**Introduction**

Dengue is the most prevalent mosquito-borne viral disease that spreads rapidly among people [1]. In such case, disease prevention and control measures should be improved via early detection and monitoring of outbreaks. Early recognition of an outbreak supports the health officers to plan pre-emptive measures. However, there is no completely computerised dengue surveillance system in Sri Lanka to notify and prevent these kind of communicable diseases [2]. Present manual dengue outbreak prediction is incomplete and time consuming [3]. This study proposes a system that automates the entire manual surveillance system which deals with various level of health related officers by providing them facilities such as monitoring dengue risk areas and reporting dengue outbreaks to the public.

**Contributions**

- In order to make an efficient reporting and early warning system, a gap analysis was conducted with the help of northern region health officers and doctors of Jaffna Teaching Hospital to improve the solution.
- The developed dengue surveillance system mainly targets to alert the public.
- In the system, a dynamic GIS dengue risk map is integrated and a heatmap can be visualised to alert the public.
- Medical and Molecular Entomology Research Laboratory do the additional dengue confirmative and serotype test and provide the details through the system.

**Strengths of the System**

- Active surveillance
- Inclusion of dengue risk notifications from private hospitals
- Integrating laboratory test results in to the notification process
- Centralised storage of dengue details that ensures data privacy
- Reduced time of notification process enables fast prevention
- Bridging the gap between medical officers and health officers.
- Summarising the data more user friendly
- Dengue risk predictions will be effective

**Innovativeness**

The proposed system is developed to be complete, timeliness and sensitivity that influence the information flow in the notification process when comparing to the existing manual notifiable disease surveillance system at different levels. The systems speeds-up the detection and prevention of dengue cases via a user friendly web-based intelligent system. In addition, public will be alerted through dengue risk map. Furthermore, the system is expected to predict future dengue outbreak through a mathematical model.

**Future Work**

As near future work, the risk factors for dengue is being analysed and will be modelled to produce more valid prediction of outbreaks.

**References**