



The Early Warning and Response System for Dengue Outbreaks in Thailand: Lessons Learned from First Step Implementation

Thunyaporn Sirijantradilok^{1,*}, Apinya Niramitsantipong², and Axel Kroeger³

¹Rayong Hospital, Rayong, Thailand

²Division of Vector Borne Diseases, Department of Disease Control, Ministry of Public Health, Nonthaburi, Thailand

³Centre for Medicine, and Society (ZMG)/Planetary Health, Freiburg University, Freiburg, Germany

*Corresponding author, E-mail: Thanksirii@gmail.com

Abstract

Thailand is a dengue-endemic country, facing climate change and urbanization transitions leading to increased risk of dengue outbreaks. In June 2024, Thailand piloted the Early Warning and Response System for Climate-Sensitive Disease Outbreaks (EWARS-csd), developed by the World Health Organization, using as an example the dengue outbreak in the Mueang Nakhon Nayok district to study process and program effectiveness. This qualitative research aims to review the first steps of the EWARS-csd implementation process and identify the perspective of users to develop key recommendations for scaling the program nationwide. In-depth interviews were conducted with 13 persons to describe the current state of the pilot implementation of EWARS-csd for dengue surveillance and vector control activities and identify the perspectives of users. Thematic analysis was used for data analysis. The study found that the pilot implementation of EWARS-csd for dengue surveillance and control activities reduced unnecessary work and had the potential to mitigate dengue outbreaks. However, it also increased the burden of inputting indicator data and activity recording. The study indicated the benefits of EWARS-csd integrating with national dengue surveillance to decline unnecessary control activities. To support nationwide implementation, the automatic system for inputting indicators to EWARS-csd is crucial for reducing health officers' workload and facilitating a timely response. To conclude, EWARS-csd is a tool for predicting outbreaks in order to provide time for preparing response activities. The tool can be used at the operational level (subdistrict, district, or province) and strengthens local and central or national interaction.

Keywords: dengue, EWARS-csd, surveillance, dengue outbreak, Thailand