



HUMAN EMERGING RESPIRATORY PATHOGENS BULLETIN

MONTHLY SITUATIONAL ANALYSIS OF EMERGING RESPIRATORY DISEASES AFFECTING HUMANS

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UPDATE ON HUMAN EMERGING RESPIRATORY PATHOGEN PUBLIC HEALTH EVENTS (AS OF MAY 31, 2021)

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 May 31, 2021, 1,381,582 COVID-19 cases and 25,547 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(H9N2)

One new human case of avian influenza A(H9N2) was reported out of China in May 2021. The case, a 30-year-old female from Huizhou, Guangdong Province, reported mild symptom onset on April 20, 2021. Reports did not confirm whether she had exposure to poultry or if case contacts also reported illness, but no other human A(H9N2) cases have been reported since. This case is the 13th human detection of A(H9N2) in 2021, with the majority (12/13; 92%) 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.

NOVEL INFLUENZA ¹	[N CUMULATIVE CASES ² (DEATHS), CFR% ³]
A(H7N9)	[1,568 (615), 39%]
A(H5N1)	[880 (461), 52%]
A(H9N2)	[79 (1), 1%]
A(H5N6)	[31 (10), 32%]
A(H5N8)	[7 (0), 0%]
A(H7N4)	[1 (0), 0%]
A(H1N2) ⁴	[2 (0), 0%]
A(H3N2)v	[438 (1), <1%]
A(H1N2)v	[30 (0), 0%]
A(H1N1)v	[32 (0), 0%]
Eurasian avian-like A(H1N1)	[5 (0), 0%]
Reassortant novel influenza ⁵	[1 (0), 0%]

MERS-CoV¹

Global case count	[2,566 (877), 34%]
Saudi Arabia	[2,169 (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)v: 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.

SWINE INFLUENZA UPDATES

SWINE ORIGIN INFLUENZA A(H3N2)v

The most recent case of swine origin influenza A(H3N2)v was reported in April 2021 in Australia. One locally acquired H3N2v case was reported out of Ontario, Canada in December 2016. Globally, 438 H3N2v cases have been reported since 2005, with a <1% case fatality rate (CFR).

SWINE ORIGIN INFLUENZA A(H1N2)v

On May 27, 2021, the United States informed the WHO of a human infection caused by influenza A(H1N2)v. The patient, who was <18 years old from Ohio, developed respiratory symptoms and sought outpatient medical care a week later. Additional diagnostic analysis was conducted on the case specimen and on May 25, 2021, it was confirmed that the infection was caused by A(H1N2)v. 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 30 cases has been reported globally since 2005.

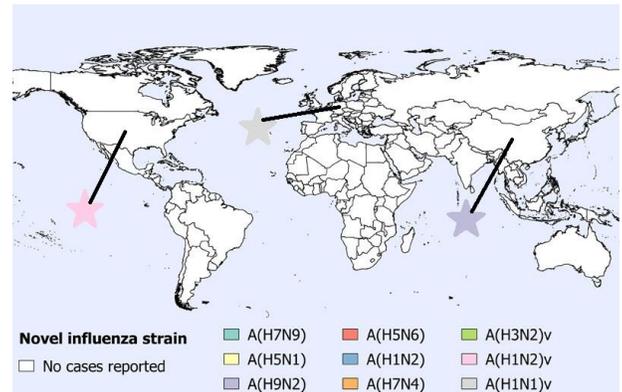
SWINE ORIGIN INFLUENZA A(H1N1)v

On April 20, 2021, an influenza A infection was detected in a throat swab sample collected from a 17-year-old patient with influenza-like illness from Mecklenburg-Western Pomerania, Germany. Test results pointed to an Eurasian avian-like (EA) swine A(H1N1)v viral infection. The case did an internship on a swine farm prior to symptom onset. The case has since recovered and no other farm workers or case contacts reported illness. This is the fifth EA A(H1N1) infection reported in 2021, with the other four reported out of China in January 2021.

In addition, globally, 32 human cases of H1N1v 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.

These cases are separate from infections of the A(H1N1)pdm09 virus, which caused the 2009 pandemic.

Figure 1. Spatial distribution of human cases of avian and swine influenza reported globally in May 2021 (n=3).

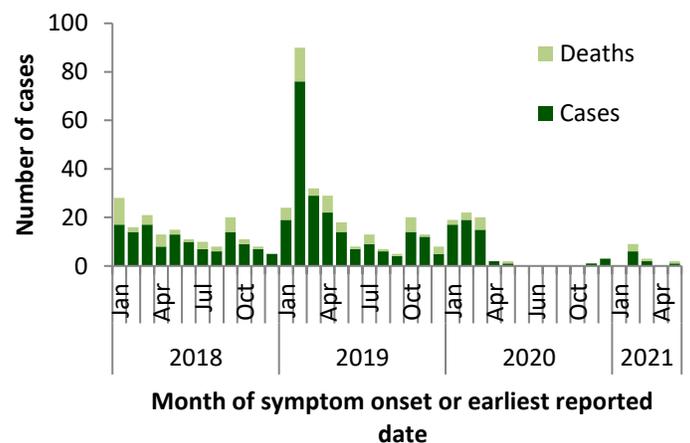


Note: Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the latest WHO Monthly Influenza at the Human-Animal Interface Risk Assessment. This map reflects data available through these risk assessments as of May 31, 2021.

MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-COV) UPDATE

One new MERS-CoV case was reported from Saudi Arabia in May 2021. The case, a 36-year-old male from Hafr Al-Batin, died as a result of his infection. He reported exposure to camels prior to illness onset. Including this case, nine cases of MERS-CoV have been reported around the world in 2021, with 8/9 (88.9%) cases reported from Saudi Arabia. A total of 2,566 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 May 31, 2021 (n=411).



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 May 31, 2021.