



# HUMAN EMERGING RESPIRATORY PATHOGENS BULLETIN

## MONTHLY SITUATIONAL ANALYSIS OF EMERGING RESPIRATORY DISEASES AFFECTING HUMANS

Issue No 51 March 2021

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

NOVEL INFLUENZA <sup>1</sup>	[N CUMULATIVE CASES <sup>2</sup> (DEATHS), CFR% <sup>3</sup> ]
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A(H7N9)	[1,568 (615), 39%]
A(H5N1)	[880 (461), 52%]
A(H9N2)	[76 (1), 1%]
A(H5N6)	[31 (10), 32%]
A(H5N8)	[7 (0), 0%]
A(H7N4)	[1 (0), 0%]
A(H1N2)	[2 (0), 0%]
A(H3N2)v	[437 (1), <1%]
A(H1N2)v	[28 (0), 0%]
A(H1N1)v	[30 (0), 0%]
Eurasian avian-like A(H1N1)	[4 (0), 0%]
Reassortant novel influenza <sup>4</sup>	[1 (0), 0%]

### MERS-CoV<sup>1</sup>

Global case count	[2,565 (876), 34%]
Saudi Arabia	[2,168 (798), 37%]

<sup>1</sup>Date of 1<sup>st</sup> 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(H3N2)v with M gene from pH1N1: 2011. A(H1N2)v: 2005. A(H1N1)v: 2005. A/Denmark/1/2021: February 2021.

<sup>2</sup>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).

<sup>3</sup>Case Fatality Rate: The proportion of cases that resulted in death.

<sup>4</sup>Reassortant novel influenza: refers to A/Denmark/1/2021 A(H1N1) of the pdm09 lineage.

### AVIAN INFLUENZA A(H5N6)

Two human A(H5N6) cases were reported in March 2021, one from China and the other from Laos. China notified the WHO of one case on March 2, 2021. The case, a 50-year-old male from Guangxi Province, was exposed to poultry before illness onset on February 16, 2021. He was hospitalized on February 17, 2021 and died on March 2, 2021. Laos notified the WHO of one case on March 15, 2021. This case was detected in Luang Prabang Province and is the first human A(H5N6) case reported outside of China. The case, a 5-year-old male with illness onset on February 28, 2021, has since recovered. Five human A(H5N6) cases have been reported to the WHO in 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 five times throughout 2020, and a sixth time on [January 14, 2021](https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html), continually assessing that COVID-19 constitutes a PHEIC.

As of March 31, 2021, 982,116 COVID-19 cases and 22,959 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(H5NX AND UNSUBTYPEABLE)

In March 2021, seven confirmed human cases of influenza A were detected in two states (Kano and Plateau) in Nigeria. These cases were detected following outbreak investigations of A(H5N1) in poultry across the country. All of the cases were either poultry farmers or live bird market traders. They were also reportedly all asymptomatic. Of these cases, three tested positive for influenza A(H5), but the neuraminidase (NA) subtype remains undetermined. The other four cases were unsubtypeable influenza A detections. Specimens from these cases were shipped to the WHO Influenza Collaboration Centre in the United States for subtyping and further characterization. To date, the only known human A(H5N1) case reported out of Nigeria was reported in 2007. No human A(H5N1) cases have been reported globally in 2021 so far.



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## AVIAN INFLUENZA A(H9N2)

Five human A(H9N2) cases were reported in March 2021, four from China and one from Cambodia. The four cases reported from China were from 3 different provinces: Guangdong, Hunan, and Anhui, with symptom onset dates ranging from October 20, 2020 to February 2, 2021. The median age of these cases was 7 (range: 2-51 years) and 50% (2/4) of the cases were male. Additionally, on March 17, 2021, Cambodia notified the WHO of one human infection with A(H9N2). This case, the first human A(H9N2) case detected in Cambodia, is a three-year-old male from Siem Reap Province. He developed mild illness on February 26, 2021. At the time of report, investigations were ongoing. In total, ten human cases of A(H9N2) have been reported globally in 2021.

