

**Enhancing Patient Experience: Improving Process Efficiency
in the Outpatient Department of S R Kalla Memorial Gastro
and General Hospital Jaipur (RAJASTHAN)**

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**Organization: S R KALLA MEMORIAL AND GENERAL
HOSPITAL JAIPUR**

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Enhancing Patient Experience: Improving Process Efficiency in the Outpatient Department of S R Kalla Memorial Gastro and General Hospital Jaipur (RAJASTHAN).

Introduction:

Outpatient Department (OPD) congestion and long waiting times present significant challenges for hospital administration. The OPD serves as the gateway to hospital services, forming patients' first impressions of the facility. A positive initial experience in the OPD can enhance patients' overall perception of the hospital, making it essential to ensure excellent service in this area (1). The large volume of patients, combined with limited manpower and resources, often leads to chaos, congestion, long queues, and the risk of mismanagement. Appointing primary care physicians for patient screening has been shown to reduce congestion and waiting times (2). Waiting time, defined as the duration a patient spends in the clinic before being seen by medical staff, is a critical indicator of the quality of hospital services. It significantly influences healthcare utilization, as long waits are often perceived as barriers to accessing care. These delays can cause stress for both patients and doctors. Patients frequently judge healthcare personnel based on waiting time, sometimes valuing it more than the providers' knowledge and skills (3). The primary factors contributing to prolonged waiting times include appointment type, ticket numbering, doctors arriving late, patients arriving early, and patient distribution lists (4). To manage OPD services effectively, it is crucial to conduct an in-depth study. Implementing a simple time and motion study with cost-effective interventions can significantly improve the efficiency and quality of hospital services (1). Similarly, in the Laboratory and Radiology Department, waiting time is a significant concern. Delays in

obtaining radiological services can impede timely diagnosis and treatment, thereby affecting patient outcomes. Factors such as appointment scheduling, availability of lab and radiology staff, and the complexity of diagnostic procedures contribute to waiting times in this department. Waiting time in laboratory and radiology could be defined as the time between when a patient is present at the radiology department for an investigation, and the time the investigation is done, and a report written on the outcome of the investigation (6). Addressing waiting times in both the OPD laboratory and Radiology Department through systematic studies and interventions can enhance operational efficiency, improve patient satisfaction, and ensure better healthcare delivery.

Literature Review

1. Sengupta B, Kumar Mandal P, Kar A, Bhattacharyya N, Biswas S, Resident J. A Time Motion Study of Healthcare Delivery System at General OPD of Rural Hospital of West Bengal. Website www.ijrrjournal.com Orig Res Artic Int J Res Rev [Internet]. 2020; 7 (2): 254-60. https://www.academia.edu/42874991/A_Time_Motion_Study_of_Healthcare_Delivery_System_at_General_OPD_of_Rural_Hospital_of_West_Bengal?email_work_card=view-paper

Time and motion studies, combining Frederick Winslow Taylor's time study and the Gilbreths' motion study, are key in scientific management for improving work systems. OPD congestion and long waiting times are major challenges in hospitals, impacting patient impressions and care quality. A study at Domjur Rural Hospital highlighted the need for efficient management and more resources to handle increased patient loads effectively.

2. Javed D. A time-motion study of OPD services at a state level Ayurvedic hospital to reduce the OPD congestion. *Int Ayurvedic Med J.* 2015;3(10):1-9.

https://www.academia.edu/30315524/A_TIME_MOTION_STUDY_OF_OPD_SERVICES_AT_A_STATE_LEVEL_AYURVEDIC_HOSPITAL_TO_REDUCE_THE_OPD_CONGESTION?email_work_card=view-paper

Ayurvedic hospital management, detailed in ancient texts like Charak Samhita and Sushruta Samhita, is as crucial as in modern hospitals. OPD congestion, significantly impacting patient satisfaction, remains a challenging issue. Studies show that appointing primary care physicians, adopting Six Sigma approaches, and minor improvements can reduce waiting times. This study focuses on using time and motion studies to enhance OPD efficiency in an Ayurvedic hospital.

3. Patel R, Patel HR. A study on waiting time and out-patient satisfaction at Gujarat medical education research society hospital, Valsad, Gujarat, India. *Int J Community Med Public Health.* 2017 Mar;4(3):857-63.

https://www.academia.edu/40910119/A_study_on_waiting_time_and_out_patient_satisfaction_at_Gujarat_medical_education_research_society_hospital_Valsad_Gujarat_India?email_work_card=view-paper

The study highlights the importance of efficient OPD services as they shape patient impressions and satisfaction, with 8-10% of OPD patients needing hospitalization. Long waiting times, a key indicator of service quality, cause stress and impact healthcare utilization. A cross-sectional study at GMERS Hospital-Valsad assessed patient satisfaction and waiting times in OPDs and diagnostic departments.

