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IMPROVING THE POST-ANALYTICAL TIMELINESS AND ORGANIZATIONAL STRUCTURE FOR REPORTING CHEMICAL PATHOLOGY LABORATORY INVESTIGATION RESULTS OF PATIENTS IN TEACHING HOSPITAL KALUTARA

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Background: Clinical laboratories are healthcare facilities where medical technologists perform various tests on biological specimens from patients. These laboratories are classified into four types: chemical pathology, histopathology, microbiology, and hematology, with chemical pathology conducting the most tests. To ensure accurate results, laboratories follow three standard testing phases: pre-analytical, analytical, and post-analytical. The post-analytical phase includes reporting results to healthcare professionals, where errors can occur due to manual data entry, transmission issues, and other factors. At Teaching Hospital Kalutara (THK), the process of reporting laboratory results involves sending paper-based reports to wards, often causing delays in treatment decisions. This research aims to develop a Laboratory Information System (LIS) for real-time transmission of test results, improving the efficiency and accuracy of patient care.

Methodology: A literature review was conducted to identify the currently available reporting methods for chemical pathology lab results in other hospitals. To determine time delays in reporting laboratory results at THK, a literature review was conducted on time delays in reporting investigation results, a focus group discussion was held with stakeholders, and a time study was conducted to document the time spent on each activity in the laboratory investigation process. Finally, the current “Web-based” X-ray reporting method at THK was reviewed and an interface for report transmission in Chemical Pathology was designed incorporating the identified best practices.

Deliverables: A user-friendly interface for the LIS was designed, enabling real-time result reporting which is important for effective patient management. Comprehensive Standard Operating Procedures (SOPs) were developed to guide the effective integration and utilization of the LIS. The user interface design incorporated stakeholders' feedback to enhance functionality and outcomes.

Conclusion: The research study enabled us to design an interface for the SOPs of the LIS that is fitting for the chemical pathology laboratory of THK. We believe that this research provides a good framework for developing similar implementations in the future in THK.

Keywords: Laboratory, Reporting of results, Electronic transmission, Time Delay