

ABSTRACT

Outpatient departments of state hospitals in Sri Lanka lack a proper patient registration and a record keeping system. Thus outpatient morbidity is not available in Sri Lanka although annual OPD attendance exceeds 3 million in the country. The present research was carried out with the purpose of studying the OPD patient recording system in the state sector institutions in the Polonnaruwa district in order to plan and implement new manual and electronic OPD patient record systems focusing on outpatient morbidity statistics.

In designing and development of both manual and electronic systems, views of care providers and experts were taken in to consideration. Initially patient encounter forms and data reporting forms were designed. Record retrieval mechanism of the manual OPD patient record system was developed, followed by designing and development of software based on the manual system enabling the use of a common OPD patient encounter form and reporting formats in the electronic system. Data retrieval of the electronic system was made efficient by introducing an advanced search mechanism. Staff of the hospitals in Polonnaruwa District were introduced to the new systems through a series of training and awareness sessions. The two systems were pilot tested and subsequently implemented. The Manual system was introduced to all selected hospitals and the electronic system to GH Polonnaruwa.

The quality of data was assessed by assessment of completeness of data of the manual OPD patient encounter form and the accuracy of data transfer from the manual to the electronic system. The availability of essential and important data recorded by MO/OPD, and at other patient encounter stations was above 75% in all hospitals. The adequacy and legibility of data were satisfactory. Morbidity recording averaged 88.3% in all hospitals. Notification

status of the disease condition was noted in over 71%. The data compatibility between manual system and electronic system was 98% during data transfer.

Morbidity data of outpatients could be analyzed stratified by age and sex. Morbidity data according to Broad Disease Groups was available in more than 84.4% of patient records (range 84.4% to 94.2%). The Most prevalent diseases were respiratory diseases (38.4%), infectious and parasitic diseases (13%) and diseases of musculoskeletal and connective tissues(12.3%). Among OPD attendees, 24.9% were aged 31 to 49 years, 20.4% 5 to 16 years and 19.4% were 17 to 30 years. Females were more (average 55%) in all hospitals. With certain deviations in the rank order, the disease pattern remained similar in the different hospital categories. The disease pattern was characteristic to each age group and, within each disease group, there was a characteristic age distribution. The sex distribution in some broad disease groups changed with increasing age (e.g. musculoskeletal and connective tissues, respiratory diseases).

Retrievability of records was better in the electronic system compared to manual system during the study period (manual: up to 6th previous record in 27 OPD patients; electronic: up to 11th previous record in 44 patients). Making the patient's previous records available to MOs OPD through record retrieval practice contributed to the improvement of patient care according to findings of the qualitative component of the study.

Both systems significantly increased the patient waiting time at the OPD ($P < 0.05$). A significantly higher amount of time was spent with service providers in the manual system ($p < 0.001$). No significant difference was found in the overall time spent at the OPD between the manual and electronic systems.

Registering the outpatients using a unique identification number not only facilitated record retrieval, but also provided out patient statistics in an accurate and a very comprehensive manner. The out patient attendance statistics which could be presented only as a head count of OPD patients within a specified period before the new systems were implemented could now be presented as number of patients attended OPD according to broad disease groups stratifying by age and sex, number of repeat visits patients made within each broad disease group and other outpatient procedures conducted during a specified period by different procedure types.

The electronic patient recording system has the capability of reporting data according to the requirement of different users of data at various levels of health planning. It also has the ability to make comparisons and trends over a period of time, compared to the manual system. Patient registration and record retrieval was done more effectively by the electronic system as the software has search options facilitating patient record retrieval avoiding duplicate registration of patients.

Both manual and electronic patient recording systems were accepted by all categories of service providers, and data handlers at institutional and district level.

Besides all the advantages of the electronic system, the cost of implementation and need of skilled man power for data entry are facts that need to be considered in it's implementation against the manual system which can successfully function with existing resources at the hospitals in the Polonnaruwa District.