4.Saxena R, Sharma S, Sharda V, Nalini G, Yadav MK. A study of waiting time of patients in outpatient department of armed forces Tertiary Hospital in Northern India. *The Journal of Community Health Management*. 2023 Jan 20;7(4):125-7.

https://www.academia.edu/80148075/A_study_of_waiting_time_of_patients_in_outpatient_department_of_armed_forces_Tertiary_Hospital_in_Northern_India?email_work_card=view-paper

The outpatient department (OPD) in any hospital is considered being “shop window” of the hospital. An outpatient service is the most important services provided by all the hospitals as it is the point of contact between a hospital and the community. Waiting time is amount of time a patient spent on being seen in the hospital. It is one of the important key factors in the United states to assess the quality of the health care system. 1,2 The impact of restructuring the delivery of health care will cause significant changes in the entire health care system. Therefore, a study was planned to assess our health care system in a setting of existing infrastructure by determine the waiting time in various department like OPD, laboratory and radiodiagnosis. Neuro OPD was chosen as it * Corresponding author. E-mail address: rajeev.surendra@gmail.com (R. Saxena). is considered to be a difficult department in term of diagnosis of the patients and amount of time spent by the patients in this OPD. The Laboratory and radiodiagnosis is always a common area of maximum clientele dissatisfaction.

5.Deorankar DR, Shinde V, Gudhe V. Assessment of Waiting Time and Recommend the Strategies for Reduction of Waiting Time in Outpatient Department at AVBRH, Wardha, India.

https://www.academia.edu/100413052/Assessment_of_Waiting_Time_a

nd Recommend the Strategies for Reduction of Waiting Time in Outpatient Department at AVBRH Wardha India?email work card=view-paper

Prolonged waiting periods in outpatient services lead to public health issues, weakened access to care, and patient dissatisfaction. Studies show high waiting times globally, influenced by appointment systems, staffing, and management practices. Effective strategies to reduce waiting times include optimizing resource allocation, improving management processes, and incorporating volunteer assistance. Reducing waiting periods enhances patient satisfaction, healthcare quality, and hospital efficiency. Addressing these issues is crucial for providing timely and effective healthcare.

6. Chiegwu HU, Eze JC, Okoli MC. ASSESSMENT OF PATIENT'S WAITING TIME IN THE RADIOLOGY DEPARTMENTS IN OWERRI, IMO STATE, NIGERIA. *European Journal of Biomedical*. 2017;4(5):597-602. https://www.researchgate.net/profile/Hyacienth-Chiegwu/publication/333907382_Assessment_of_patients'_waiting_time_in_a_Radiology_Department_in_Owerri_Imo_State_Nigeria/links/5d0c216192851cf4403e446d/Assessment-of-patients-waiting-time-in-a-Radiology-Department-in-Owerri-Imo-State-Nigeria.pdf

Radiography plays a crucial role in modern medicine, providing diagnostic services for nearly every patient. A study in Owerri, Imo State, Nigeria, assessed factors affecting waiting times in radiology departments using a cross-sectional survey of over 150 participants, including radiographers and patients. The findings indicated that patient waiting times were influenced by staff lateness, high patient volumes, lack of personnel, faulty equipment, and restrictions on radiographers. These waiting times

significantly impacted patient satisfaction, with mixed levels of contentment observed.

7.Wang Y, Liu C, Wang P. *Patient satisfaction impact indicators from a psychosocial perspective. Frontiers in public health. 2023 Feb 22;11:1103819. [Frontiers | Patient satisfaction impact indicators from a psychosocial perspective \(frontiersin.org\)](https://www.frontiersin.org/articles/10.3389/fpubh.2023.1103819/full)*

According to a study conducted by Radha Thapa, Sunita Saldanha, Niloufer Bucker, and P. Rishith titled "Assessment of Patient Waiting Time and Consultation at a Selected Tertiary Care Teaching Hospital," certain areas requiring attention within the hospital's operations surfaced. The primary cause of delay was attributed to unforeseen faculty leaves, disorganized files, and the tardiness in transferring old files from the Medical Records Department (MRD) to Outpatient Department (OPD). The study, employing a descriptive design, was conducted at Yenepoya Medical College Hospital in Mangalore, Karnataka, spanning a duration of three months.

