Chinese Notifiable Infectious Diseases Surveillance Project

Japanese encephalitis

November 2023

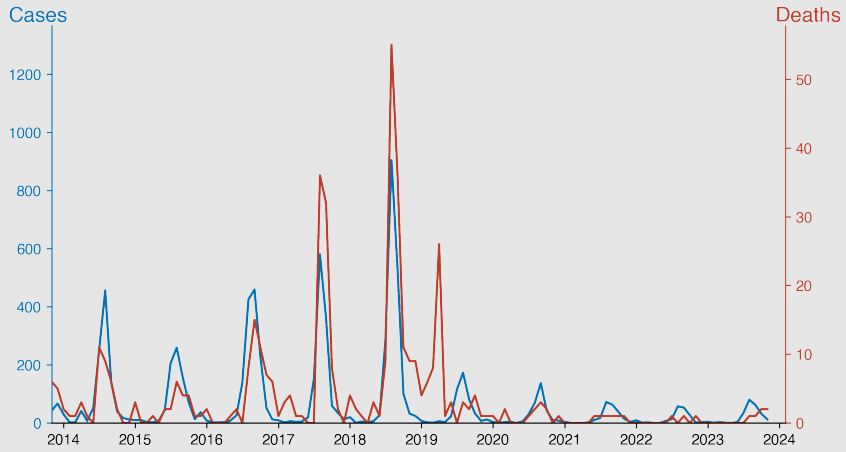
Introduction

Japanese Encephalitis (JE) is a contagious disease primarily prevalent in Asian and Western Pacific regions. It's caused by the JE virus, which is transmitted to humans through infected mosquitoes. Most infected individuals show no symptoms, but severe cases may develop intense neurological issues such as fever, encephalitis, and even death. There is no cure, only treatment to alleviate symptoms. Vaccination offers the most effective protection against JE. Despite its regional concentration, JE poses international health concerns due to global travel and potential virus spread.

Highlights

- Significant seasonal peaks of Japanese encephalitis occur in the Chinese mainland during the summer months, particularly July to September, correlating with heightened mosquito activity.
- An overall decline in cases and deaths since 2010 suggests effective implementation of control measures, such as vaccinations and mosquito management.
- The most substantial outbreak was in August 2010, with 1,301 cases, but later years show reduced incidence, indicating progress in disease control.
- Sporadic increases in cases, like in August 2018, emphasize the need for ongoing prevention and surveillance to mitigate future outbreaks.

Temporal Trend



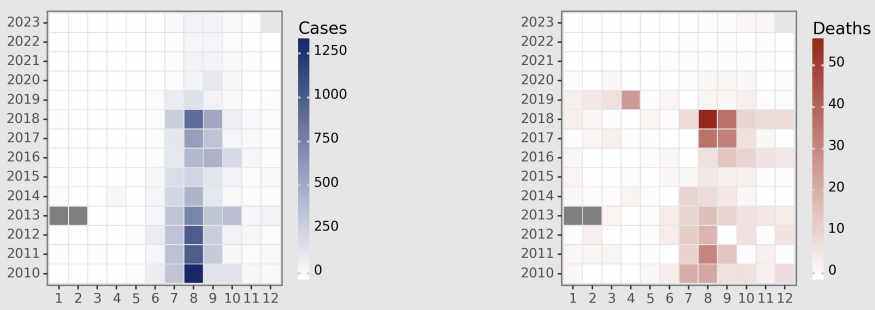
Cases Analysis

Japanese encephalitis cases in Chinese mainland exhibited a strong seasonal pattern from 2010 to 2023, with peaks typically occurring in July and August, which coincide with the mosquito breeding season. The highest number of cases was observed in August of 2010, 2011, 2012, and 2018, with a notable decrease in cases starting from 2019 onwards. The data suggests a possible effectiveness of control measures or underreporting in recent years. Sporadic cases are seen throughout the year, indicating some level of endemicity.

Deaths Analysis

Deaths followed a similar seasonal pattern to cases but with a less pronounced peak. The highest mortality was observed in August 2018. There was an unusual spike in death rates in April 2019, which significantly deviates from the overall trend and may signal potential changes in either the virulence of the pathogen, underreporting in preceding months, or anomalies in data collection. The overall decreasing deaths from 2019 suggest improving clinical management or reporting accuracy, while persistent fatalities even in lower-case scenarios highlight the disease's severity.

Distribution



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