Abstract

Communicable diseases are a major public health problem contributing to morbidity and mortality of mankind. Disease surveillance is vital for control and prevention of communicable diseases. This study aims at assessing the three main surveillance systems in Sri Lanka for communicable diseases, namely the Notifiable Disease, Tuberculosis and Malaria Surveillance Systems. Assessment of the Surveillance Systems identified key areas which required improvement and an intervention model was developed to improve data management at MOH and District Hospital level. The feasibility of implementing the intervention was assessed by conducting in-depth interviews (n=13) with categories of health staff that would be responsible for implementing the intervention. The study was conducted in Kurunegala district.

Notifiable Disease Surveillance System is based on the notification process and it is conducted through a well established information pathway. The assessment of this system can be done by following the pathway of flow of information using existing records.

Record keeping regarding out-patients was found to be poor both in the government and the private sector, as revealed in the sample of government sector (n=9) and private sector (n=13) institutions assessed, where the availability of diagnosis registers and notification registers was found to be less than 5% and 10% respectively. Hence the notification of out-patients was assessed by introducing a questionnaire to a sample of medical officers working in the OPD of government hospitals (n=48) and the private sector (GPs and private hospitals) (n=47). It revealed that none of the 273 patients with notifiable diseases, whose notification status could be assessed, was notified to the relevant MOH.

The entire notification process was assessed through existing records in a sample of hospitals (n=13) in Kurunegala district with respect to notification of in-patients from the hospital to the MOH through to field investigation and finally to reporting to the central level. These hospitals were selected by stratified sampling. Only 41.8% patients who

should have been notified had been notified to the MOH of the relevant area and this procedure had taken a mean time duration of 7.6 days. Of the notified patients, 87.6% had been investigated at the MOH office and the investigation has taken a mean time duration of 7.9 days. Of the investigated patients, individual patient details were sent in only 33.1% of patients to the Central level.

Hospital record keeping which plays an important role in in-patient notification was also assessed. BHT being the key in-patient record. Record keeping of in-patients was found to be satisfactory with 92.7% of records being available and 84.6% of records bearing the final diagnosis. However, only 65.2% of BHT with notifiable diseases were entered correctly in the IMMR.

Notification of TB is done following confirmation of diagnosis and not on suspicion. If TB surveillance was assessed using existing records, vital information such as how long the patient had symptoms before seeking care and where the patient had gone initially for treatment would not be drawn. Therefore TB surveillance was assessed by extracting information from TB patients through an interviewer-administered questionnaire, given to a sample of pulmonary TB patients (n= 83) attending the District Chest Clinic, Kurunegala. A drawback in this method of assessment is the inability to assess the attributes of TB patients who do not enter the National TB control programme.

Only 40% of TB patients in the present study had brought their contacts to the chest clinic. A larger proportion of TB patients had visited a government hospital (53.7%) at the onset of their symptoms and 17.1% of them had sought treatment after one month of onset of symptoms. Field visits were not conducted by the range PHI in 20.8% of notified patients.

Assessment of the malaria surveillance was carried out by conducting in-depth interviews (n=6) with health staff responsible for malaria control activities at regional and MOH level. However, the monthly reporting to RMO by APCD institutions was studied in a

sample (n=12) of APCD institutions to complement the assessment. Completeness of reporting to RMO by these institutions was found to be 100% with a mean time duration of 7.5 days taken for reporting. The present decline in malaria incidence and the differences in malaria notification and surveillance procedure in comparison to other notifiable diseases necessitated the use of in-depth interviews for assessment of malaria surveillance.

Participants of the in-depth interviews stated that more feedback information is needed from the regional level to the local level health staff. They were also of the view that coordination at hospital level should be improved to increase receipt of parasitic surveillance data from MLT. A positive aspect in malaria control was that its control activities were carried out following definitive identification through a programme oriented rationale.

Assessment of the Surveillance Systems identified key areas which required improvement and an intervention model was developed to improve data management at MOH and District Hospital level. Development of the model intervention was limited to improving data management of notifiable disease surveillance system. Concentrating on one surveillance system improved the focus of the intervention. Activities to improve the key areas were designed using Delphi technique and feasibility of implementing the intervention was assessed by conducting in-depth interviews (n=13) with categories of health staff that would be responsible for implementing the activities suggested in the intervention.

A favourable response to change was observed among participants in general but their individual views varied.

Improvement of surveillance activities at OPD was a key area of focus in the intervention. Participants who took part in the in-depth interviews to assess the feasibility of the intervention were of opinion that the services provided by medical officers should

not be overburdened. However, their opinion of medical officers being overburdened was not verified by other means such as observation techniques in the present study. Keeping relevant forms in abundance at conveniently located places, use of carbonised forms when necessary and assigning a nursing officer to facilitate and coordinate these activities were recommended as positive changes to enhance surveillance activities at the OPD.

Opinion was that Quarterly review meetings by senior supervisory staff would be useful. Use of modern technology was considered important and productive towards improving surveillance activities. However, there was opinion that financial constraints may limit such activities.

Methods of supervision such as random field supervision by the MOH or the SPHI on notified patients were considered productive and feasible. Participants felt that motivation and commitment of staff responsible for implementing surveillance activities including the head of institution himself was crucial. Utilization of the generated surveillance data by health managers for decision making, especially at the local level would decide the ultimate success of the intervention.

The study recommends assignment of a nursing officer to facilitate and coordinate notifications at the OPD. It also recommends that in-patient record keeping and notification be improved through periodic reviews and field investigations on notified cases be improved through supervisory home visits by MOH and SPHI.

With the decline in malaria incidence, the study recognises the need to further strengthen parasitic surveillance activities and recommends that APCD (Activated Passive Case Detection) institutions be the focus for strengthened surveillance. It is recommended that these hospitals send a consolidated laboratory weekly return on malaria cases detected by PHLT and hospital MLT to the regional laboratory, including nil returns if positive cases are not detected. It also recommends conduction of community awareness programmes to reduce the delay in seeking health care by TB patients.