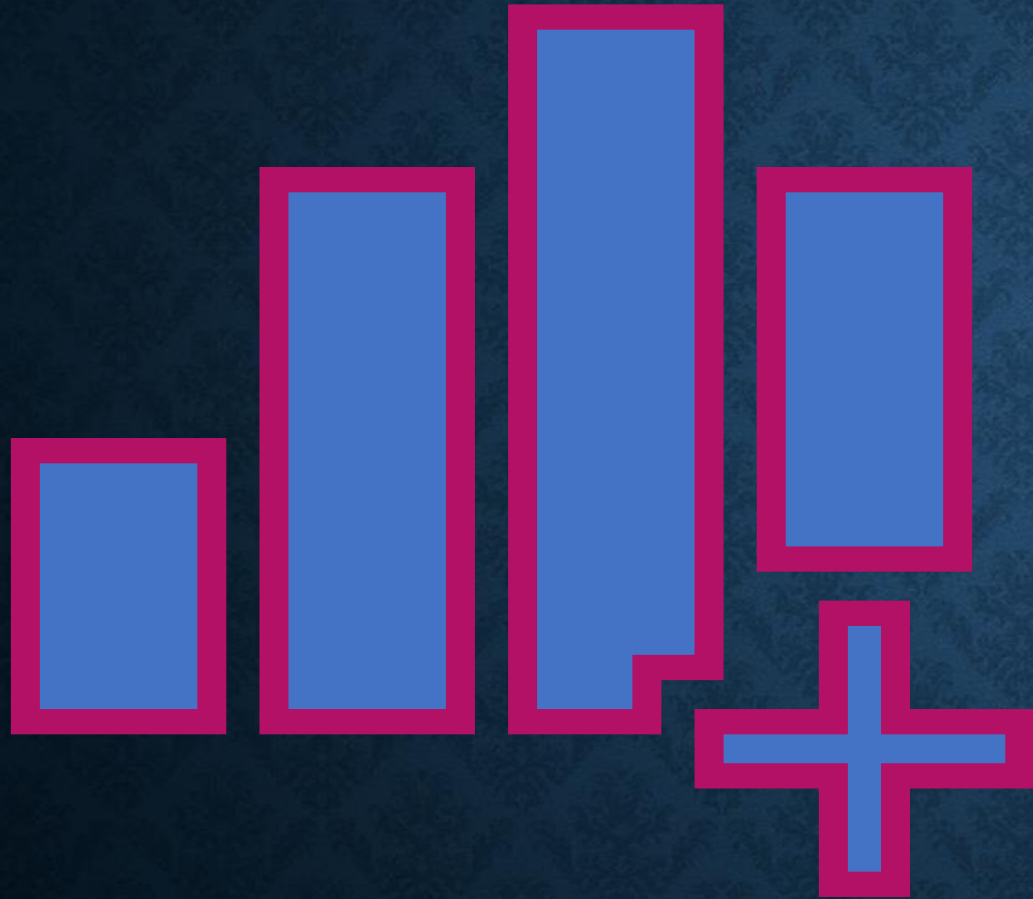


DISSERTATION REPORT PRESENTATION



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Summited by:

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ROLL NO.: 0908

MBA-HM 2019-21

A large, translucent hourglass is centered in the background. The top bulb is filled with a dark, granular substance, likely sand, which is slowly falling into the bottom bulb. The hourglass is set against a solid, muted blue background. The text is overlaid on the upper half of the hourglass.

**Analyzing the TAT in the Department
of Laboratory Services at
The Mission Neighborhood,
Advanced Diagnostics & Patient Care,
Asansol**

ABOUT ORGANIZATION

- **The Mission Hospital** started its operation on April 02, 2008. This is the first super speciality corporate hospital in Eastern India outside Kolkata. It has been set up with the vision of providing quality healthcare at affordable cost and within the reach of every individual. Their focus is always on ethical and service-oriented growth. The hospital has been able to establish its presence in Eastern India and its neighbouring areas through its patient centric and high-quality care also they have many other units & centers.