8.Muhondwa EP, Leshabari MT, Mwangu M, Mbembati N, Ezekiel MJ. *Patient satisfaction at the Muhimbili National Hospital in Dar es Salaam, Tanzania. [Microsoft Word - EAJPH Vol 5 Number 2 August 2008 FINAL.doc \(psu.edu\)](#)*

The study aimed to assess patient satisfaction at MN hospital in Dar Es Salaam, Tanzania, focusing on the treatment and services offered by the outpatient department (OPD) before significant reforms. Exit interviews were used to evaluate satisfaction. The findings highlighted the importance of waiting times and staff behaviour for OPD patients, with patients expressing concerns about staff shortages, unprofessional

conduct, and extended waiting times. They also reported feeling services were provided slowly, leading to extended hospital stays and long consultation wait times.

9.Naaz F, Mohammed I. *A time motion study to evaluate the average waiting time in OPD with reference to patient satisfaction in the setting of state-level AYUSH Hospital (India). Med J Islamic World Acad Sci. 2019;27(3):71-6. [IAS 27 3 71 76.pdf \(journalagent.com\)](#)*

The study by Farah Naaz and Idris Mohammed analyzed the average waiting time in the Outpatient Department (OPD) at AYUSH Hospital in India. It found that patients typically spend around two hours in the OPD, with consultations accounting for one hour and ten minutes, and pharmacy visits accounting for nearly 16 minutes. The average doctor consultation duration is only three minutes.

10.Khani RA. *Improving waiting time and patients' experience in a medical retina clinic (Doctoral dissertation, Royal College of Surgeons in Ireland).*

Raghada Al Khani's 2015 study aimed to improve waiting time and patient experience in a medical retina clinic by enhancing patient flow pathways and services capacity. The project was conducted due to high demand, and the HSE change model managed the project process. The project had significant impacts on the organization, and recommendations are being considered.

11.Kim E, Kim S, Song M, Kim S, Yoo D, Hwang H, Yoo S. *Discovery of outpatient care process of a tertiary university hospital using process mining. Healthcare informatics research. 2013 Mar;19(1):42. [Discovery of](#)*

Outpatient Care Process of a Tertiary University Hospital Using Process Mining - PMC (nih.gov)

Several studies explored process mining in healthcare. Mans et al. utilized it for stroke patient pathways and gynecological oncology processes, while Rebugue and Ferreira analyzed hospital emergency services. Yang and Hwang focused on identifying fraudulent healthcare cases. Our study applied process mining to outpatient care, demonstrating its utility amidst diverse systems. Unlike prior research, we compared machine-driven with expert-driven process models, revealing differences in hospital practices. Process mining, reliant on time-stamped log data, enables resource reassignment based on frequent patterns and bottleneck analysis. Future work includes analyzing outpatient processes per practitioner to optimize staff allocation, fostering real process enhancements in hospital outpatient care.

12. Singh R, Nanawani BH. A Study of Customers' Perception of Efficiency and Effectiveness of Waiting Line Management in Private Hospitals in Pune City. junikhyatjournal.com/lander

Dr (Brig) Anil Pandit, Er Lalit Varma, and Dr. Amruta P conducted a study in August 2016, titled "IMPACT OF OPD WAITING TIME ON PATIENT SATISFACTION," using a descriptive and exploratory approach. The study found that patients spent an average of 60 minutes in the OPD, with the consultation wait time accounting for 40 minutes on average. The data from the survey indicated that 33% of patients waited between 30 and 60 minutes to see the doctor, while 32% waited for more than an hour.

13. Rajesh D. Patients Feedback Analysis to Improve Quality of Care—A Tertiary Care Centre Study. International Journal of Research and Review.

2020 Jan;7(1). [Patients Feedback Analysis to Improve Quality of Care – A Tertiary Care Centre Study by Dake Rajesh :: SSRN](#)

In their study titled "Patients Feedback Analysis to Improve Quality of Care - A Tertiary Care Centre Study," Dake Rajesh, I.V. Ramana, and Ramesh.CH analyzed 6,829 patient feedbacks. Results showed that only 4.6% constituted complaints (315), while 27.8% were compliments (1,894) and 1.3% were suggestions (88). Remarkably, 94.09% of patients expressed overall satisfaction with the hospital. The study emphasizes the need for healthcare providers to balance scientific expertise with compassionate care. Regular feedback analysis can pinpoint areas for improvement, leading to tailored training and evaluation programs at the department level. Addressing specific concerns identified in feedback can significantly enhance patient satisfaction and overall care quality.

