

HUMAN EMERGING RESPIRATORY PATHOGENS BULLETIN

MONTHLY SITUATIONAL ANALYSIS OF EMERGING RESPIRATORY DISEASES AFFECTING HUMANS

ISBN/ISSN: 2563-9420 | Catalogue No HP38-6E-PDF | Publication No 210044

Issue No 54 June 2021

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UPDATE ON HUMAN EMERGING RESPIRATORY PATHOGEN PUBLIC HEALTH EVENTS (AS OF JUNE 30, 2021)¹

NOVEL INFLUENZA ¹	[N CUMULATIVE CASES ² (DEATHS), CFR% ³]
A(H7N9)	[1,568 (615), 39%]
A(H5N1)	[880 (461), 52%]
A(H9N2)	[81 (1), 1%]
A(H5N6)	[32 (10), 31%]
A(H5N8)	[7 (0), 0%]
A(H7N4)	[1 (0), 0%]
A(H1N2) ⁴	[2 (0), 0%]
A(H3N2)v	[439 (1), <1%]
A(H1N2)v	[31 (0), 0%]
A(H1N1)v	[33 (0), 0%]
A(H10N3)	[1 (0), 0%]
Eurasian avian-like A(H1N1)	[5 (0), 0%]
Reassortant novel influenza ⁵	[1 (0), 0%]

MERS-CoV¹

Global case count	[2,567 (877), 34%]
Saudi Arabia	[2,170 (799), 37%]

¹Date of 1st Reported Case of Human Infection: MERS-CoV: February 2013 (retrospective case finding September 2012). A(H7N9): March 2013. A(H5N1): 1997. A(H9N2): 1998. A(H5N6): 2014. A(H5N8): December 2020. A(H7N4): February 2018. A(H1N2): March 2018. A(H3N2)v with M gene from pH1N1: 2011. A(H1N2)v: 2005. A(H1N1)v: 2005. EA A(H1N1): 1986, but the above table counts cases from January 2021. A/Denmark/1/2021: February 2021

²Cumulative Case Counts: updated using data reported by the World Health Organization (avian and swine influenza, MERS CoV), and the United States Centers for Disease Control and Prevention (US CDC) (swine influenza).

³Case Fatality Rate: the proportion of cases that resulted in death.

⁴A(H1N2): virus is a seasonal reassortant of the A(H1N1)pdm09 and A(H3N2) seasonal strains.

⁵Reassortant novel influenza: refers to A/Denmark/1/2021 A(H1N1) of the pdm09 lineage.

COVID-19 UPDATE

On December 31, 2019, cases of a pneumonia of unknown etiology were reported in Wuhan, China. These cases have since been determined to be due to a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes coronavirus disease 2019 (COVID-19). On January 30, 2020, the World Health Organization (WHO) first declared the outbreak a Public Health Emergency of International Concern (PHEIC). On March 11, 2020, the WHO characterized the outbreak as a global pandemic. The WHO Director-General convened the International Health Regulations (IHR) Emergency Committee (EC) on COVID-19 seven times throughout 2020 and 2021, continually assessing that COVID-19 constitutes a PHEIC.

As of June 30, 2021, 1,415,284 COVID-19 cases and 26,295 deaths have been reported in Canada. The Public Health Agency of Canada is monitoring the situation closely. For the most up-to-date information, please visit: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>

AVIAN INFLUENZA UPDATES

AVIAN INFLUENZA A(H10N3)

On June 1, 2021, the Centre for Health Protection (CHP) of the Department of Health of the Government of the Hong Kong Special Administrative Region received a notification from the National Health Commission of a human case of avian influenza A(H10N3). The case, a 41-year old male from Zhenjiang City in Jiangsu Province, developed symptoms on April 23, 2021. He was admitted to a hospital on April 28, 2021, and as of the latest report, was in hospital in a stable condition. Close contacts did not show signs of illness during the medical surveillance period. This is the first A(H10N3) infection ever reported in humans.

AVIAN INFLUENZA A(H5N6)

On June 8, 2021, the CHP reported a human case of avian influenza A(H5N6) in Sichuan Province, China. The case, a 49-year-old female, developed symptoms on May 1 and was admitted for treatment on the same day. At time of reporting the patient was in serious condition. Globally, 32 human cases of H5N6 have been reported since 2014, with 10 of those cases being fatal. No A(H5N6) detections have been reported in Canadian residents since reporting began in 2014.



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AVIAN INFLUENZA A(H9N2)

On June 22, 2021, the WHO released an Event Information Site (EIS) posting confirming two human infections with avian influenza A(H9N2) from China. Both cases were detected through routine influenza-like-illness (ILI) surveillance and developed mild symptoms after exposure to live poultry markets. The first case is a 2-year-old male from Sichuan Province and the second case is a 78-year-old female from Jiangsu Province.

These cases mark the 14th and 15th human detections of A(H9N2) in 2021, with the majority (14/15; 93%) of cases reported out of China. No cases have been reported in Canada. Since the emergence of this virus in the human population in 1998, 81 cases have been reported worldwide, with a case fatality rate (CFR) of 1%.

