

**UNIVERSITI TEKNOLOGI MARA**



**Evaluation Of Laboratory Turnaround Times of Chemical Pathology  
Test Requests at Centre For Pathology Diagnostic And Research  
Laboratories (CPDRL) Sungai Buloh, Faculty of Medicine UITM**

**NOR FAZIRAH BT ROZALI**

**Dissertation submitted in partial fulfillment of the requirements for  
Diploma in Medical Laboratory Technology**

**Faculty of Health Sciences**

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## **DECLARATION**

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations of Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student :Nor Fazirah Bt Rozali

Student I.D. No. : 2013243746

Programme : HS 111

Faculty : Health Science

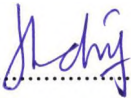
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Signature of Student :

Date :

## APPROVAL

This Final Year Project Report entitled “Evaluation Of Laboratory Turnaround Times of Chemical Pathology Test Requests at Centre For Pathology Diagnostic And Research Laboratories (CPDRL) Sungai Buloh, Faculty of Medicine UITM ” was submitted by Nor Fazirah Bt Rozali in partial fulfillment of the requirement for the Diploma in Medical Laboratory Technology in the Faculty of Health Sciences and was approved by



.....  
NURHIDAYAH BINTI AB. RAHIM  
Supervisor  
Faculty of Health Sciences  
Universiti Teknologi MARA

.....  
SYARIFAH MASYITAH BINTI HABIB DZULKARNAIN  
Supervisor  
Faculty of Health Sciences  
Universiti Teknologi MARA

## ABSTRACT

Laboratory turnaround time (LTAT) is an important indicator of laboratory effectiveness and quality of care. The study aim to evaluate the laboratory TAT in Chemical Pathology at Centre for Pathology Diagnostic and Research Laboratories (CPDRL) Sungai Buloh based on selected test requests and the literatures regarding laboratory TAT, it is focusing on the different definitions, measures, expectations, published data, associations with clinical outcomes and approaches to improve TAT. The study may encourage implementation of TAT monitoring for continuous quality improvement. TAT of renal profile and troponin T (urgent sample), fasting plasma glucose and liver function test (in-patient sample), lipid profile and thyroid function test (routine out-patient sample) was measured starting from initial steps such as specimen reception into laboratory, specimen register using computer system, performing and processing the specimen's test requests until finalized results were obtained and validated by science officer. The average TAT for the chemical pathology samples were 4 hours for routine inpatient samples while the TAT for the outpatient samples were 5 working days. The TAT for urgent samples was 1 hour. Percentage of achieved TAT were calculated. Percentage for urgent samples were 93%, in-patient samples were 96% and out-patient samples were 100%. These analyze data were found to contribute approximately 96% of the total TAT. In contrast of the study, there are less probability of getting higher delayed of TAT. At the same time, the performance of chemical pathology laboratory services and the quality of handling and processing on patient's sample and physician reports become reliable because processing-to-releasing patient's results can be done within the standard duration TAT for each tests requested. The TAT demonstrates the

laboratory requirements for improvement of laboratory quality and services. Lower percentage of total TAT due to the certain factors can delayed the period between specimen's arrival and accessioning of results. Laboratories must ensure that TAT reports were in-controlled continuously for future so that they can perform optimally according to clinician expectations.

Keywords: Turnaround times, Chemical Pathology Laboratory, urgent sample, routine-outpatient sample, in-patient sample

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ii) Dr. Fatmawati Binti Kamal
4. Science officer: Cik Sarina Bt Ali