Chinese Notifiable Infectious Diseases Surveillance Report

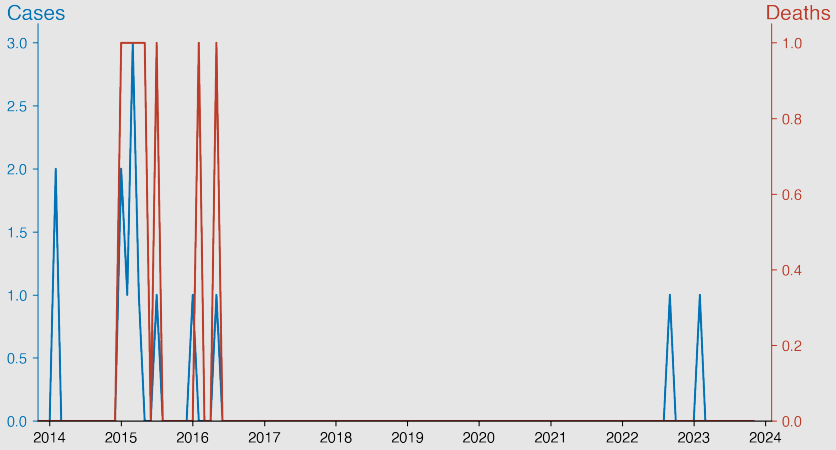
Human infection with H5N1 virus

November 2023

Introduction

H5N1 is a highly pathogenic avian influenza (HPAI) virus. It's largely a bird-adapted strain, originally transmitted from wild birds to poultry. Human infection with H5N1 is rare but concerning due to roughly 60% mortality rate. Necessary exposure typically arises from close contact with infected birds. In humans, the virus targets the respiratory system causing severe respiratory illnesses, like pneumonia. While not readily transmissible among humans, H5N1 has pandemic potential if it gains human-to-human transmission capability.

Temporal Trend



Highlights

The H5N1 virus human infection cases in mainland China are extremely sporadic and low in frequency, with 12 recorded cases between 2010 and 2023.

- A peak in incidents can be observed in 2015, with six cases and four fatalities being reported. Since then, reported cases have dwindled.
- The case fatality rate, although varying due to the small number of cases, has remained high, typically around 50%, indicating high virulence of the H5N1 strain in humans.
- Importantly, the years 2017 to 2021 recorded no cases, demonstrating effective control measures during this period. However, minor resurgences are witnessed in 2022 and 2023, demanding renewed vigilance.

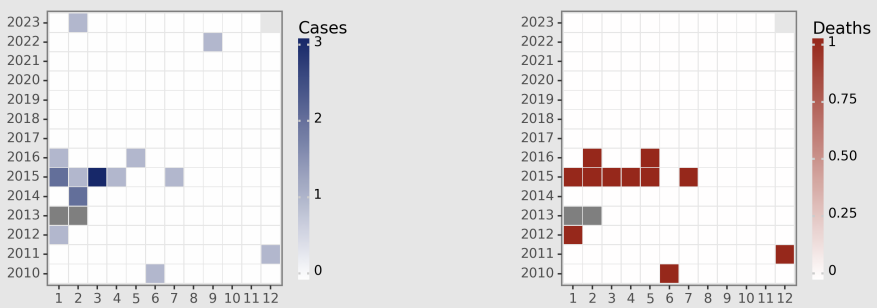
Cases Analysis

Over the 13-year period from 2010 to 2023, human H5N1 cases in mainland China were sporadic and relatively low, with only 13 reported cases. H5N1 human cases often presented themselves in isolated incidents with a notable increase in 2015, where 7 cases were recorded, the largest within this timeframe. Cases mostly occurred during the colder months of January and February, both seeing 4 separate incidents over the period. No consistent annual or seasonal trends could be observed in the dataset.

Deaths Analysis

During the period 2010 to 2023, there were a total of 8 deaths associated with the H5N1 virus in mainland China. Reflecting the case data, the highest death count also occurred in 2015, with 4 recorded fatalities. Despite the high fatality rate in this year, zero mortalities were reported in 2014, 2016, and after 2018, indicating a sporadic mortality pattern. Notably, all recorded death incidents coincided with reported H5N1 cases, suggesting a potential direct casualty link. Death during periods without reported cases suggests a potential undercount of milder, non-fatal infections.

Distribution



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