SWINE INFLUENZA UPDATES

SWINE ORIGIN INFLUENZA A(H3N2)v

On June 17, 2021, Canada notified the WHO of a human infection with influenza A(H3N2)v variant virus. The case, a child (< 18 years old) from Manitoba, developed a cough and sore throat on June 3, 2021. On June 5, 2021, the case was tested for SARS-CoV-2 and influenza A, but was only positive for influenza A. They were sent home and reported as recovered by June 8, 2021. There were no signs of ILI symptoms in the case's family and the case had no direct exposure to swine.

In Canada, the current case marks the second case of A(H3N2)v. The first was notified in December 2016 in a child residing in Ontario who had contact with symptomatic infected swine. Globally, 439 A(H3N2)v cases have been reported since 2005, with <1% case fatality rate.

SWINE ORIGIN INFLUENZA A(H1N2)v

On June 7, 2021, the Taiwanese Centers for Disease Control and Prevention (TCDC) reported a human influenza A(H1N2)v infection in a 5-year-old female. She developed mild illness on March 12, 2021 and did not require hospitalization. The virus was isolated from her respiratory tract on April 5, 2021. Three of six close contacts had ILI; however, no further A(H1N2)v cases were identified.

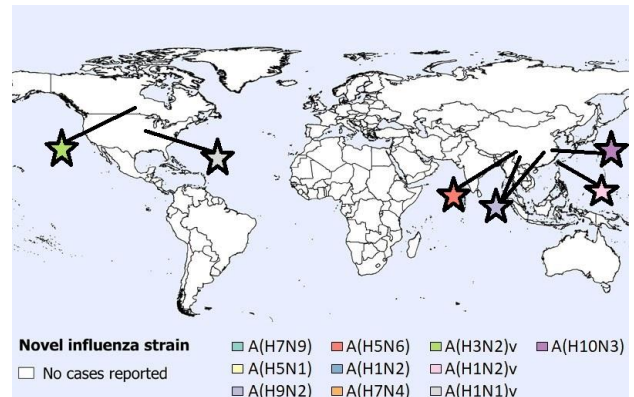
Two A(H1N2)v detections have been reported in Canadian residents since reporting began in 2005, with the latest case reported in April 2021. A total of 31 cases have been reported globally since 2005.

SWINE ORIGIN INFLUENZA A(H1N1)v

On June 4, 2021, the United States CDC reported a human influenza A(H1N1)v infection in an adult in Iowa. This marks the third case of H1N1v and the fifth variant case in the United States this year. The patient worked on a farm that kept pigs. No further cases were identified.

Globally, 33 human cases of A(H1N1)v have been reported since 2005, with no associated fatalities. Two A(H1N1)v detections have been reported in Canadian residents since reporting began in 2005, with the latest case reported in April 2021.

Figure 1. Spatial distribution of human cases of avian and swine influenza reported globally in June 2021 (n=7).

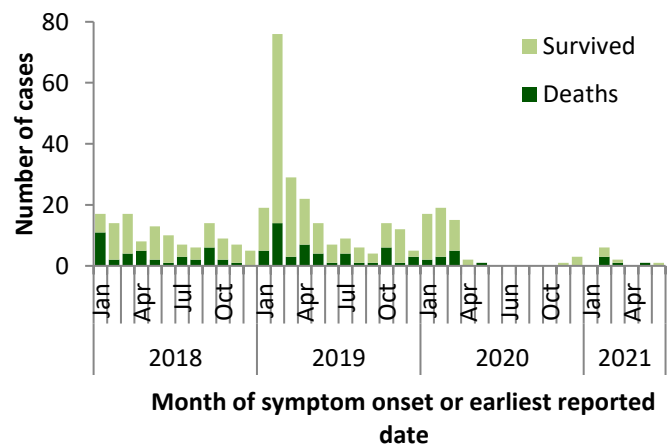


Note: Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the latest WHO Monthly Influenza at the Human-Animal Interface Risk Assessment. This map reflects data available through these risk assessments as of June 30, 2021.

MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-COV) UPDATE

One new MERS-CoV case was reported from Saudi Arabia in June 2021. The case, a 63-year-old male from Almwaihi city, Taif, reported exposure to camels prior to illness onset. He has recovered from the infection. Including this case, 10 cases of MERS-CoV have been reported around the world in 2021 (5 of them fatal), with 9 of these cases reported from Saudi Arabia. A total of 2,567 laboratory-confirmed cases of MERS-CoV, including 877 deaths, have been reported globally since 2012 by the WHO. No cases have been reported in Canada.

Figure 2. Temporal distribution of human cases of MERS-CoV reported to the WHO, globally, by month and year, January 1, 2018 to June 30, 2021 (n=412).



Note: Graph was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the WHO Disease Outbreak News and Saudi Arabia's Ministry of Health. This graph reflects data available as of June 30, 2021.