The Mission Neighborhood, Advanced Diagnostics & Patient Care

MISSION:

- To become a centre of excellence in healthcare by bringing tertiary level healthcare to the people of eastern India.

OUR VISION:

- To provide affordable quality health care to patients by incorporating improvement in its day-to-day schedule.

SERVICES PROVIDED

Imaging	Cardiology	Gastroenterology	Pathology
<u>X-Ray</u>	<u>Electrocardiogram</u>	<u>Endoscopy</u>	<u>Biochemistry</u>
	<u>Echocardiogram</u>		<u>Clinical Pathology</u>
	<u>Stress Test (TMT)</u>		<u>Histopathology</u>
<u>Ultrasonography</u>	<u>Holter Monitoring</u>	<u>Colonoscopy</u>	<u>Hematology</u>
	<u>Doppler</u>		<u>Immunology</u>
	<u>Pulmonary Function</u>		<u>Microbiology</u>
<u>CT- Scan</u>	<u>Test (PFT)</u>	<u>Liver Biopsy</u>	<u>Cytogenetics</u>
			<u>Serology</u>

- **RESEARCH QUESTIONS**

- What causes the laboratory services at The Mission Neighborhood, Advanced Diagnostics and Patient Care, Asansol, to have a longer TAT?

- **OBJECTIVES**

- To determine the TAT of laboratory services in Diagnostic Center
- To determine the major factors that contribute to TAT delays.

METHODOLOGY

Type of Study: Cross-sectional Observation Study

Study duration: 22 March-19 June 2021

Sample Size: 966 samples were collected from 219 outpatients.

Study Population:

- **Inclusion Criteria:** Clinical Pathology, Special Biochemistry, Serology, Biochemistry, and Hematology reports that were analyzed in Asansol Diagnostic Center from 7:00 AM to 5:00 PM.
- **Exclusion Criteria:** All the samples send outside for report.

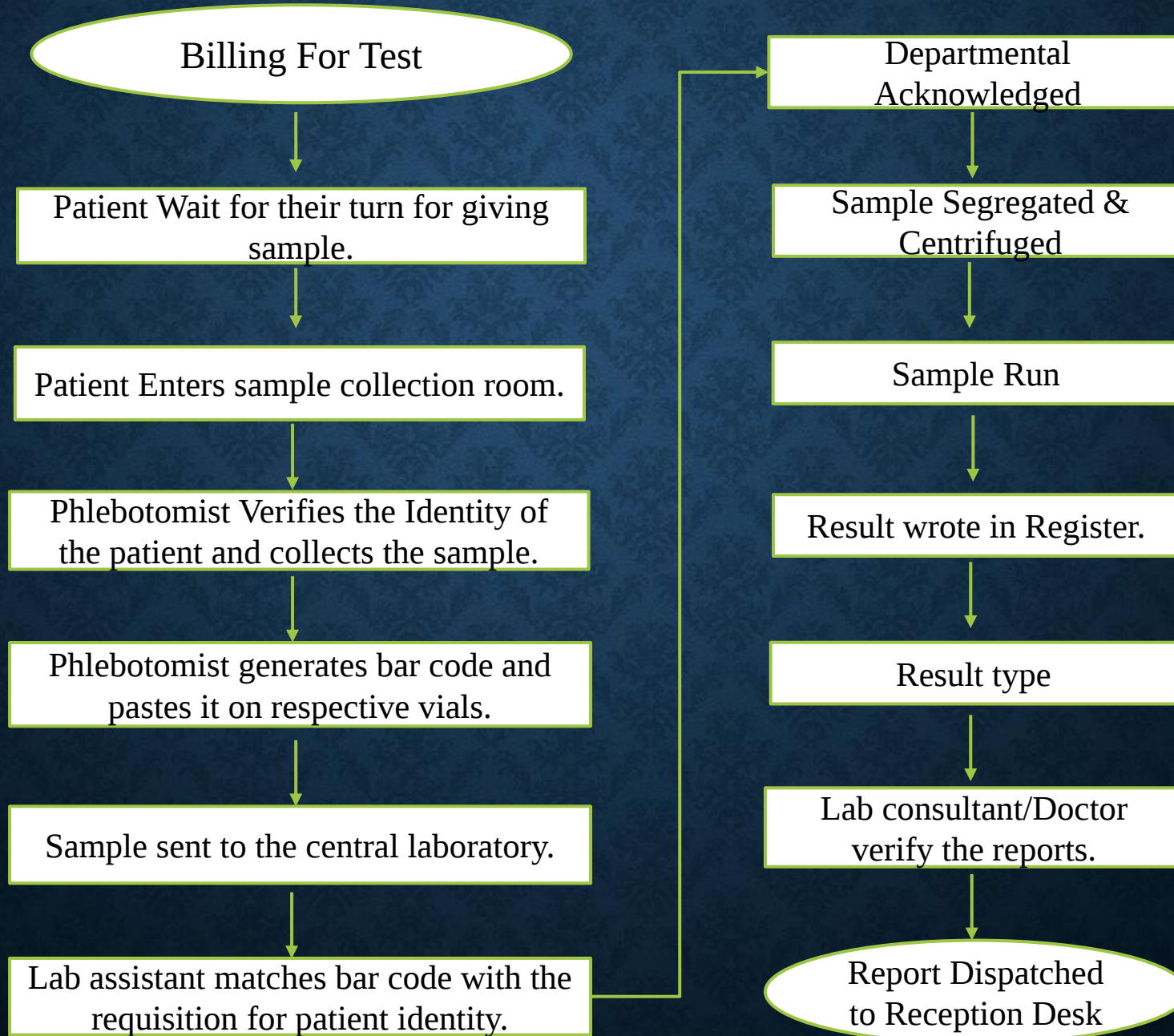
Study Tools : HIS, LIS & Department TAT Sheet

