Chinese Notifiable Infectious Diseases Surveillance Report

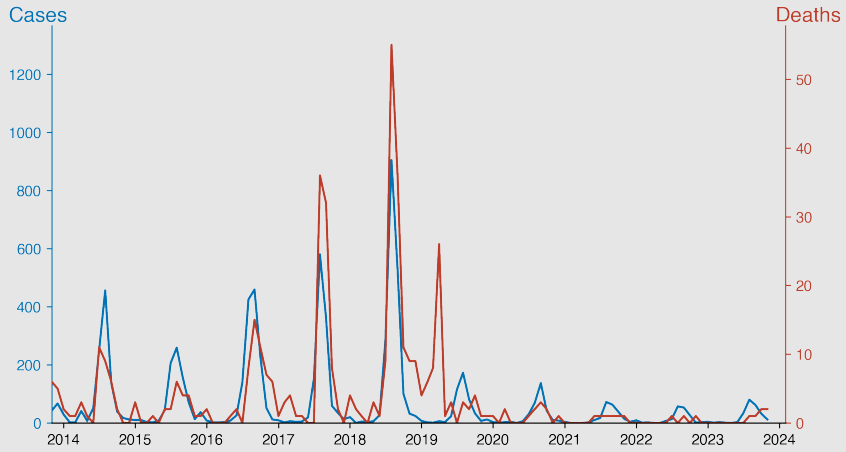
Japanese encephalitis

November 2023

Introduction

Japanese Encephalitis (JE) is a severe infectious disease primarily prevalent in Asia, and is caused by the Japanese encephalitis virus transmitted through the bite of infected Culex mosquitoes. Most individuals show mild symptoms such as fever or headache, but severe cases can lead to encephalitis. Approximately 20%-30% of severe cases are fatal, while survivors often experience long-term neurological consequences. Despite being a vaccine-preventable disease, it remains a significant cause of viral encephalitis worldwide, due to vast under-immunization coverage and maintained virus circulation in mosquito and animal reservoirs.

Temporal Trend



Highlights

There is a clear pattern of seasonal variation in Japanese encephalitis (JE) cases. Peaks occur in the summer months (June to September) each year, signifying that JE transmission is largely seasonal.
2. The overall trend of the disease shows a reduction over years, since the considerable peak of 1301 cases in August 2010, the cases have been on decline and only reach an approximate peak of 80 in August 2023.
3. After 2018, negligible to no cases have been recorded in early spring (March through May), hinting towards extreme seasonality or successful control measures.
4. Although decreasing, the fatality rate remains non-zero, showing disease can potentially lead to severe health consequences, emphasizing the need for sustained control efforts.

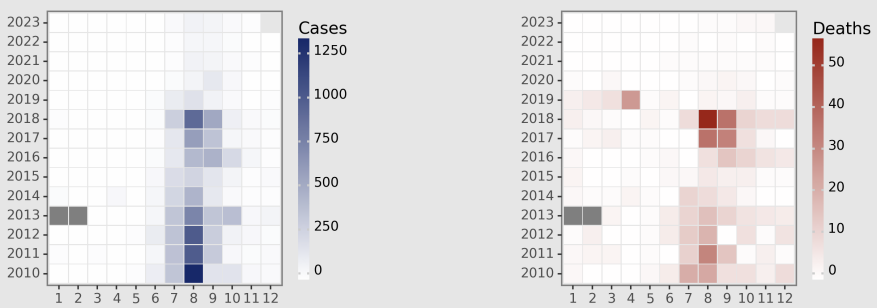
Cases Analysis

A typical seasonal pattern is observed for Japanese Encephalitis cases in mainland China. High incidence rates occur from June to October, with peaks often in August. Lower case counts are reported from November to May, implying a probable connection to vector prevalence, which grows in summertime. Over the years, there seems to be a gradual reduction in cases, suggesting improved disease control or changes in alertness and reporting systems. Nevertheless, yearly variations and occasional spurts are present, warranting continuous monitoring and effective interventions. Long-term forecasting models may assist in predicting future trends efficiently.

Deaths Analysis

Similar to case trends, the majority of deaths also usually occur from June to October, reflecting the severity and rapid course of Japanese Encephalitis. While the mortality peaked in August 2018 with 55 deaths, a declining trend is noticeable in consequent years, demonstrating the impact of enhanced case management and preventive strategies. However, a concerning aberration occurred in April 2019 with 26 deaths, despite low case numbers - necessitating in-depth investigation into potential causes. Continued focus on early detection and clinical care improvement could help in further decreasing Encephalitis-related mortality.

Distribution



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Version: 2023-12-27 (UTC+)

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