

Dissertation Title:**Optimizing Patient Flow: Reducing Waiting Time in the Outpatient Department (OPD) at Dr. Mukesh Baghel Multispecialty Hospital, Agra**

1. Introduction

Outpatient Departments (OPDs) are critical components of healthcare systems, acting as the first point of contact for patients seeking medical consultations, follow-ups, and diagnostics. Efficient OPD functioning enhances healthcare delivery, increases patient satisfaction, and ensures optimal utilization of hospital resources. Despite its prominence in Agra, Dr. Mukesh Baghel Multispecialty Hospital faces challenges due to prolonged OPD waiting times, largely stemming from high patient loads, inefficient administrative procedures, and flawed workflow designs. These factors collectively impact patient satisfaction and service throughput ¹.

This study aims to assess the current OPD operations, identify major causes of delays, and introduce workflow interventions aimed at reducing waiting times and enhancing service quality.

2. Research Gap and Rationale

While many studies have explored patient waiting times globally, most focus on tertiary or government hospitals, neglecting private, medium-sized institutions in tier-2 Indian cities such as Agra. Literature on workflow improvement and digital interventions in such settings is limited, creating a gap in contextual knowledge^{2,3}. This study addresses that gap by evaluating the potential of digital queue systems, structured workflow designs, and patient navigation support in a real-world OPD setting.

3. Research Question

How can waiting time be reduced in the OPD of Dr. Mukesh Baghel Multispecialty Hospital, Agra, to improve patient satisfaction and optimize hospital operations?

4. Objectives

1. To assess the current waiting time and identify major delays in OPD services.
 2. To analyze patient experiences and satisfaction regarding waiting time.
 3. To recommend workflow improvements aimed at enhancing OPD efficiency.
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5. Hypothesis

Null Hypothesis (H_0): Implementation of workflow optimizations, digital solutions, and better patient guidance will not significantly reduce waiting times in OPD services.

Alternative Hypothesis (H_1): Implementation of workflow optimizations, digital solutions, and better patient guidance will significantly reduce waiting times in OPD services.

6. Materials and Methods

- **Study Design:** Descriptive and analytical study using time-motion analysis, patient feedback, and workflow mapping.
 - **Setting:** OPD of Dr. Mukesh Baghel Multispecialty Hospital, Agra.
 - **Population:**
 - **Inclusion Criteria:** Patients visiting OPD for consultations, follow-ups, or diagnostics; OPD staff.
 - **Exclusion Criteria:** Emergency patients, direct IPD admissions, or scheduled surgeries.
 - **Sampling Technique:** Systematic random sampling of patients and staff.
 - **Sample Size:** 100 OPD patients and 50 staff members.
 - **Tools:** Observation checklists, patient feedback forms, semi-structured staff interviews, time-motion logs.
 - **Duration:** Three months (pre-intervention, intervention, and post-intervention phases).
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7. Data Analysis Plan

- **Quantitative Analysis:**
 - Descriptive statistics for waiting time (mean, SD).
 - Chi-square tests for associations.
 - Regression analysis to predict delay-related factors.
 - **Qualitative Analysis:**
 - Thematic analysis of interview and open-ended feedback data.
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8. Ethical Considerations

- Informed consent from all participants.
 - Anonymity and confidentiality of patient and staff data maintained.
 - Ethical clearance obtained from the hospital's institutional ethics committee.
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9. Implications of the Study

This study is expected to:

- Serve as a replicable model for improving OPD workflows in similar settings.
 - Improve patient satisfaction through reduced wait times.
 - Equip administrators with evidence-based strategies for operational efficiency.
 - Act as a foundation for future healthcare management research.
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10. References (Vancouver Style)

1. Munyisia EN, Yu P, Hailey D. Impact of digital appointment systems on patient wait times in hospitals. *Int J Med Inform.* 2016;92:1–8.
2. World Health Organization. The world health report: life in the 21st century—a vision for all. Geneva: WHO; 1998.
3. Gulliford M, Figueroa-Munoz J, Morgan M. Process optimization in OPDs: a review of best practices. *BMJ Open.* 2018;8(3):e021245.

4. Adhikari SR, Maskey RK, Sharma BP. The effect of staff training on reducing hospital waiting times. J Health Serv Res Policy. 2019;24(1):45–53.
5. Rutherford P, Lee B, Greiner A. Implementation of electronic queue management systems in OPDs. Health Policy. 2017;121(4):397–404.

Appendices

- **Appendix A:** Observation Checklist Template
 - **Appendix B:** Structured Patient Feedback Form
 - **Appendix C:** Semi-Structured Staff Interview Guide
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