

## **Spatio-temporal clustering of dengue incidence**

### **ABSTRACT**

Dengue fever is a well-known vector-borne disease caused by *Aedes aegypti* mosquito. It has become a major burden to economy and society of affected country. In Malaysia, dengue incidence in Selangor has been worsening and alarming. The aim of this study is two-fold; to examine the trend and behaviour of dengue incidence across time and districts in Selangor and to cluster the endemic areas in Selangor using Wards hierarchical clustering method. The spatial and temporal analysis found that the dengue incidence is worsening in the early and middle of the year. The Wards minimum variance method was able to cluster Selangor's endemic area into high endemic areas (Gombak, Hulu Langat, Klang and Petaling), medium endemic area (Sepang) and low endemic areas (Hulu Selangor, Kuala Langat, Kuala Selangor, Sabak Bernam). The findings of the study are significant to respective local authorities in providing information for monitoring and planning the early dengue warning systems. This is important to reduce the dengue incidence in hot spot areas and to safeguard the community from dengue outbreak.