

ABSTRACT

Laboratory services are critical in initiating and monitoring of Antiretroviral Treatment (ART) in HIV patients. However, timely availability of laboratory test results to the clinician remains a challenge in most health care facilities due to misplaced or misfiled patients test results. The objective of this paper is to describe a web-based laboratory information system implemented to alleviate these problems at KNH CCC. As part of the University of Nairobi Institute of Tropical and Infectious Diseases (UNITID) fellowship training program from 2010 to 2012, functional and operational requirements for the laboratory information system were drawn from a rigorous needs assessment exercise involving all stakeholders through iterative discussions and workflow analysis of the laboratory activities. The system was developed using J2EEE platform and hosted in Ubuntu server edition version 10.0.4. LIS integrates with the laboratory's clinical analysers and uses language parsing technique to acquire test results electronically. Intensive training of users was conducted before the system was deployed for use in KNH CCC laboratory. Parallel-run deployment method was adopted where the old and the new systems were used alongside each other for a period of one month. A web-based laboratory information system with specimen bar code labelling functionality has been deployed in KNH CCC. The clinician is able to access the results real time and the reception staffs are able to tell the % of analysis work done per patient. Since its implementation in March 2012, over 10,000 laboratory test orders have been captured. Electronic laboratory information system has a large potential to improve quality of care by improving acquisition and transmission of laboratory test results. Key lessons learnt for new system acceptability is that iterative discussions with all stakeholders followed by training sessions to all laboratory personnel are critical. Key words: Laboratory services, test results, timely, quality, needs assessment, training