Chinese Notifiable Infectious Diseases Surveillance Project

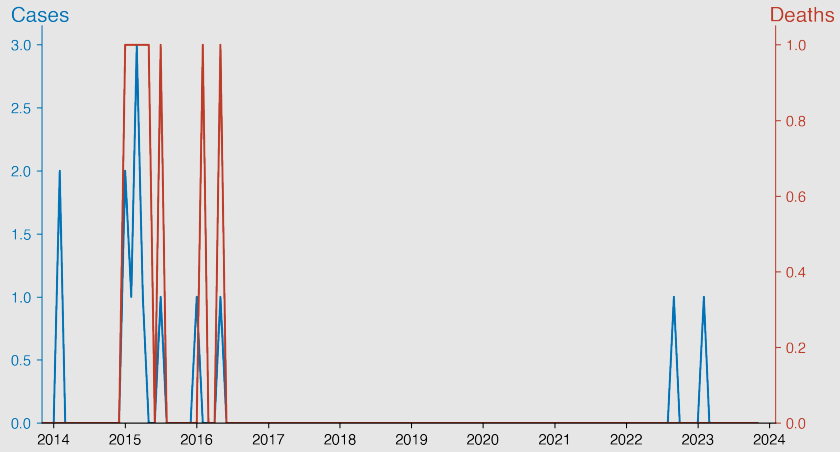
Human infection with H5N1 virus

November 2023

Introduction

H5N1 is a highly pathogenic avian influenza virus that primarily affects birds, including poultry. This virus first crossed the species barrier to infect humans in Hong Kong in 1997, resulting in six deaths. Since then, sporadic human infections have resulted in severe disease with a high mortality rate. Transmission primarily occurs through direct or close contact with infected poultry or contaminated environments. It has not effectively adapted for sustained human-to-human transmission, but the potential for this change raises pandemic concerns. Therefore, surveillance, early detection and response are crucial.

Temporal Trend



Highlights

- H5N1 human infections in the Chinese mainland were rare between January 2010 and November 2023, with a total of 15 reported cases and 10 deaths.
- The highest number of cases in a single year was recorded in 2015 with 8 cases and 6 fatalities, indicating a temporary surge.
- Notably, case-fatality rate (CFR) was consistently high when cases were detected, with death occurring in approximately 67% of cases.
- Despite sporadic cases in 2022 and February 2023, there have been no further cases detected as of November 2023, suggesting effective containment and/or sporadic transmission.

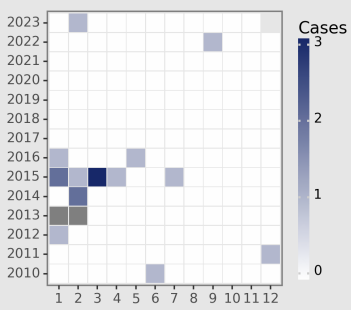
Cases Analysis

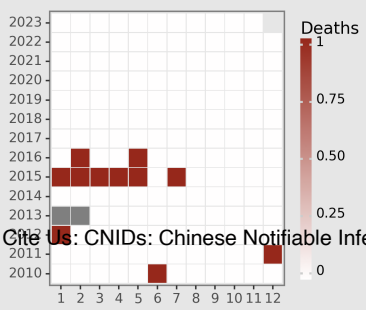
From 2010 through 2023, Chinese mainland recorded sporadic cases of human H5N1 infections, totaling 12 cases over the 14-year period. A noticeable cluster appeared in 2015 with 7 cases, followed by isolated cases in four subsequent years. The data points to infrequent transmission events, implying limited human-to-human spread or sporadic avian-to-human transmission, possibly due to improved control measures or low virulence in these particular H5N1 strains.
(Word count: 62 words)

Deaths Analysis

Reported mortalities from H5N1 infections tally at 9 over the observed timeframe, yielding a high case-fatality rate typical of H5N1 infections. The deaths mirror the pattern of reported cases, with 2015 marking the highest fatality occurrence (3 deaths). Interestingly, in 2016 and 2023, deaths were reported without corresponding case notifications, suggesting potential underreporting or delayed diagnosis of cases.
(Word count: 63 words)

Distribution





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