Final Project Report Group 32

1. Dataset

We take “Daily and Regional Confirmed Cases of Dengue from 1998 to 2024” to be our dataset. Dataset. This dataset contains the time of each case, the gender, the location, the serotype, and the age of infected person.

2. Motivation

Given the rising concern over dengue fever outbreaks, our website serves as a comprehensive visualization platform that maps the temporal and geographical distribution of dengue cases, along with demographic data across different age groups.

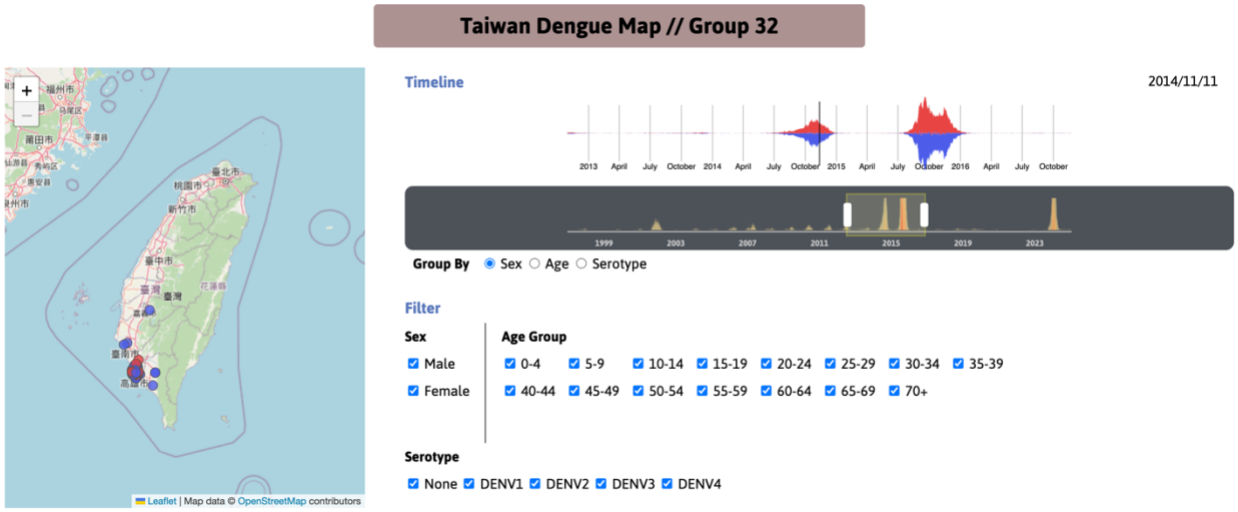
By presenting this information in an accessible and interactive format, we aim to help public health officials identify high-risk areas and vulnerable populations, enabling more targeted prevention strategies. The platform also empowers citizens to stay informed about outbreak patterns in their communities, promoting better awareness and proactive prevention measures. This data-driven approach not only enhances public health decision-making but also contributes to more effective dengue fever surveillance and control efforts.

3. Target

Our website's primary target is to create an intuitive and comprehensive dengue fever surveillance platform that bridges the gap between public health data and community awareness. Through dynamic visualization of temporal patterns, geographical hotspots, and age-related trends, we strive to provide health authorities with actionable insights for targeted intervention strategies.

The platform aims to serve as a crucial tool for both public health officials in their decision-making process and local communities seeking to understand their risk levels. By making complex epidemiological data accessible and understandable, we seek to contribute to more effective dengue prevention efforts and improved public health outcomes across affected regions.

4. Interface Discription



Our interface looks like this: The timeline at the top displays a theme river of dengue fever confirmed cases, with red representing females and blue representing males. You can also visualize the theme river by age groups or dengue fever types on the timeline, which will then show the distribution based on these classifications.

The gray section below allows you to zoom in on specific time periods, as displaying all dengue fever cases from 1998 to 2024 on the timeline at once would be unclear. Below are several filtering options where you can set conditions based on age, gender, and dengue types to show only cases that meet specific criteria on both the map and timeline.

5. Found

Through the visualization, we could found that southern Taiwan has more confirmed cases. The probability of being infected between male and female are roughly the same. And there is a server outspread of dengue on 2015-2016. And most of the cases founded in Taiwan are DENV2. And also, we found that dengue is more common in august to December.

6. Conclusion

Our visualization platform has successfully demonstrated its value in understanding dengue fever patterns in Taiwan. The interactive features and comprehensive data presentation have revealed crucial insights about geographical hotspots, gender distribution, and temporal trends of dengue outbreaks. This tool not only helps identify that southern Taiwan faces higher risk, particularly during the 2015-2016 outbreak period, but also highlights the prevalence of DENV2 serotype. These findings can significantly contribute to public health planning and community awareness, ultimately supporting more effective dengue prevention strategies in Taiwan.

7.Future Work

Looking ahead, we plan to enhance our platform by incorporating real-time data updates and predictive modeling capabilities. We aim to develop more sophisticated filtering options and integrate weather data to better understand environmental factors affecting dengue transmission. Additionally, we envision adding mobile accessibility and push notifications for local outbreaks, making the platform more user-friendly and practical for both public health officials and community members.

Contribution

郭穎達 website 5% report 100%
嚴偉哲 website 95%