



“Improving Efficiency in Preventive Health Checkups: Turnaround time analysis at a multispeciality hospital in Gurugram”

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Introduction

The Patient Care Service (PCS) department plays a crucial role in facilitating healthcare services. This department serves as the first point of contact for patients and visitors and plays a key role in ensuring smooth and efficient hospital operations.

Nowadays patients expect three important criteria from hospitals as the provider of services which includes:

- Low cost
- Easy availability of information
- Relatively small waiting period



Key Activities

Concierge: Greet patients and visitors, provide information, and direct them to the appropriate departments. Address patient inquiries regarding services, procedures, and hospital policies. Provide support and assistance in navigating the healthcare system within the hospital.

Registration and Billing: Collect patient information, verify insurance details, corporate/panel and enter data into the hospital's information system portal.

Call Centre: Appointment Scheduling- Manage appointment bookings for various services such as consultations, diagnostic tests, and follow-up visits.

Doctor's coordinator: Coordinate schedules between patients, attendants and doctors. Patient admissions and discharges, ensuring all necessary paperwork is completed. Liaise between different departments (e.g., clinical, nursing, radiology) to ensure seamless patient care.

Patient Experience: Handle complaints and feedback, aiming to resolve issues promptly and satisfactorily.

Compliance and Quality Assurance: Ensure all activities comply with healthcare regulations and hospital policies. Participate in quality assurance programs to improve patient care services.

Objectives



To optimize the preventive health check-up process being followed at a Multi speciality hospital in Gurugram



To develop a Value Stream mapping for the department of Preventive Health Checkup for reducing the non - value added activities



To sequence the process to reduce the idle time of patients during the medical health check-up process



To develop a prototype of the online application for registration purpose and model a patient tracking system



Review of literature

California healthcare foundation, (2011), published an article titled 'Using tracking tools to improve patient flow in hospitals', which explains the various types of patient tracking systems, the benefits of using the patient tracking systems and the best practices available for using those systems. The major two divisions of patient tracking systems include real time location systems and the data driven patient tracking system. All the types under both of these divisions are discussed in detail in this article and the paper also suggests that the patient tracking system should be combined with operation management techniques like lean for its effective utilization.





Research Question

- What are the current turnaround times for preventive health checkups?
- What are the key barriers to efficient turnaround times in preventive health checkups?
- How can these barriers be addressed to improve turnaround times?
- What are the implications of delayed turnaround times on patient satisfaction and healthcare outcomes?
- What are the best practices for optimizing turnaround times in preventive health checkups?

Methodology

- The participants in the hospital's program for preventive health check-ups during the data collection period make up the study's population. Throughout the time frame, 1010 patients were seen. Permission to gather the data was granted for 30 operating days, from April 1st, 2024, to April 30th, 2024.
Thus, the population is 586 patients (including those who underwent pre-employment and company health screenings). Three patients every day make up the sample.
- Therefore Population = 300 patients
- The sample size= 4 patients/day
- As a result, there were 80 samples in all. The approach of convenience sampling was employed in the investigation. From the time the samples entered the department for preventive health checks until they left, every one of them has been tracked.



