

Armed Forces Health Surveillance Branch H7N9 Surveillance Summary (1 FEB 2017)



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DEPARTMENT OF DEFENSE (AFHSB)

Avian Influenza A (H7N9) Surveillance Summary #68

1 FEB 2017 (next Summary 15 FEB 2017)



CASE REPORT: As of 1 FEB, according to WHO, FAO, China's National Health and Family Planning Commission (NHFPC), and provincial governments within China, the total influenza A (H7N9) human case count since the fifth seasonal epidemic or "wave" of H7N9 beginning 1 OCT 2016 is 205 (+54) cases and 78 (+37) deaths. This is more than three times the number of H7N9 cases reported for the same time period during the fourth wave of H7N9 beginning OCT 2015. The total case count since the disease was first identified in APR 2013 is 1,068 cases with 359 deaths, in China, Hong Kong Special Administrative Region (SAR), Macao SAR, Taiwan, Malaysia, and Canada. The cases in Taiwan (4), Hong Kong SAR (19), Macao SAR (2), Malaysia (1), and Canada (2) are thought to have been imported from mainland China. The overall case-fatality proportion among known cases is 34%; the average age of those affected is 54 years; and at least 276 (+8) of the cases reported have been female. The most recent known date of onset was 20 JAN. Cases have been reported in 15 provinces of China: Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Shandong, Zhejiang, and Xinjiang; and three municipalities: Beijing, Shanghai, and Tianjin. In the fifth wave, Jiangsu Province has reported the most cases, 67 (33%) of 205 cases.

INTERAGENCY/GLOBAL ACTIONS: U.S. CDC removed their Level 1: Practice Usual Precautions travel advisory for China in APR 2016. U.S. CDC and WHO advise no special screenings at points of entry, and no trade or travel restrictions. On 15 OCT 2015, FAO released guidelines for [biosecurity improvements in live bird markets](#) and [risk communication](#) regarding H7N9. On 20 APR 2016, the Hong Kong CHP released updated criteria for H7N9 case classification to now include contact with a live bird market as possible exposure criteria.

TRANSMISSION: In a CDC [study](#) published in APR 2015, H7N9 antibodies were found among 6.7% of case contacts identified between MAR 2013 and MAY 2014 in China, suggesting that human-to-human transmission does occur and could cause mild or asymptomatic infections. Since much of the reporting out of China occurs in monthly batches, with limited information on age, gender, and location, it is possible that only the most severe cases and fatalities are being reported by China. It is unknown how many mild or asymptomatic cases have occurred and how many cases have occurred without laboratory testing. This lack of information coupled with the infrequent reporting makes spatial and temporal cluster analysis difficult. CDC reports that at the conclusion of the fourth wave of H7N9, there have been 26 known disease clusters since the beginning of the outbreak in 2013, and that cluster-associated cases account for 7% of the total reported cases. Of these 26 clusters, 23 (88%) were associated with family members only, and three involved nosocomial transmission.

BACKGROUND: On 1 APR 2013, WHO reported three human cases of infection with a novel influenza A (H7N9) virus in China. This was the first time human infection with H7N9 had been detected. CDC believes the H7N9 virus is likely a reassortant of H7N3 viruses from domestic ducks and H9N2 viruses from other domestic poultry. Seasonality has been observed since the beginning of this outbreak with a consistent pattern of declining incidence through the summer months followed by a spike in cases in the winter months. A recent [MMWR](#) study compared the "fourth wave" of H7N9 (SEP 2015-AUG 2016) with the previous three waves and reported that the most recent wave "demonstrated a greater proportion of infected persons living in rural areas, a continued spread of the virus to new areas, and a longer epidemic period." Confirmed avian H7N9 has been rare and subclinical but has been previously identified. H7N9 is usually asymptomatic in birds and many bird owners are likely unaware of infections and the risk of transmission. Detection in birds requires routine active surveillance, which FAO reports has resulted in over 2,000 virus-positives samples from the environment and chickens, pigeons, ducks, and wild birds since the beginning of the outbreak in 2013.

DIAGNOSTICS AND TREATMENT: The H7N9 testing and reporting guidelines and a list of DoD laboratories can be found [here](#). On 19 APR 2013, FDA issued an [Emergency Use Authorization](#) for the CDC Human Influenza Virus Real-Time RT-PCR diagnostic panel – Influenza A/H7 assay; this was made available on 26 APR 2013. WHO confirms oseltamivir (Tamiflu) and zanamivir (Relenza) are recommended treatments for H7N9.