Data Analysis Tool: Microsoft Excel

LIMITATION OF STUDY

- Restricting access to the target person
- There are only a few days.

FLOW CHART

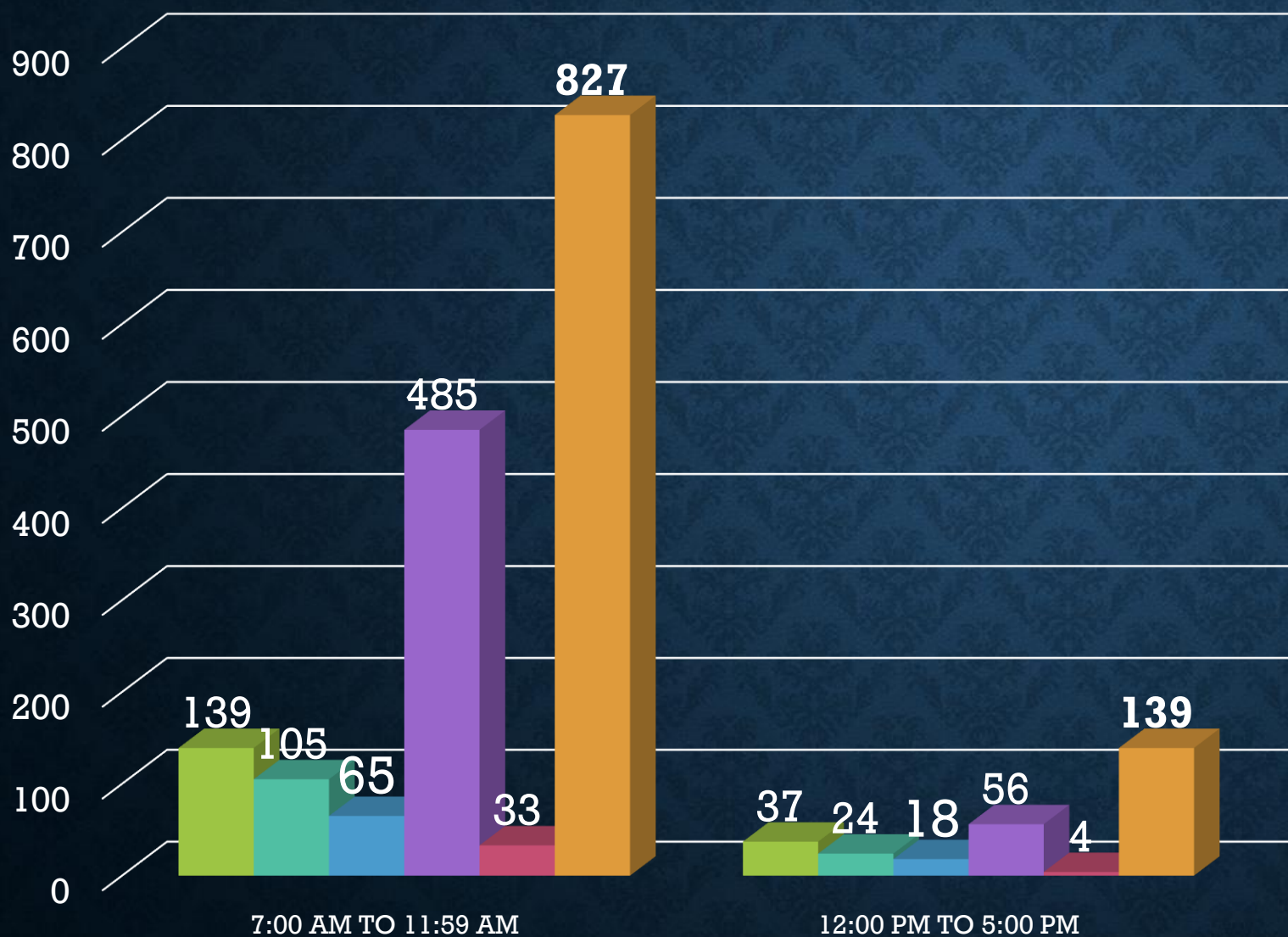


DIFFERENT ANGLES FOR INTERPETATION OF DATA

- Total Sample
- Sample Process TAT
- Average Pre & Post Analytical Sample Process TAT
- Total Average TAT

NOTE: Best chart is been taken in consider for interpretations for question from different angles.