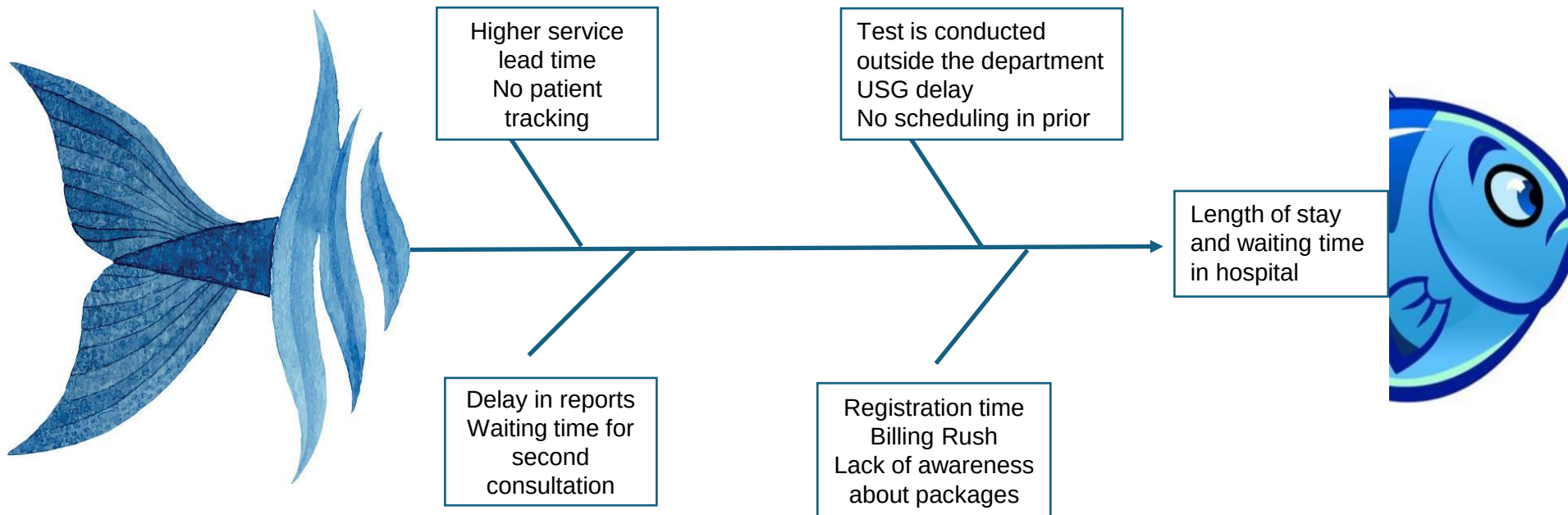
Study Design:

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is to describe the current state of affairs.

Duration of a preventative health check-up procedure

Process	Time in hours
Procedure duration of hospital stay	8
Total Service duration	3
Waiting period	5
Time needed to register	0.57
Waiting period for medical consultation	2.08

Root cause analysis



Result



Online appointments/ prior appointments reduce time by 41 minutes.



