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IN THIS BULLETIN

UPDATE ON HUMAN EMERGING RESPIRATORY PATHOGEN PUBLIC HEALTH EVENTS (AS OF FEBRUARY 28, 2022)¹

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|------------------------------|--------------------|
| A(H7N9) | [1,568 (615), 39%] |
| A(H5N1) | [882 (462), 52%] |
| A(H9N2) | [96 (2), 2%] |
| A(H5N6) | [72 (30), 42%] |
| A(H5N8) | [7 (0), 0%] |
| A(H7N4) | [1 (0), 0%] |
| A(H1N2) ⁴ | [2 (0), 0%] |
| A(H3N2)v | [441 (1), <1%] |
| A(H1N2)v | [40 (0), 0%] |
| A(H1N1)v | [38 (0), 0%] |
| A(H1NX)v ⁵ | [1 (0), 0%] |
| A(H10N3) | [1 (0), 0%] |
| Eurasian avian-like A(H1N1)v | [10 (0), 0%] |
| MERS-CoV¹ | |
| Global case count | [2,576 (880), 34%] |
| Saudi Arabia | [2,178 (802), 37%] |

COVID-19 UPDATE

The Public Health Agency of Canada is monitoring the situation closely. For the most up-to-date information, please visit:

AVIAN INFLUENZA UPDATES

Five (5) new cases of avian influenza A(H9N2) were reported in February 2022, all from China. The cases range in age from 1 year old to 51 years old. Most (3/5; 60%) of the reported cases were female. They were reported from four (4) different provinces: Anhui, Sichuan, Hubei, and Jiangxi. One case was hospitalized for pneumonia while the remaining cases developed mild illness. Information on case recovery was provided only for the patient hospitalized with pneumonia and this case recovered. Four (4) of the cases had a history of poultry exposure prior to illness onset. Three (3) of the cases had an onset of illness in 2022, the first such cases in 2022.

Since the emergence of this virus in the human population in 1998, 96 cases have been reported worldwide, with a case fatality rate (*CFR) of 2%. No cases have been reported in Canada.

*CFR: case fatality rate. Note that this rate is dependent on accurately reported deaths. For events with active cases, this value may be updated retrospectively as final disposition of the cases is known.

AVIAN INFLUENZA A(H5N6)

Six (6) human cases of avian influenza A(H5N6) were reported in February 2022. They all reported contact with poultry prior to illness onset. The median age of these cases was 40.5 years (age range: 6-50 years) and most (5/6; 83%) of the reported cases were male. One (1) death was reported and the rest of the cases (5/6; 83%) were in critical condition at the time of last report. These 6 cases were detected across four (4) different regions in China: Jiangsu Province, Guangxi Zhuang Autonomous Region, Sichuan Province, and Fujian Province. None of the cases were known to be connected to each other or to previously reported cases.

A total of 72 laboratory-confirmed human cases of avian influenza A(H5N6), including at least 30 deaths (CFR: 42%) have been reported globally since 2014. Since January 2021, 46 cases of avian influenza A(H5N6) have been reported globally (Figure 2); 45 A(H5N6) cases were reported from China and one (1) case was reported from Lao PDR (Figure 3). So far, 14 A(H5N6) cases have been reported worldwide in 2022. No cases have been reported in Canadian residents.

AVIAN INFLUENZA A(H5N1)

The most recent case of avian influenza A(H5N1) was reported in January 2022 from the United Kingdom.

There have been 882 human cases of A(H5N1) reported globally since 1997, with a CFR of 52%. One (1) A(H5N1) case has been reported worldwide in 2022. In 2014, Canada (Alberta) reported one single fatal case of A(H5N1) in a resident returning from travel in China.

SWINE INFLUENZA UPDATES

SWINE ORIGIN INFLUENZA A(H1N2)v

In February 2022, the US Centers for Disease Control and Prevention (CDC) reported one (1) new A(H1N2)v case in California. The case, ≥18 years of age, was not hospitalized and has recovered from their illness. The case had direct contact with swine prior to illness onset. Respiratory illness was reported among contacts of the case, however no specimens from these contacts were received for testing. No ongoing human-to-human transmission was identified in association with this case.

A total of 40 A(H1N2)v cases have been reported globally since 2005, with a 0% case fatality rate. One (1) A(H1N2)v case has been reported worldwide in 2022. Three (3) A(H1N2)v detections have been reported in Canadian residents since reporting began in 2005, and the latest case in Canada was reported in November 2021 from Manitoba.

SWINE ORIGIN INFLUENZA A(H3N2)v

The most recent case of swine origin influenza A(H3N2)v was reported in October 2021 from the US.

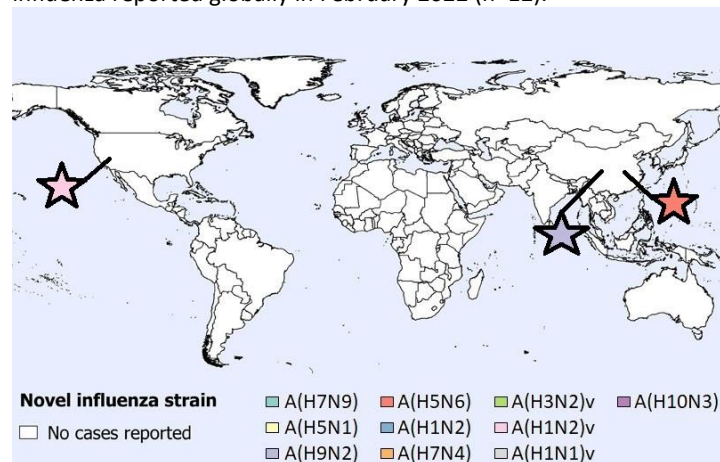
Globally, 441 A(H3N2)v cases have been reported since 2005, with <1% case fatality rate. No A(H3N2)v cases have been reported worldwide in 2022. Two (2) A(H3N2)v detections have been reported in Canadian residents since reporting began in 2005, with the latest case reported in June 2021.

