

**** CORRECTION ****

Subsequent to this bulletin being issued, the WHO has reported that four of the recent human avian influenza cases in China (one in Anhui, three in Hunan) that we had indicated were A(H7N9) were instead confirmed as A(H9N2). Influenza A(H9N2) is endemic in poultry in parts of Africa, the Middle East and Asia, including China. Since 1999, H9N2 has been associated with about 20 human infections globally, of which three-quarters have been reported from China or Hong Kong Special Administrative Region and others from Egypt and Bangladesh. H9N2-associated illness has been described as predominantly mild, affecting mostly but not exclusively children. The risk assessment, action and advice presented below otherwise remain unchanged.

Updated H7N9 totals: As of December 16, 2015, a total of 683 human cases of H7N9 and at least 275 deaths (case fatality: 40%) have been reported to the World Health Organization since first emergence in the human population in early 2013, including four cases reported from Taipei, 13 cases reported from Hong Kong, one case reported from Malaysia, and the two cases reported from Canada in January 2015.

Avian Influenza Bulletin - 'tis the Season Reminder

We are sending this pre-holiday bulletin as a reminder that the first three importations from China to North America of human infections with avian influenza (H5N1 and H7N9) were reported by Canada in early January 2014 (n=1) and 2015 (n=2), following the Christmas holiday period.

This includes a young adult from Alberta who acquired avian influenza A(H5N1) infection while in Beijing, China between December 6 and 27, 2013. Upon return to Canada, this patient was hospitalized with pneumonia, gastroenteritis and encephalitis and died in early January 2014. No poultry contact was identified while abroad. See:

http://wwwnc.cdc.gov/eid/article/20/5/14-0164_article

In addition, a married couple from British Columbia acquired avian influenza A(H7N9) while traveling abroad in Hong Kong, Taiwan and Fujian province between December 29, 2014 and January 11, 2015. They recalled seeing live poultry and copious droppings while visiting Fujian on January 8, 2015 but recollected no other poultry contact. Both experienced typical influenza-like illness upon their return to Canada, and were managed as outpatients. Their avian influenza H7N9 infections were fortuitously recognized because of travel history and detection of non-subtypeable influenza A in respiratory specimens submitted to the BC Centre for Disease Control (BCCDC) Public Health Laboratory. See: http://wwwnc.cdc.gov/eid/article/22/1/15-1330_article

Recent Trends – H5N1 and H7N9

Since its emergence in February 2013, H7N9 has followed a winter seasonal pattern, typical of both human and avian influenza viruses, with most cases occurring between October and May each year and generally peaking in January. A fourth wave of H7N9 activity appears to have recently begun in China, notably involving the eastern provinces of China as previously highlighted. Since October 2015, a total of 10 cases of H7N9 have been reported, including six new cases in the past week. These recent cases were reported in Zhejiang (5), Guangdong (1),

Anhui (1), and Hunan (3) provinces, all of which have reported cases during the three previous seasonal waves. Overall, the epidemiological pattern of avian influenza H7N9 cases is unchanged from previous updates with older adults most affected (generally older than observed with H5N1). Exposure to poultry remains the major risk factor with only limited instances of human-to-human transmission in close contact settings. As of November 13, 2015, a total of 681 human cases of H7N9 and at least 275 deaths (case fatality: 40%) have been reported to the World Health Organization since first emergence in the human population in early 2013. This total does not include the six most recently reported cases (bringing the unofficial tally to 687 cases), but does include four cases reported from Taipei, 13 cases reported from Hong Kong, one case reported from Malaysia, and the two cases reported from Canada in January 2015 described above.

Most H5N1 cases globally since 2010 (256/376; 68%) have been reported from Egypt, rather than China where <15 cases have been reported in total since 2010. H5N1 is endemic in poultry in China and under-recognition/reporting should be taken into account in interpreting surveillance tallies, particularly given the acquisition by a Canadian traveler to China in December 2013 despite such low number of human case reports. Since re-emergence in 2003, H5N1 has caused a total of 844 human infections and 449 deaths (case fatality: 53%) globally, including 143 cases in 2015 of which 136 (95%) were reported from Egypt. However, there have been no human cases of H5N1 reported globally since July 2015.

Action and Advice

Clinicians should remain vigilant for importation of suspect human cases of avian influenza to Canada, querying patients with acute respiratory illness, particularly if accompanied by severe or unusual features, about possible travel in the two weeks prior to illness onset. Where the index of suspicion is raised, clinicians should notify their local health authority/Medical Health Officer without delay and consult a virologist or microbiologist at the BC Centre for Disease Control Public Health Laboratory for advice related to diagnostic testing, clearly indicating relevant travel or exposure history. Follow strict infection prevention and control guidelines when collecting respiratory specimens.

Cases should be managed in respiratory isolation with contact and droplet precautions. Airborne precautions are warranted in the event of aerosol-generating procedures or conditions. Facilities should be mindful of the protection of other patients and visitors, in addition to healthcare workers, to minimize nosocomial transmission and risk.

Additional Resources

H5N1 Case Reports by Country and Year:

www.who.int/influenza/human_animal_interface/EN_GIP_20151113cumulativeNumberH5N1cases.pdf?ua=1

H7N9 Case Definition: www.phac-aspc.gc.ca/eri-ire/h7n9/case-definition-cas-eng.php

ERV/SARI Case Report Form: www.phac-aspc.gc.ca/eri-ire/coronavirus/form-formulaire-eng.php

Case Management Guidelines: www.phac-aspc.gc.ca/eri-ire/h7n9/guidance-directives/h7n9-2-eng.php

Interim Antiviral Treatment Guidelines: www.ammi.ca/guidelines/

Influenza & Emerging Respiratory Pathogens Team
BC Centre for Disease Control