14.Kaur R, Kant S, Goel AD, Sharma N. Patient satisfaction among the OPD attendees at a secondary care hospital in northern India. *Journal of Patient Experience*. 2022 Aug;9:23743735221120497. [Patient Satisfaction Among the OPD Attendees at a Secondary Care Hospital in Northern India - Ravneet Kaur, Shashi Kant, Akhil Dhanesh Goel, Nitika Sharma, 2022 \(sagepub.com\)](#)

In their study titled "Patient Satisfaction among OPD Attendees at a Secondary Care Hospital in Northern India," Ravneet Kaur, Shashi Kant, Akhil Dhanesh Goel, and Nitika Sharma emphasize the importance of patient satisfaction in assessing healthcare quality. The majority of participants rated outpatient department (OPD) services as "good" or "very good," consistent with findings from other studies. Unlike previous research highlighting dissatisfaction with public facilities like toilets and drinking water, this study reported higher satisfaction, possibly due to

regular cleaning. Consultation time with doctors received positive ratings, underscoring effective communication's significance. However, poor ratings for waiting time at the registration counter suggest the need for streamlining processes and increasing waiting space. Moreover, inadequate behavior and attitude of other hospital staff signal the necessity for reorientation training to enhance communication skills and improve the overall patient experience.

15.Sriram S, Noochpoung R. Determinants of hospital waiting time for outpatient care in India: how demographic characteristics, hospital ownership, and ambulance arrival affect waiting time. Int J Community Med Public Health. 2018 Jul;5(7):2692. [2165-libre.pdf \(d1wqtxts1xzle7.cloudfront.net\)](#)

Our study, utilizing models 1-3, reveals shorter waiting times for older patients, possibly indicating improved elderly care. Malayalee ethnicity correlates with reduced waiting times, potentially due to socioeconomic factors. Profit proprietary hospitals show shorter waits, contrasting with longer waits in government and non-profit hospitals. Ambulance arrivals correlate with shorter waits, suggesting prioritized care for serious cases. Males experience shorter waits, possibly due to cultural biases. Policy implications include addressing ethnic and gender disparities, enhancing access in non-profit hospitals, and improving emergency care in government facilities. Actions may involve equalizing access across ethnicities, addressing gender discrimination, and enhancing emergency medical services in government facilities.

Research Question

How can waiting times and congestion in the Outpatient Department (OPD) and the Laboratory and Radiology Department be reduced through systematic studies and cost-effective interventions to enhance operational efficiency, improve patient satisfaction, and ensure better healthcare delivery?

Objectives

1. To identify the primary factors contributing to prolonged waiting times in the OPD and Laboratory and Radiology Department.
2. To assess the impact of waiting times on patient satisfaction and overall perception of hospital services.
3. To evaluate the effectiveness of appointing primary care physicians for patient screening in reducing OPD congestion and waiting times.
4. To design and implement cost-effective interventions aimed at reducing waiting times and improving service efficiency in the OPD and Laboratory and Radiology Department.
5. To measure the outcomes of implemented interventions in terms of reduced waiting times, increased patient satisfaction, and enhanced operational efficiency.

Ethical Considerations

1. **Informed Consent:** Ensure that all patients participating in the study are fully informed about the purpose, procedures, risks, and benefits of the research, and obtain their written consent.
2. **Confidentiality:** Maintain the confidentiality of patient data and ensure that all personal information is securely stored and only accessible to authorized personnel.

3. **Non-Maleficence:** Ensure that the interventions and study procedures do not harm patients or negatively impact their care.
4. **Autonomy:** Respect the rights of patients to withdraw from the study at any point without any repercussions on their treatment.
5. **Beneficence:** Ensure that the study is designed and conducted to maximize potential benefits to patients, such as improved waiting times and enhanced satisfaction.
6. **Justice:** Ensure that the benefits and burdens of the research are distributed fairly among all participating patients, without any form of discrimination.

Implications of Research

1. **Improved Patient Satisfaction:** By reducing waiting times and enhancing service efficiency, the study aims to significantly improve patient satisfaction and their overall perception of hospital services.
2. **Operational Efficiency:** The findings can help hospital administration streamline operations, reduce congestion, and allocate resources more effectively.
3. **Healthcare Utilization:** Shorter waiting times can increase healthcare utilization by making hospital services more accessible and less stressful for patients.
4. **Quality of Care:** Enhanced efficiency and reduced delays in the Laboratory and Radiology Department can lead to timely diagnoses and treatments, thereby improving patient outcomes.
5. **Policy Development:** The research outcomes can inform policy decisions and the development of best practices for managing OPD and ancillary services in hospitals.

6. **Scalability:** The interventions and strategies developed through the research can potentially be scaled and adapted for use in other hospitals facing similar challenges.
7. **Economic Benefits:** Improved efficiency and patient satisfaction can lead to better financial performance for the hospital through increased patient throughput and positive word-of-mouth referrals.

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