Chinese Notifiable Infectious Diseases Surveillance Project

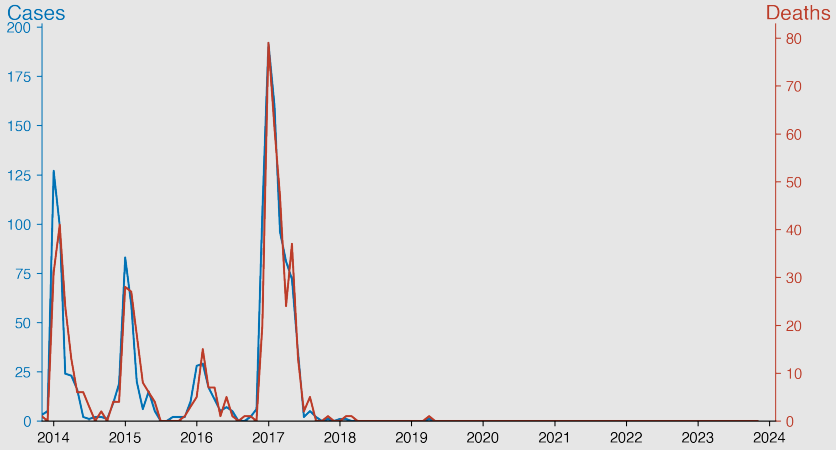
Human infection with H7N9 virus

November 2023

Introduction

H7N9 is a subtype of Influenza A virus causing severe respiratory illness in humans. First identified in China in 2013, it circulates among birds and poultry. Domestic poultry is the principal reservoir for human infection. Human transmission typically involves close contact with infected poultry or environments contaminated by the virus. Human-to-human transmission is limited and unsustainable at present. However, the ability of the virus to mutate heightens the risk of a potential pandemic. Severe complications include pneumonia and acute respiratory distress syndrome.

Temporal Trend



Highlights

- No H7N9 cases or deaths reported in the Chinese mainland since April 2019, indicating successful containment measures over four and a half years.
- Peak incidence occurred in early 2017, with the highest monthly case (192) and death (79) numbers observed in January.
- A significant decrease in case numbers post-2017, reaching zero in 2018, suggests effective public health interventions and/or changes in the virus's epidemiology.
- The current disease situation as of November 2023 shows sustained zero case and death counts, revealing no active transmission of the H7N9 virus.

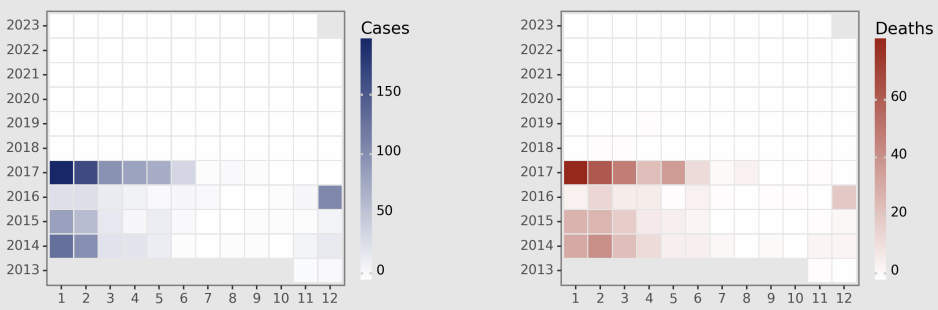
Cases Analysis

The H7N9 virus showed a sporadic pattern of human infections in China with peaks in January-February of 2014, 2015, 2016, and 2017, followed by a notable decline. The highest incidence occurred in January 2017 (192 cases). After a brief resurgence in late 2016 and early 2017, cases dropped sharply to sporadic occurrences or zero from mid-2017 to 2019, with complete cessation by 2020. This pattern suggests effective control measures or viral adaptations reducing transmission.

Deaths Analysis

The death counts closely mirrored the case trends, with peak mortality in January-February across observed years, particularly pronounced in January 2017 (79 deaths). Fatality rates were variable, reaching equality with case counts in March 2014 (100% fatality). After February 2017 (160 cases, 61 deaths), a steep decline led to zero reported deaths after March 2018. The cessation of deaths since early 2018 suggests successful intervention strategies or possible changes in viral virulence.

Distribution



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