

## Analysis of User Needs to Facilitate in Designing a Laboratory Information Management System for Selected Hospitals in Sri Lanka

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### Abstract

Nearly 70% of objective information required for patient management is derived from medical laboratories. Sri Lanka highlights the necessity of a laboratory information management system (LIMS) that supports private public partnerships. This study aimed at identifying user requirement on account of designing a scalable LIMS suitable for private sector hospitals in Colombo. A descriptive study was conducted in four selected private hospitals in Colombo using qualitative data derived from in-depth interviews of all categories of health care providers. Interviews were prompted by an off the shelf LIMS. Three rounds of Delphi process were conducted to refine the findings. Process observations and document review were also done. Data was analysed thematically. LIMS requirements overarching pre-analytical, analytical and post analytical phases of a laboratory cycle were identified as, data capturing, data storing, data processing, data sharing. The fifth theme, data security encircles all themes. Six activity touch points: patient identification and registration, request or test ordering, sample collection, sample receiving, sample management and issuance of reports were also identified. Requirements of other support services were: procurement and stock management, test pricing and business rule engines, quality control, integration, and generation of statistics. A well design LIMS requires data capturing, data storing, data processing and data sharing in all activity touch points while assuring data security. Further, it should support procurement, business rule engines, quality control, integration, and statistics generation.

**Keywords:** *Laboratory Information Management System, Hospital Information System, User needs*