SURVEILLANCE: Reagents for surveillance testing purposes are available via the [CDC website](#). NMRC has produced amplicon H7N9 positive testing control material using the published WHO primers/probes. Kits were sent to AFRIMS, NAMRU-3, NAMRU-6, NAMRU-2 Phnom Penh, NMRC-A, and NHRC for surveillance. Nineteen DoD laboratories were sent diagnostic kits, as have all 50 states, the District of Columbia, Puerto Rico, and more than 60 international labs.

(+xx) represents the change in number from the previous AFHSB Summary of 18 JAN 2017.

All information has been verified unless noted otherwise.

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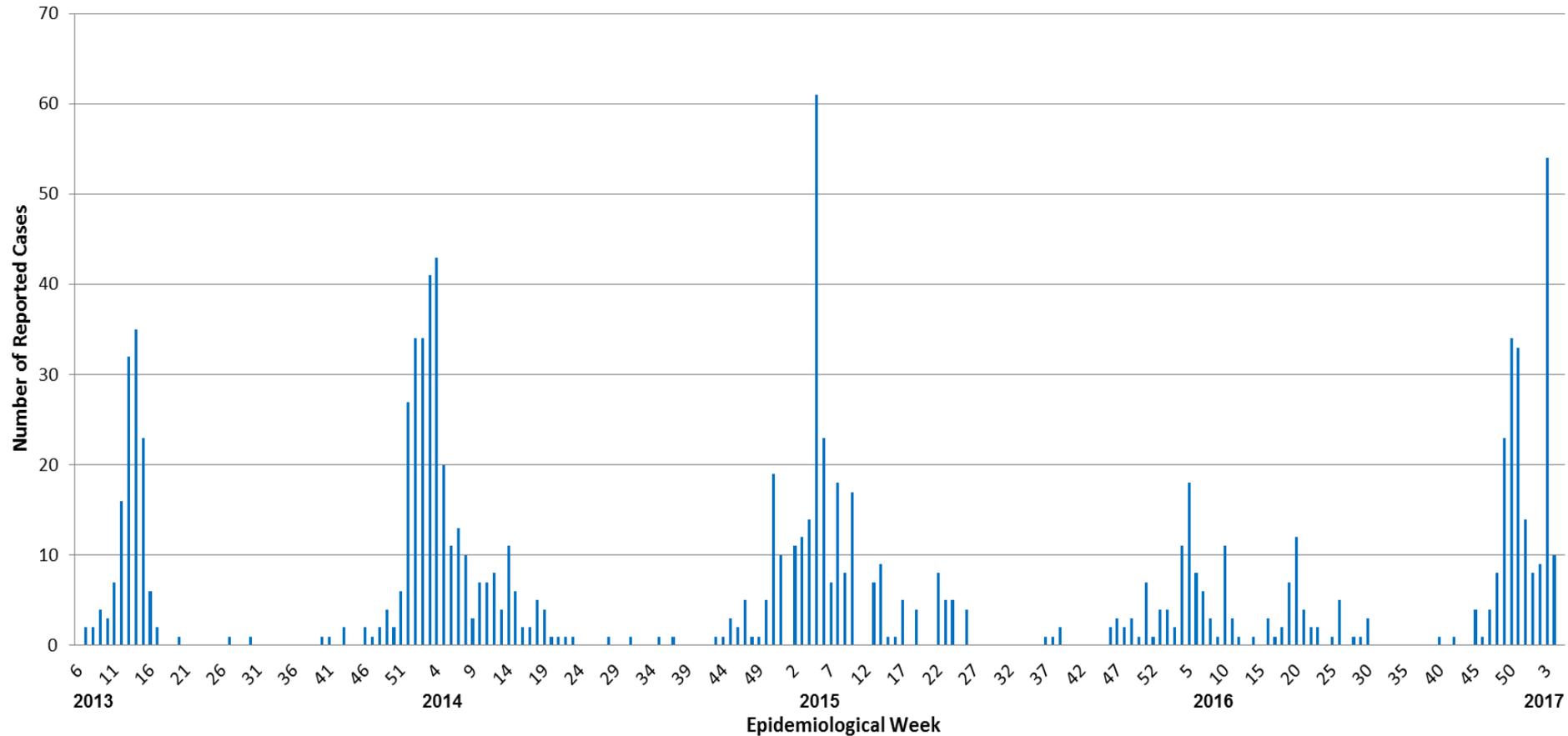
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Avian Influenza A (H7N9) Human Cases by Estimated Week of Onset As of 1 FEB 2017 (N = 1,068)



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Food and Agriculture
Organization of the
United Nations

October 2015 - 24 January 2017



Source: [FAO H7N9 Situation Update 24 JAN 2017](#)

This map illustrates the geographic distribution of human H7N9 cases and H7N9-positive samples in birds or the environment in China since OCT 2015. Human cases are depicted in the geographic location where they were reported; for some cases, exposure may have occurred in a different geographic location. Precise location of 62 human cases in Fujian (28), Jiangsu (13), Zhejiang (13), Guangdong (1), Hunan (5), Hubei (1), Hebei (1) and Xinjiang (1) are currently not known.