SWINE ORIGIN INFLUENZA A(H1N1)v

The most recent case of swine origin influenza A(H1N1)v was reported in January 2022 from Denmark.

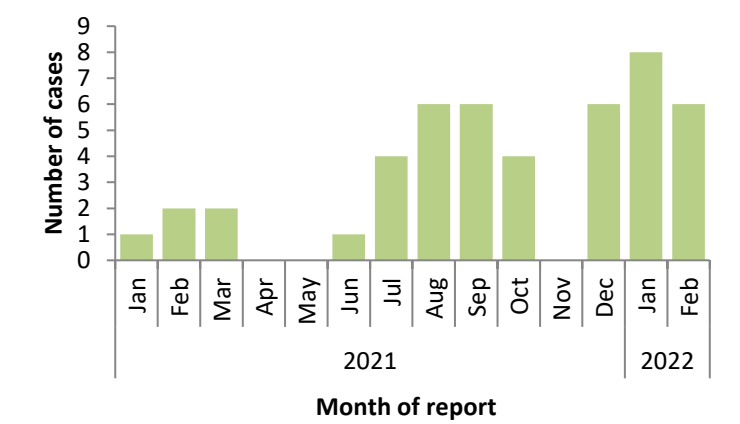
Globally, 38 human cases of A(H1N1)v have been reported since 2005, with no associated fatalities. One (1) A(H1N1)v case has been reported worldwide in 2022. Two (2) A(H1N1)v detections have been reported in Canadian residents since reporting began in 2005, with the latest case reported in April 2021.

Figure 1. Spatial distribution of human cases of avian and swine influenza reported globally in February 2022 (n=12).



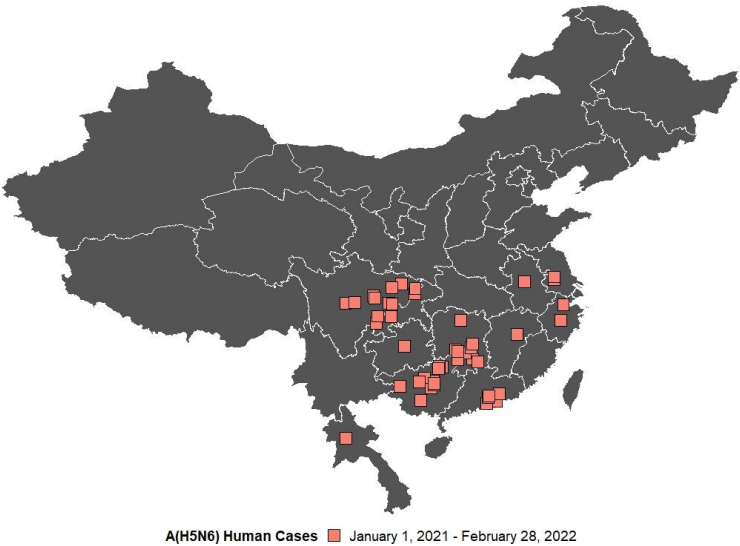
Note: Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the latest WHO Event Information Site (EIS) postings and Weekly US Influenza Surveillance Reports (FluView). This map reflects data available through these publications as of February 28, 2022.

Figure 2. Temporal distribution of human cases of A(H5N6) influenza reported globally, by month, January 1, 2021 to February 28, 2022 (n=46).



Note: Graph was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the WHO EIS postings and the Hong Kong Centre for Health Protection (CHP) press releases. This graph reflects data available as of February 28, 2022.

Figure 3. Spatial distribution of human cases of A(H5N6) influenza reported in China and Lao PDR from January 1, 2021, to February 28, 2022 (n=46).



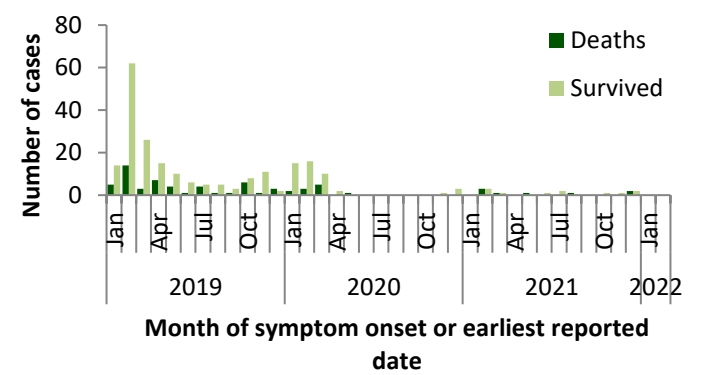
Note: Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the WHO EIS postings and the Hong Kong Centre for Health Protection (CHP) press releases. This map reflects data available through these publications as of February 28, 2022.

MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-COV) UPDATE

The most recent cases of MERS-CoV were reported in December 2021 from the Kingdom of Saudi Arabia.

A total of 2,576 laboratory-confirmed cases of MERS-CoV, including 880 deaths, have been reported globally since 2012 by the WHO (CFR: 34%). No MERS-CoV cases have been reported worldwide in 2022. No cases have been reported in Canada.

Figure 4. Temporal distribution of human cases of MERS-CoV reported to the WHO, globally, by month and year, January 1, 2019 to February 28, 2022 (n=294).



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 February 28, 2022.