TOTAL SAMPLE

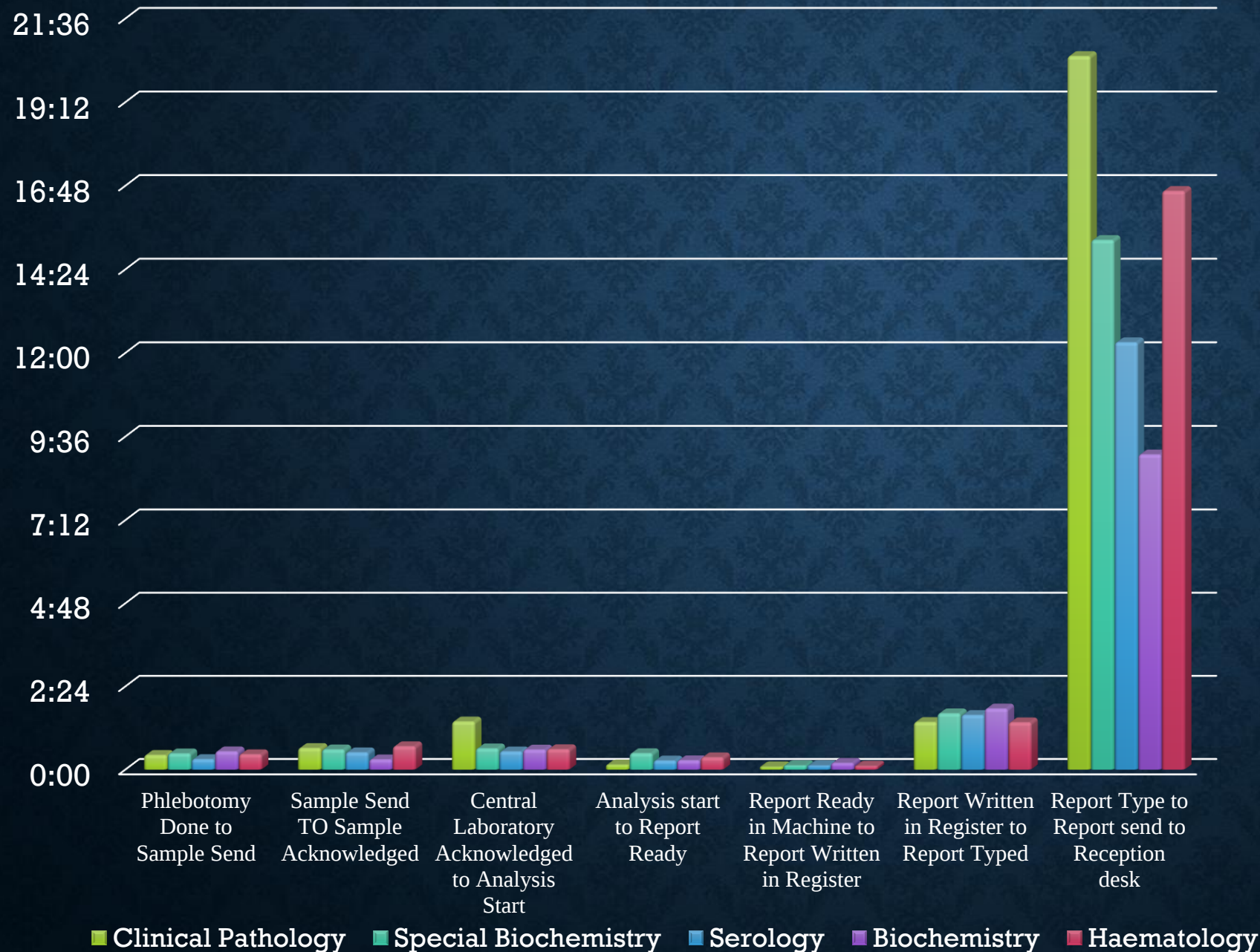


Interpretation:

Graph of the Total sample shows that in the first half there was comparatively more sample than second half.

