

Date: April 16, 2013

To: Medical Officers of Health, Infection Prevention and Control Physicians and Nurses, Infectious Diseases Physicians, Laboratory Directors and Managers

From: Provincial Laboratory for Public Health (ProvLab)

Re: Laboratory Testing for Avian Influenza A Subtype H7N9

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Messages:

- Travellers with a severe respiratory infection recently returning from China may have acquired an avian influenza H7N9 subtype infection, resulting in a severe respiratory illness.
- The Provincial Laboratory has the diagnostic capability to detect this virus.

Action Required:

In suspected cases with compatible travel history and symptoms:

- Notify the zone MOH **AND**
- Contact the ProvLab Microbiologist/Virologist-on-Call to arrange for testing, and provide a complete recent travel history (within the past two weeks).
 Edmonton Site – Ph: 780-407-7121 (ask for Virologist-on-Call)
 Calgary Site – Ph: 403-944-1200 (ask for Virologist-on-Call)
- Collect the following samples and send these STAT to the ProvLab

Clinical Presentation	Specimen type	Transport Medium
Upper Respiratory Tract	Nasopharyngeal swab	Send swabs in Universal Transport medium (UTM)
	Nasopharyngeal aspirate Auger suction Nasopharyngeal secretions	Send aspirates/fluids in leak-proof sterile container
	Blood in serum separator vacutainer (SST – Gold top)	
Lower Respiratory Tract	Bronchoalveolar Lavage (BAL) Endotracheal tube secretions (ETT)	Send aspirates/fluids in leak-proof sterile container
	Blood in serum separator vacutainer (SST – Gold top)	

Laboratory Testing:

The molecular assays used at the ProvLab for the detection of the influenza viruses are capable of detecting avian influenza H7N9 in respiratory samples. Strains that do not subtype as the circulating seasonal strains will be referred to the National Microbiology Laboratory (NML) for confirmation of the subtype.

The blood samples may be used to determine other likely infectious etiologies, such as *Mycoplasma* and *Legionella*, or for H7N9 surveillance studies, if required. Convalescent samples may be requested by the ProvLab if required by the NML.

Background:

Although influenza A H7 subtype viruses have caused sporadic infection in humans, this is the first report of this subtype H7N9 causing infections in China. Currently, the provinces of Anhui, Jiangsu and Zhejiang, the two municipalities of Beijing and Shanghai, geographically located in eastern and northern China, are where these cases are being reported.

This subtype is common in various avian species, however this strain has shown adaptive changes that may allow it to infect other mammalian species. Presently there is no evidence of person-to-person transmission; the virus is acquired from environmental exposure. Therefore screening of asymptomatic contacts is not recommended, at this time.

The infection is currently presenting as a severe respiratory illness, generally beginning as an upper respiratory tract infection, progressing to pneumonia and in some cases death. There is no data to exclude the possibility of mild or asymptomatic cases.

Inquiries and feedback may be directed to:

- Dr. Kevin Fonseca, Program Lead
Phone: 403-944-1263 or E-mail: Kevin.Fonseca@albertahealthservices.ca

For additional information visit:

- World Health Organization at: http://www.who.int/influenza/surveillance_monitoring/en/
- Public Health Agency of Canada at: http://www.phac-aspc.gc.ca/eri-ire/h7n9/index-eng.php?phac_source=PHAChomepage&campaign=HotTopics
- Centers for Disease Control and Prevention at: <http://www.cdc.gov/flu/avianflu/h7n9-virus.htm>

This bulletin has been reviewed and approved by:

Dr. Graham Tipples, Medical / Scientific Director, Provincial Laboratory for Public Health (ProvLab)