the US population and the seasonal influenza vaccine might not provide protection. Those isolates that have been tested are resistant to amantadine and rimantadine, but sensitive to oseltamivir and zanamivir.

CDC is suggesting swine flu be considered in those with respiratory symptoms who have had recent exposure to pigs, or traveled recently or had contact with ill persons from San Diego or Imperial Counties in California, or San Antonio, Texas, and a respiratory specimen should be obtained for testing. There may be further recommendations forthcoming for enhanced surveillance and testing among those with influenza-like illness. Although these strains do not appear to have greater pathogenicity than typical flu strains, interim guidance on infection control and antiviral recommendations posted on the CDC website <http://www.cdc.gov/flu/swine/recommendations.htm> include suggestions for use of fit-tested N-95 or surgical mask if the former is unavailable, along with gloves, gown and goggles for those collecting specimens from confirmed or suspected swine flu cases. Such precautions should also be taken by those working with the specimens in the laboratory.

These strains appear to produce positive test results, indicating influenza A, in rapid test systems and molecular assays, but does not yield any subtype results. It is not yet clear how other, commercially available molecular assays will perform with these strains, although we suspect influenza A will be detected. Following the algorithm for novel strains of influenza A, http://www.michigan.gov/documents/flu_algorithm2-10-06_150244_7.pdf,

we suggest these specimens **not** be placed into viral culture, recognizing these cases may not be recognized in advance. **Any specimens/isolates positive for influenza A should be submitted without delay to the BOL for further testing.** If there is any indication of swine flu (recent travel history to implicated areas or recent contact with those who have traveled to those areas or with swine), the case should be reported without delay to local public health and the MDCH Bureau of Epidemiology (517-335-8165). At this time of year, as seasonal flu ends, we would normally request specimens that test positive for influenza virus be submitted to the BOL for confirmation and further

characterization. Given the novel nature of this strain, and the likely lack of immunity in the population as a whole, your contribution to this surveillance activity is more important than ever.

Please share this information with other members of your medical community, especially Emergency Department and Infection Control personnel. Please contact Dr Anthony Muyombwe (muyombwea@michigan.gov; 517-335-8099) or Patty Clark (clarkp@michigan.gov; 517-335-8102) for further information.