

Abstract

Clinicians rely heavily on laboratory data to accurately assess their patients' health, make accurate diagnoses, decide on treatment modalities and to monitor the response to treatment. With increasing number of laboratory analysis requests, central reference laboratories are faced with increased turn-around-times and transcription error rates, misplaced samples, increased clerical work and difficulties in querying and auditing their work. Research data available suggests that implementation of a computerized Laboratory Information Management System (LIMS) may overcome these problems.

This document presents the implementation and customization of such a system to the Medical Research Institute, the National Reference Laboratory of Sri Lanka. Free and Open Source software called Bika Health was selected following evaluation of several similar solutions and was piloted successfully in two departments. The authors experiences in the course of this endeavor including how existing hardware resource were utilized, key design considerations including security, backups, sustainability and interoperability, as well as key points in installation and customization are addressed. The highlight of this paper is how such a complex system can be implemented successfully in resource limited Sri Lankan health care sector with minimal capital and recurring overhead costs.