Chinese Notifiable Infectious Diseases Surveillance Report

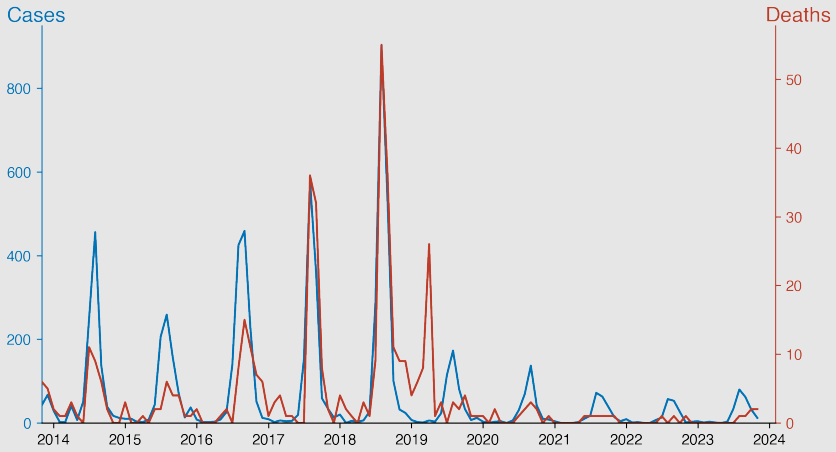
Japanese encephalitis

November 2023

Introduction

Japanese encephalitis (JE) is a virus-based disease predominantly found in parts of Asia and the western Pacific. It's primarily transmitted through mosquito bites, particularly those active at dusk and dawn. Humans and animals, especially pigs and water birds, are likely hosts. JE often causes mild symptoms but could lead to encephalitis in severe cases. Symptoms include fever, headache, vomiting, confusion, and seizures. Vaccination is the most effective form of prevention. Despite being a relatively rare disease, JE potentially leads to long-term neurological complications and death in severe cases.

Temporal Trend



Highlights

- Seasonal trends show summer peaks in case numbers, especially in August, aligning with mosquito breeding patterns.
- Fluctuating fatalities occurred over the years, with notable highs in August 2017 and 2018, suggesting occasional severe outbreaks.
- A significant decline post-2018 implies successful interventions, with low incidence and mortality rates thereafter.
- As of November 2023, Japanese encephalitis cases have stabilized, with 12 cases and 2 deaths indicating a presently controlled situation.

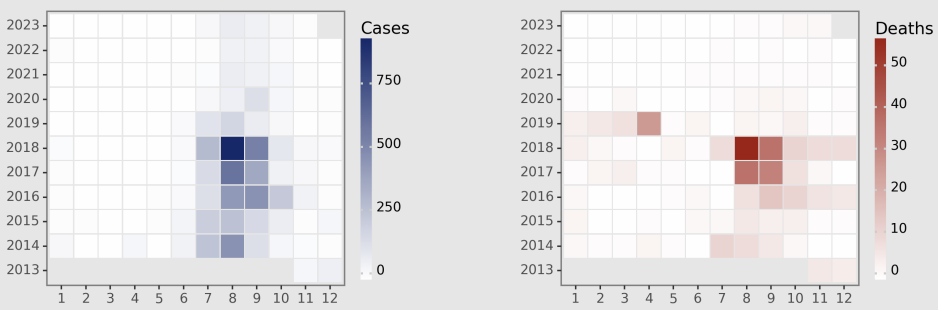
Cases Analysis

The data exhibits a strong seasonality pattern in Japanese encephalitis cases across the years, with peaks typically occurring in the warmer months (July-August), when the mosquito vector populations rise. The years 2014 and 2018 marked the highest surges with 456 and 904 cases respectively in August. Steady annual declines in the peak months are noticeable post-2018. Apart from these peaks, the incidence generally remains low (<100 cases per month). Notably, there has been a substantial reduction in cases since the peak of 2018, indicating possible improvements in public health measures and vaccination coverage.

Deaths Analysis

Mortality trends closely follow the case trends, with the highest death tolls occurring concurrently with the highest case counts, especially evident in August 2018, recording 55 deaths. Annual fluctuations in fatality rates indicate variable case severity or reporting accuracy, as observed by the anomalies in December 2013, 2014, and February 2014 with high death-to-case ratios. Subsequent years show a general decline in fatalities, which could reflect better disease management and intervention strategies. However, the years 2019 and 2023 display disproportionate fatalities relative to lower case counts, suggesting potential changes in the virulence of the virus or reporting practices.

Distribution



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Version: 2024-01-07 (UTC+)

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