## SWINE INFLUENZA UPDATES

### SWINE ORIGIN INFLUENZA A(H3N2)v

The most recent case of swine origin influenza A(H3N2)v was reported in January 2021 in the United States. A total of 437 cases, including one death, has been reported globally since 2011. One locally acquired case of H3N2v was reported in Ontario, Canada in December 2016.

### SWINE ORIGIN INFLUENZA A(H1N2)v

The most recent case of swine origin influenza A(H1N2)v was reported in December 2020 in Brazil. A total of 28 cases, including one domestic case from Alberta, Canada in October 2020, has been reported globally since 2005.

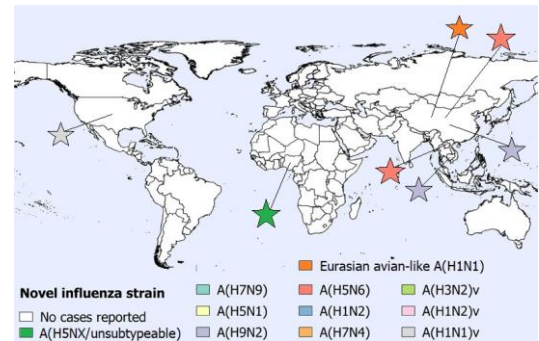
### SWINE ORIGIN INFLUENZA A(H1N1)v

On March 24, 2021, the United States informed the WHO of a human infection by influenza A(H1N1) variant virus [H1N1v]. The case was an adult from North Carolina. The case developed symptoms in November 2020 and sought medical care the same month. Initial test results indicated infection with the influenza A(H1N1)pdm09 virus; however, later sequencing results confirmed an influenza A(H1N1)v infection instead. Retrospective investigations revealed the case worked with and had daily contact with swine and there has been no report of human-to-human transmission. The case has since recovered. Including this case, thirty human cases of H1N1v have been reported around the world, with no fatalities.

In addition, on January 25, 2021, China notified the WHO of four human cases of Eurasian avian-like A(H1N1) [EA A(H1N1)]. These four cases were reported from four different provinces (Hubei, Liaoning, Yunnan, and Shandong) with illness onset dates ranging from August 2020 to January 2021. All reported cases were three-years-old or younger and reported mild symptoms before recovering. Half of the cases were male. No additional cases were reported amongst family members. Viral sequencing results indicate three of these viruses fall under the same genetic group [G4 EA A(H1N1)] as viruses detected in humans in recent years.

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 March 2021 (n=19).



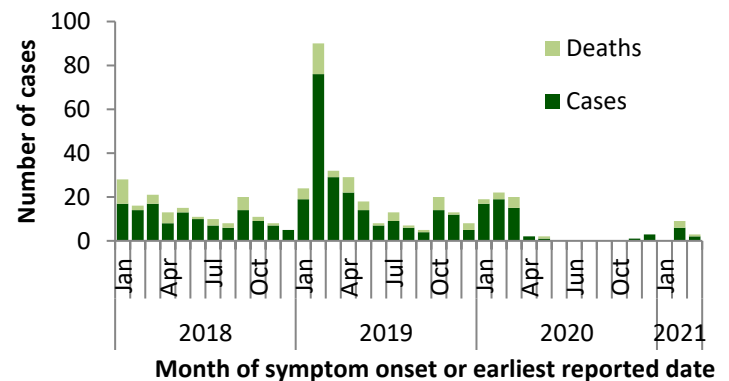
**Note:** Map was prepared by the Centre for Immunization and Respiratory Infectious Diseases (CIRID) using data from the latest WHO Monthly Influenza at the Human-Animal Interface Risk Assessment. This map reflects data available through these risk assessments as of March 31, 2021.

## MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-COV) UPDATE

Two new MERS-CoV cases were reported in March 2021, both from Saudi Arabia. The first case, a 57-year-old male from the city of Riyadh, reported exposure to camels prior to illness onset. He was classified as a primary case. The second case, a fatality, is a 56-year-old female who had no camel contact before illness onset. She was also from Riyadh and classified as a primary case.

Including these cases, eight cases of MERS-CoV have been reported around the world in 2021, with 7/8 (87.5%) cases reported from Saudi Arabia. A total of 2,565 laboratory-confirmed cases of MERS-CoV, including 876 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 March 31, 2021 (n=410).



**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 March 31, 2021.