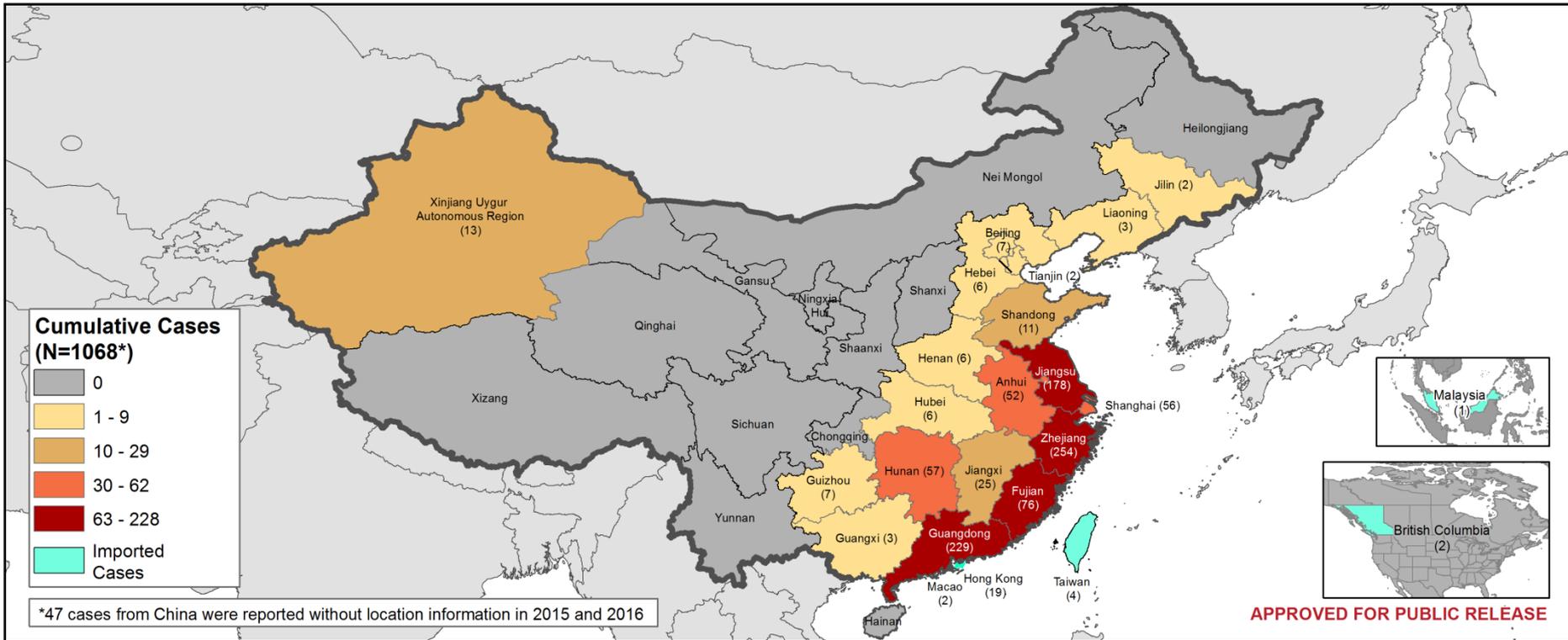
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Cumulative Human Cases of Avian Influenza A (H7N9)

1 APR 2013 - 1 FEB 2017



Wave 1

APR 2013-SEP 2013

Wave 2

OCT 2013-SEP 2014

Wave 3

OCT 2014-SEP 2015

Wave 4

OCT 2015-SEP 2016

Wave 5

OCT 2016-JAN 2017



Since the beginning of the avian influenza A (H7N9) outbreak, spikes in cases have been associated with seasonality. These "waves" of cases typically span 1 OCT to 30 SEP of the following year, see the above maps. These "wave" maps only illustrate autochthonous cases in China, not imported cases.

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