

HUMAN EMERGING RESPIRATORY PATHOGENS BULLETIN

MONTHLY SITUATIONAL ANALYSIS OF EMERGING RESPIRATORY DISEASES AFFECTING HUMANS

Issue No 42 June 2020

IN THIS BULLETIN

COVID-2019 UPDATE

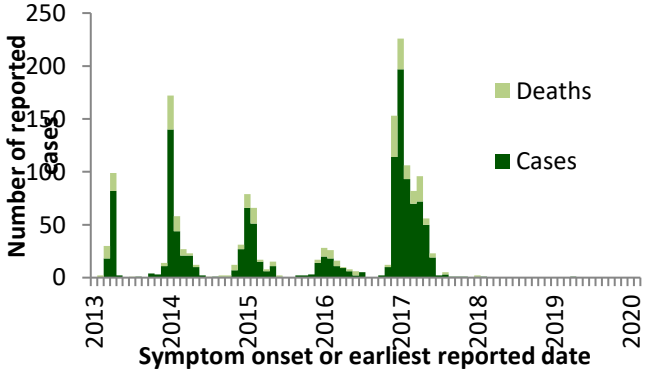
On December 31, 2019, cases of a pneumonia of unknown etiology were reported in Wuhan, China, which have since been determined to be due to a novel coronavirus (COVID-2019). On January 30, 2020, the World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern (PHEIC).

As of June 30, 2020, 104,204 cases of COVID-2019 have been reported in Canada. The highest number of cases were reported from Ontario and Quebec (represent 87% of the national cases).

The Public Health Agency of Canada is monitoring the situation closely. For more information, please visit: https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html

AVIAN INFLUENZA UPDATES

Figure 1. Temporal distribution of human infection with avian influenza A(H7N9), globally, by month and year, January 1, 2013 to June 30, 2020 (n=1,568).



Note: Graph 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 graph reflects data available through these risk assessments as of June 30, 2020.

UPDATE ON HUMAN EMERGING RESPIRATORY PATHOGEN PUBLIC HEALTH EVENTS (AS OF JUNE 30, 2020)

NOVEL INFLUENZA[1]	[N CUMULATIVE CASES[2] (DEATHS), CFR%[3]]
A(H7N9)	[1,568 (615), 39%]
A(H5N1)	[879 (461), 52%]
A(H9N2)	[58 (1), 2%]
A(H5N6)	[24 (7), 29%]
A(H7N4)	[1 (0), 0%]
A(H1N2)	[2 (0), 0%]
A(H3N2)v	[435 (1), <1%]
A(H1N2)v	[27 (0), 0%]
A(H1N1)v	[26 (0), 0%]
MERS-CoV[1]	
Global case count	[2,552 (871), 34%]
Saudi Arabia	[2,156 (793), 37%]

[1]**Date 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(H7N4): February 2018. A(H3N2)v with M gene from pH1N1: 2011. A(H1N2)v: 2005. A(H1N1)v: 2005.
[2]**Cumulative 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).
[3]**Case Fatality Rate:** The proportion of cases that resulted in death.

AVIAN INFLUENZA A(H7N9)

No new H7N9 cases were reported to the WHO in June 2020. The last case was reported by China in April 2019. Two travel-related cases were reported in Canada in January 2015. A total of 1,568 human cases of avian influenza A(H7N9), including at least 615 deaths, have been reported globally since 2013 (Figure 1).

AVIAN INFLUENZA A(H5N1)

No new H5N1 cases were reported to WHO in June 2020. The most recent case was reported in March 25, 2019 in Nepal. A total of 879 cases including 461 deaths have been reported globally since 1997. One fatal travel-related case of H5N1 was reported in Canada in January 2014.

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Canada

AVIAN INFLUENZA A(H5N6)

No new cases of H5N6 were reported to WHO in June 2020. The most recent case of H5N6 was reported in China in August 2019. There have been a total of 24 cases, including seven deaths, reported globally since 2014, all in China.

