

# Chinese Notifiable Infectious Diseases Surveillance Report

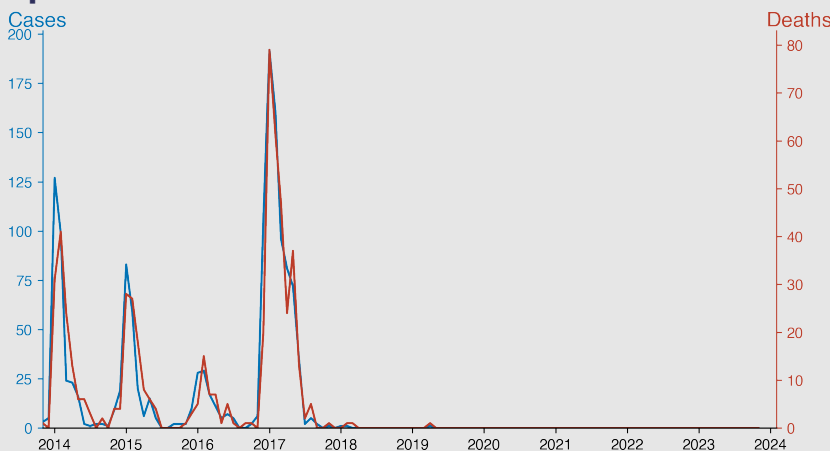
## Human infection with H7N9 virus

November 2023

### Introduction

Human infection with H7N9 virus, a subtype of influenza A virus, primarily occurs through exposure to infected poultry or contaminated environments. H7N9 is capable of causing severe disease, including pneumonia and acute respiratory distress syndrome (ARDS). Since its first reported human infections in China in 2013, H7N9 outspread has significantly impacted public health. While human-to-human transmission is rare, there is concern about the virus's potential to mutate and gain this capability, posing a pandemic risk. Evidence suggests that the virus does not readily infect humans, making surveillance critical.

### Temporal Trend



### Highlights

- Peak incidence of human H7N9 virus infections occurred during the winter and spring of 2013–2017, with a notable spike in cases and deaths in early 2017.
- Since February 2017, there has been a significant and sustained decrease in cases and mortality, with no cases reported since March 2019.
- This downward trend culminates in zero reported cases and deaths from H7N9 in China from January 2021 through November 2023.
- Such data suggest successful control measures have been implemented, and/or the virus has become less transmissible to humans, although continued surveillance is essential.

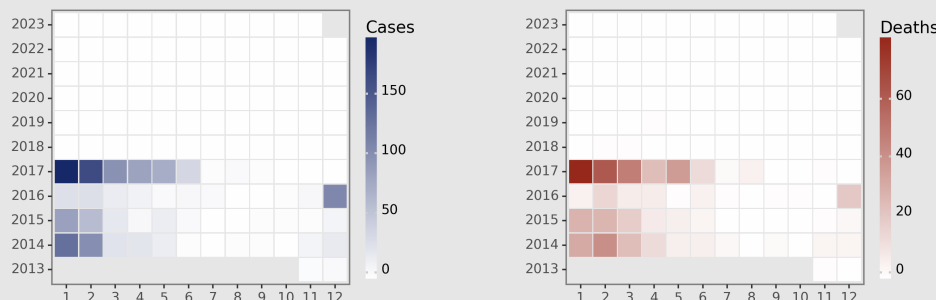
### Cases Analysis

H7N9 virus exhibited significant seasonality and intermittent peaks in reported cases in Chinese mainland. Cases surged from January 2014, peaking in the same year's February with 99 cases then declined. Notable spikes occurred annually during winter-spring periods, with the highest recorded in 2017 January (192 cases). Post-2017, cases steeply diminished, recalling control measures and possible shifts in viral patterns, leading to no reported cases from May 2019 onward, signaling effective containment or reporting changes.

### Deaths Analysis

The fatality pattern mirrors case surges with a lag, highlighting a consequential mortality associated with H7N9. The mortality rate peaked in February 2014 (41 deaths) and further escalated until 2017, with an apex in January (79 deaths), exceeding morbidity peaks. Marked seasonality suggests higher lethality during the cold season, potentially due to enhanced viral virulence or host susceptibility. A drastic mitigation in deaths is visible from mid-2017 forward, paralleling the case trend and suggesting effective intervention or viral evolution resulting in reduced fatality.

### Distribution



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