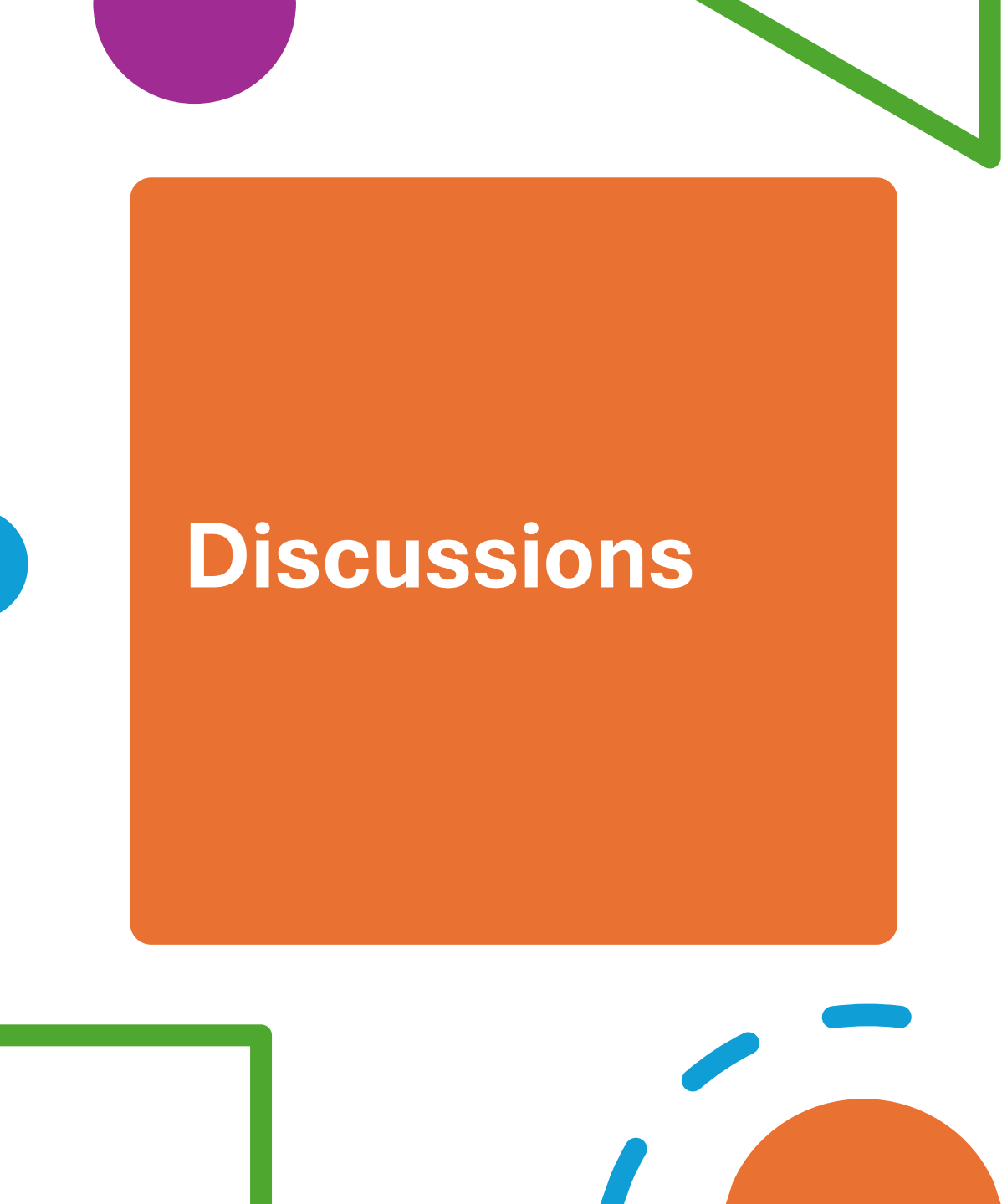
Bringing the cardiology department inside the master health check-up process reduces the time by 45 minutes.



Scheduling the process reduces the waiting time for seeing the doctor to negligible as the report will be prepared on time.

Time comparison between the present and the future

Process	Current	Future
Procedure duration of hospital stay	8 hours	5 hours
Total Service duration	3 hours	2.28 hours
Waiting period	5 hours	2.72 hours



Discussions

- Shortening hospital stays and waiting times is one benefit of putting the USG, X-ray, mammography test centres inside the department.
- To minimize the rush of people registering on the day of the checkup, appointments for the preventive health check-up process should be scheduled in advance. Online resources are available for scheduling appointments in advance.
- By increasing awareness of the current online procedure and streamlining the registration process, the process will take approximately forty-one minutes less.
- The level of service will increase with the creation of the appointment-booking mobile application and its integration with the patient monitoring system.
- A successful barcode patient monitoring system integrated with the IT department will be efficient and cost-effective, and it will also cut down on time lost because patients aren't available when tests are scheduled.
- Process sequencing will significantly shorten the service lead time. Rather of calling the patients' names aloud, the current patient display system should be used to identify them.

Conclusion

- The goal of the research project was to analyse the preventive health check-up procedure at a multispecialty hospital and recommend using value stream mapping to optimize the procedure.
- A small number of process bottlenecks were found by the study's results, and workable solutions were offered to get around them.
- Furthermore, the hands-on experience in the service industry provided insight into the challenges faced in the actual world and solutions offered.
- Patients would spend less time waiting if the built and tested mobile app prototype were made available for purchase for online appointments.



Thank You