SWINE INFLUENZA UPDATES

SWINE ORIGIN INFLUENZA A(H1N2)v

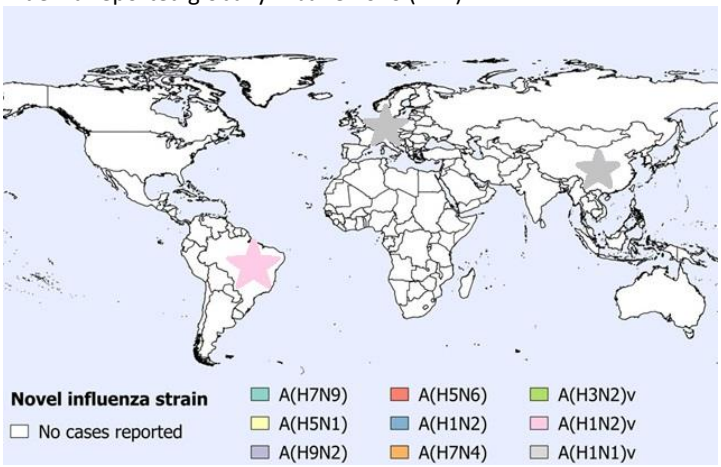
On June 22, 2020, Brazil reported a human infection with A(H1N2)v. The case was a 22 year old female who worked in a slaughterhouse and developed influenza-like illness on April 13, 2020. She obtained medical care on April 16, at which point a respiratory specimen was collected for testing. Routine real-time RT-PCR identified the specimen as influenza A and on June 22, 2020, genetic sequencing results characterized the virus as A(H1N2)v. Prior to this case, Brazil had only reported one A(H1N2)v case in 2015, resulting in a total of two cases reported from Brazil thus far.

SWINE ORIGIN INFLUENZA A(H1N1)v

A study published on June 29, 2020 identified a recently emerged genotype 4 Eurasian avian-like H1N1 (G4 EA H1N1) virus that has been predominant in swine populations since 2016 in at least 10 Chinese provinces. Swine workers have been found seropositive for the virus, indicating possible swine to human transmission. There have been two cases in humans, in 2016 and 2019, in a 46 year old and a 9 year old and there is no evidence of ongoing transmission from these cases.

Another influenza A(H1N1) infection was detected in a 2 year old case from Hesse, Germany in June 2020. This case presented with influenza-like illness on June 9, 2020 after contact with pigs during a farm visit. Whole genome sequencing results identified the virus as a Eurasian avian-like swine A(H1N1) virus. This virus is similar to the 1C.2.2 clade viruses that circulate in swine in Europe and differs from the 1C.2.3 clade viruses that circulate in Chinese swine according to the previously referenced study. To date, reported H1N1v infections have been associated with mild illness.

Figure 2. Spatial distribution of human cases of avian and swine influenza reported globally in June 2020 (n=4).

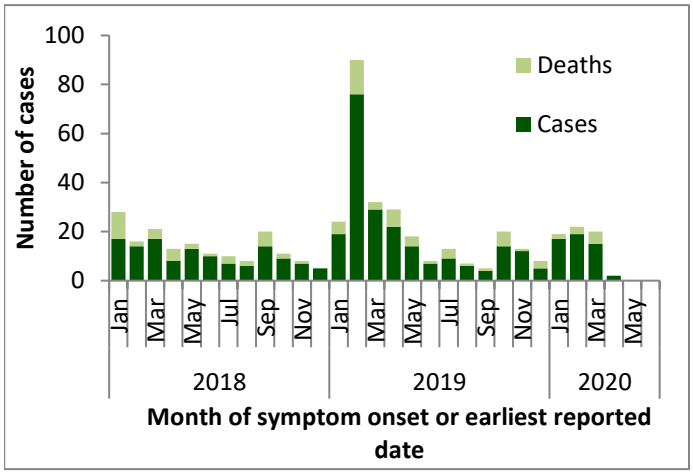


Note: Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the latest WHO Monthly Influenza at the Human-Animal Interface Risk Assessment. This map reflects data available through these risk assessments as of June 30, 2020.

MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-COV) UPDATE

In June 2020, no new cases of MERS-CoV were reported. A total of 2,552 laboratory-confirmed cases of MERS-CoV, including 871 deaths, have been reported globally since 2012 by the WHO. No cases have been reported in Canada.

Figure 3. Temporal distribution of human cases of MERS-CoV reported to the WHO, globally, by month and year, January 1, 2018 to June 30, 2020 (n=397).



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, 2020.