HEMATOLOGY SPECIAL BIOCHEMISTRY SEROLOGY
BIOCHEMISTRY CLINICAL PATHOLOGY TOTAL

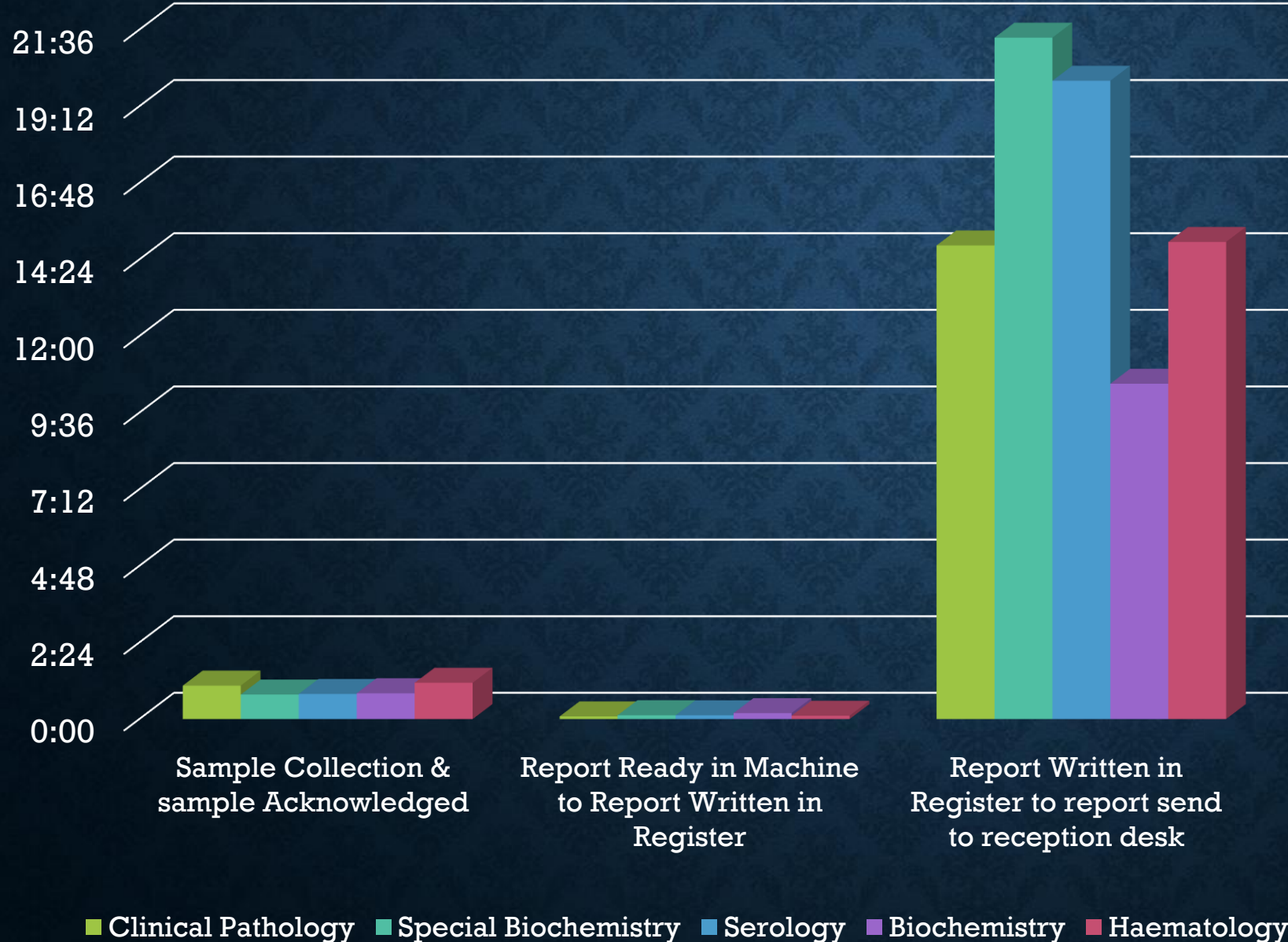
SAMPLE PROCESS TAT



Interpretation:

The following graph shows an increase in turnaround in Report Type to Report send to the reception desk, followed by Report Written in Register to Report Typed.

