

EXECUTIVE SUMMARY

Demand for the medical diagnostic service is continuously increasing and being constantly innovating. Sri Lanka as a developing country, majority of people in the country are seeking government healthcare facilities for medical testing. This is mainly due to the fact that most of them are not affordable due to the high prices required for medical testing. Medical Research Institute is the national reference laboratory to the entire country and performs highly specialized tests not performed anywhere else in the country. During the SWOT analysis it was noticed that the delay of lab report issuing has been a major weakness of the institution. It takes nearly 3 days to perform tests and issue reports for the tests that can be performed within 24 hours. Reducing the delay of issuing test reports and it will increase the patients' and clinicians' satisfaction, reduce the hospital stays and indirect costs associated and ultimately the better image towards the institution significantly. Inadequate time and study being information bias were few limitations identified in this project.

MRI is being received a huge number of samples daily and out of the total 1/3rd of samples is for Biochemical testing. Hence, the Department of Biochemistry was selected as the study setting. During the last few years, it has increased the number of samples received to the institution by 10-fold. Therefore, institution is being facing difficulty in issuing lab reports without delay. Both qualitative and quantitative data was used in this project and three associated problems related to the main issue were identified including increasing employee OT payment, high time consumption for non-value adding activities in the sample management process and increasing the number of occurrences. All these three associated factors were categorised under three category labels including process management, quality management system and people management. Found issues were brainstormed among few officials to find out the root causes.

Based on the scholar's evidence, it was found that process management is very much significant in reducing waits and delays. According to the literature process improvement through lean management has been a growing concept in the clinical laboratory setting. Value stream mapping is the best tool used to identify waits and delays associated in the current process and based on the information collected, redesigning of the process will be done. Computerized sample management and standardizing of the processes are few common

solutions suggested by the literature articles. Occurrence management is a vital component in quality management systems at laboratories. Most authors have suggested implementing QMS models, conducting lab audits to confirm the laboratory quality and personal attention of the staff members also matters, maintaining quality and reducing the errors that occurred. Increasing over time payment is not good for an organization in a prolonged period as it reduces the quality of the work. Increasing OT is associated with many factors and lack of supervision, non-skilled labour and unclear job roles are some of them. This theoretical information was used to develop the solutions in this project.

The main objective of this Guided Independent Project Study was reducing the delay of issuing laboratory test reports by 64%. Three associated objectives were formulated to achieve the main objective. Under the process management, the author suggested developing SOPs and introducing computerized sample management methods to reduce time consumption for non-value-added activities by 30%. Under quality management system and staff awareness programme, introduction of QMS model and development of self-audit checklist were the solutions suggested. Under the 3rd component of people management, the author suggested conducting staff training, supervisor awareness programme and designing job descriptions to reduce overtime payment by 23%. The number of incidences of missing and transcription errors would be reduced by 11.6% and 7.9% respectively, A team was structured to implement the project and each team member was assigned for different tasks with the required resources. Benefit-cost ratio of this project was 83.19 and intangible benefits could be achieved through this study were immense.

Author has made few recommendations to achieve the overall success of the project. Under the process management component the author is suggesting having proper communication of SOPs to all staff and should be accessible at any time. Frequent monitoring should be done whether staff adheres to the standard procedures. Capacity building training is recommended to familiarize the staff with the computerized method introduced. A responsible officer should be assigned and trained to conduct the clinical audits and results need to be reviewed from time to time to take corrective actions. Under the people management category, it is recommended to communicate JDs to the staff properly, training effectiveness should be measured for gap identification and supervisors should be empowered frequently.