

**Ph.D. in Library and Information Science**

**Information system for recording and reporting of communicable diseases in  
Sri Lanka**

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**Abstract**

Preventing the transmission of infectious diseases has never been more challenging than today in a world that is characterised by tremendous globalisation, connectivity and speed. Notifiable disease reporting systems provide the basis for surveillance of communicable disease. An efficient, functional surveillance system is essential in providing accurate and appropriate information for action on priority communicable diseases. The aim of this study is to evaluate the existing surveillance system for notifiable diseases in Sri Lanka, in order to improve the notification of communicable diseases in Sri Lanka, by examining a similar system in the United Kingdom and to propose a computerised system for reporting of notifiable diseases. This study was carried out among health staff engaged in notifiable disease surveillance activities in Jaffna (Sri Lanka) and Sheffield (UK). A qualitative approach, using in-depth semi-structured interviews, was chosen to collect information about their perception of, and problems within the existing system for surveillance of notifiable diseases and suggestions for improvement in performance. From the knowledge and experience gained through the study carried out at locations in the UK and Sri Lanka, an information system model suitable for notifiable disease surveillance in Sri Lanka is developed by using Soft Systems Methodology. The exploratory study in Jaffna revealed that incompleteness and delay in reporting are the main causes for the poor surveillance data reporting. In order to improve the completeness of reporting in Jaffna (SL), it is found that in addition to western medical practitioners (in the government sector), other sources such as indigenous medical practitioners, western medical practitioners in the private sector, public health workers, and general public should also be incorporated into the notification system. Computerisation of the surveillance process is suggested to enhance the timeliness of reporting. In both countries, epidemiological publications are published at national level as a source of feedback for surveillance data provided at regional and local levels. In Jaffna (SL), the factors such as limited circulation, lack of awareness, problems in accessibility, time delay in publication and medium as a barrier for utilisation are contributing to the poor utilisation of these publications among health professionals. It is recommended to take initiatives at regional level to collect, collate and publish epidemiological information, at regular intervals. Computerising the surveillance process is found to be essential to improve the timeliness of reporting and making various sources involve in reporting. Thus, a conceptual design for computerising the notification part of the surveillance process of infectious diseases is proposed. This electronic system for notification can be established at locations so that personnel from various sectors and public shall involve in notification. It is suggested to gather information as per *H544 form* for the notification. With this in mind, entities such as *Patient, Practitioner, Medical institution, Notifiable disease, Laboratory, MOH area, PHI range, GS division, DS/AGA division, and Public, etc.* were identified, and association among these entities were developed through relations *Treatment, Lab reporting, Inform, etc.* This system shall be introduced to all healthcare professionals engaged in notifiable disease surveillance activities. In addition, public notification should be facilitated through a public network system such as the Internet as a convenient and more viable way of notification and reporting.