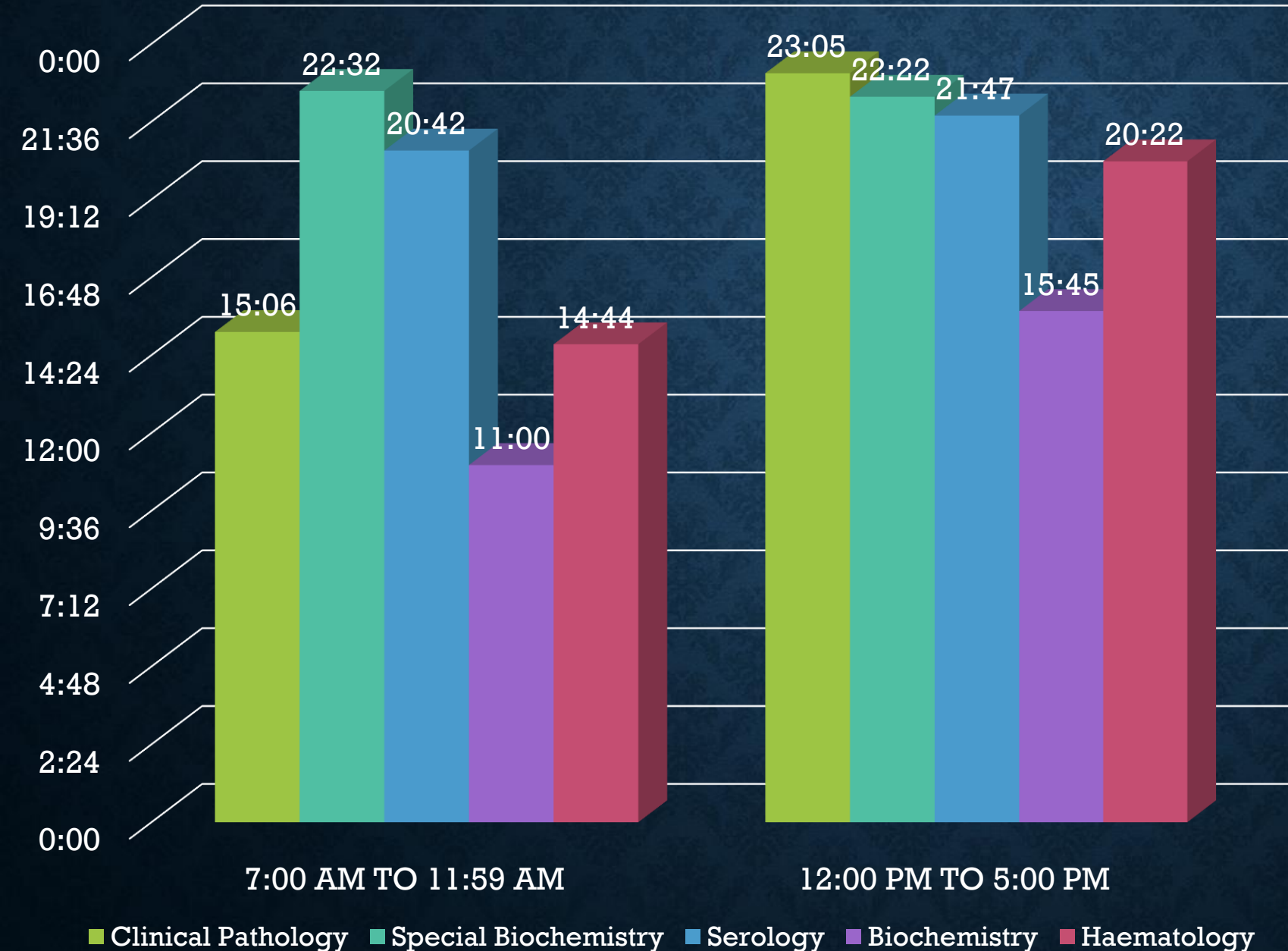
Average Pre & Post Analytical Sample Process TAT



Interpretation:

The following graph shows the increase in turnaround time in Report Ready followed by Sample Acknowledged and then Result Generation.

TOTAL AVERAGE TAT



Interpretation:

- The graph shows the Department-wise OPD Average Total TAT
- The Highest Turnaround was observed in Special Biochemistry followed by Serology in between 7:00 AM to 11:59 AM.
- The Highest Turnaround was observed in Clinical pathology followed by Special Biochemistry in between 12:00 PM to 5:00 PM.

SUGGESTIONS

- To improve TAT regular audits needs to be conducted for a monitoring of TAT.
- Needs to work on all phases which are pre-analytical and post-analytics as also of these are interrelated & also monitoring of these will help to improve the TAT and will help in ensuring quality control.
- Need of authorized person involvement in process also in monitoring and policymaking to smoothen the workflow.

CONCLUSION

- According to the study, there are numerous outliers that affect the Turnaround time (TAT) of the laboratory process, and in order to lower the Turnaround, all pre-analytical and post-analytical stages must be improved.
- And it is important to realize that they're all connected, so keeping track of them will not only help to improve turnaround times but also ensure high-quality services.
- The main reason for the TAT delay was a delay in the laboratory consultants' verification of test findings, followed by staff shortages, system or equipment breakdowns, and a lack of management involvement in policymaking and monitoring to smooth the workflow.
- To enhance the TAT, policies must be developed and implemented, and audits should be undertaken at regular intervals to ensure patient satisfaction.

MAIN TAT SHEET

[illegible]

TAT Sheet for Reception

[illegible]

TAT SHEET FOR COLLECTION ROOM

[illegible]

REVIEW OF LITERATURE

1. *Hara P Pati et al* in his article "Turnaround Time (TAT): Difference in Concept for Laboratory and Clinician" stated that most laboratories put undue stress on only reliability, whereas the clinician gives more stress on how soon (TAT) a report would be available to them. There is no clear definition of TAT, as to which period should be included in determining TAT for a specific test for laboratory personnel, it would be from the time of receipt of the sample in the laboratory till the report is generated. However, for a clinician, it would be appropriate from the time of his/her requisition of a test till the report reaches him/her.
2. *Joan H. Howanitz et al* in his paper "Laboratory Results: Timeliness as a Quality Attribute and Strategy" stated that timeliness in reporting of laboratory results undoubtedly affects clinician and patient satisfaction as well as the length of hospital stay.
3. *Xavier Bossuyt et al* in his article "Laboratory Medicine: Challenges and Opportunities" stated that current developments may affect the future of laboratory medicine and how to deal with these changes. We argue that to be prepared for the future, clinical laboratories should enhance efficiency and reduce costs by forming alliances and networks; consolidating, integrating, or outsourcing, and more importantly, create additional value by providing knowledge services related to in vitro diagnostics.
4. According to an article "Three Strategies for Reducing Lab Turnaround Time" in AACC (American Association for Clinical Chemistry) stated that automation, electric track vehicle, auto-verification of results have a positive effect on test processing, and it reduces the turnaround time (TAT).
5. *Pamela G Manor* in the article "Turnaround Times in Laboratory. A review of the literature" stated that more than 80% of laboratories receive complaints about test TAT. It was found that delayed TAT not only increases dissatisfaction among patients but also increases the length of stay of patients in the hospitals.

REVIEW OF LITERATURE

1. *Nitin Kaushik et al* in the article "Reduction in Laboratory Turnaround time decreases emergency room length of stay" stated that rapid turnaround of laboratory tests can optimize ED throughput by reducing the length of stay (LOS) and improving patient outcomes.
2. *Robert C Hawkins* in an article "Laboratory Turnaround Time" stated that TAT continues to be a cause of customer dissatisfaction with the laboratory service. Laboratory staff can feel frustrated when the effects of improvements in intra-laboratory TAT are diluted by pre-analytical and post-analytical factors seemingly outside their control. It was suggested that all common laboratory tests should ideally be reported as fast as possible by methods yielding high-quality results, suggesting 60 minutes or less from sample registration to reporting under optimal conditions.
3. *Bruce A. Jones et al* in an article "Physician satisfaction with clinical laboratory services" stated that most of the physicians show satisfaction about laboratory test results reliability and accuracy whereas the turnaround time is an area of dissatisfaction and shows an opportunity for improvement.
4. *Paul Valenstemin* in his article "Laboratory Turnaround Time" stated that the speed with which laboratory results are reported impacts the institution as well as the patient. When the result of routine laboratory tests is delayed, physicians show a tendency to reorder the same test which puts an extra cost on the hospital. In the study, it was stated that more than four-fifths of hospital-based laboratories receive complaints about test turnaround time. Pressure to discharge inpatients as quickly as possible, and intense competition in the outpatient testing marketplace is likely to heighten clinicians' demands for more rapid laboratory turnaround time in the future.
5. *Steven J. Steindel et al* in their study "Using Outlier Events to Monitor Turnaround Time" mentioned that many laboratories analyzing multiple time intervals help in locating areas where the delay occurs and needs improvement. During the study, three phases of laboratory workflow were studied which were pre-analytical, analytical, and post-analytical and outliers were noticed in all phases which can affect the overall TAT of the laboratory.



THANK
YOU