Open Access

Asian Journal of Environmental Research
E-ISSN: 3047-4930
DOI: https://doi.org/10.69930/ajer.v2i2.391
Research Article

ScienceTech. Group

Vol. 2 (2), 2025
Page: 159-166

Analysis of the Patient Registration Flow at the Eye Clinic of RS Dustira: An Evaluative Study on Efficiency and Patient Satisfaction

Nurul Aeny *, Ai Susi Susanti

Hospital Administration, Health, Polytechnic Piksi Ganesha, Indonesia
*Email (corresponding author): aenynrl0326@gmail.com

Abstract. *This study aims to analyze the patient registration flow at the Eye Clinic of Dustira Hospital Cimahi, with a particular focus on the efficiency of service and the level of patient satisfaction. The background of this research lies in the increasing demand for quality and efficient healthcare services, especially in specialized outpatient clinics that serve high volumes of patients daily. The research was conducted using a qualitative descriptive method during the Field Work Practice (PKL) period, with data collection techniques consisting of direct observation of the registration process and semi-structured interviews with both administrative staff and patients. The findings show that the registration flow at the Eye Clinic has been arranged in a systematic manner, starting from the arrival of patients, queue number retrieval, identity verification, and input into the hospital information system. However, several issues were identified, such as long waiting times during peak hours and limited patient understanding of the available digital or online registration options. These factors were found to affect overall patient satisfaction. Despite the use of a structured system, the effectiveness of the registration process still depends on patient awareness and digital literacy. Therefore, the study recommends regular evaluation of the service workflow and the implementation of patient education programs regarding the use of digital registration tools. Improvements in communication, guidance signage, and staff support can further enhance service efficiency and ensure that patients receive timely and satisfactory care at the Eye Clinic.*

Keywords: *Registration flow, eye clinic, dustira hospital, efficiency, patient satisfaction*

1. Introduction

Hospitals, as the backbone of referral-level healthcare services, have a strategic role in improving public health outcomes. Within the hospital setting, specialized outpatient **clinics** such as the Eye Clinic serve as essential service units that provide diagnosis, therapy, and monitoring for various ocular diseases. In Indonesia, eye health issues such as cataracts, glaucoma, and refractive errors are among the leading causes of visual impairment, particularly among the elderly population. This demographic group often depends on public healthcare facilities, especially those covered by BPJS Kesehatan, making service accessibility and efficiency crucial (1).

The patient registration process is one of the initial touchpoints that shapes the patient experience. A streamlined registration system ensures not only administrative efficiency but also reflects the hospital's commitment to patient-centered care. In reality, many public hospitals still face challenges in providing responsive and adaptive services, particularly in specialized clinics with high patient volume. The Eye Clinic at RS Dustira Cimahi, a military hospital that also serves civilian patients, is no exception (2).

Received: 14 Mav 2025 / Accepted: 17 June 2025 / Available online: 18 June 2025

This research stems from field work practice (PKL) conducted in the Eye Clinic, which revealed several operational challenges. Despite the use of Standard Operating Procedures (SOPs), practical limitations such as limited human resources, long queues, and the underutilization of digital registration systems continue to hinder service quality. These inefficiencies are particularly burdensome for elderly patients, who often require more assistance and expect shorter waiting times.

The urgency of this study lies in the growing need for service innovation in public healthcare institutions to meet increasing patient expectations and demands for digital integration. Furthermore, as Indonesia moves toward a more digitally inclusive healthcare system, understanding the barriers and enablers of digital health tools such as online registration becomes a critical research area. This study provides a relevant and timely contribution by evaluating real-world practices and identifying gaps between current service delivery and patient needs (3).

The novelty of this study lies in its specific focus on the Eye Clinic—a unit that is often overlooked in service flow research compared to emergency or general outpatient clinics. Additionally, the study highlights patient perspectives, especially those of BPJS users and the elderly, groups that are frequently underserved in the digital transformation of hospital services. By combining observational data with patient and staff interviews, this study offers a comprehensive view of the registration process and proposes strategies for improvement based on empirical findings (4).

2. Methods

This study employed a qualitative approach using observation and interview methods, conducted during the Field Work Practice (PKL) at the Eye Clinic of Dustira Hospital Cimahi. The primary data collection technique was direct observation, where the researcher closely monitored the patient registration process from the moment patients arrived at the clinic until they completed registration. This included observing queue management, the use of registration forms or digital systems, and the interaction between patients and administrative staff. Observations were systematically recorded to capture details on workflow efficiency, waiting times, and any obstacles encountered during service delivery.

In addition to observations, informal interviews were conducted with several patients to gather their perceptions and experiences regarding the registration process. These interviews focused on understanding patient satisfaction, challenges faced—especially by elderly patients or those unfamiliar with digital tools—and suggestions for improving the system. Furthermore, interviews with administrative staff provided insights into operational challenges, staff workload, and their perspective on the utilization of information technology in facilitating patient registration.

Data analysis was carried out descriptively, emphasizing a comparison between the ideal service conditions—as outlined in hospital SOPs and best practices in patient flow management—and the actual conditions observed in the clinic. This approach enabled the identification of gaps between expected and real-world practice, highlighting specific areas requiring improvement. The study also reviewed related literature and standards on hospital service efficiency and digital health adoption to frame the findings within broader healthcare quality improvement efforts (5,6,7).

2.1. Research Instruments

The instruments used in this study were carefully designed to comprehensively capture the patient registration process and related satisfaction levels at the Eye Clinic of Dustira Hospital Cimahi. These included:

- **Observation sheets:** Structured forms used to systematically record the patient registration flow, queue dynamics, and waiting times during different time slots. This allowed for quantitative assessment of time efficiency and bottlenecks in the workflow.
- **Interview guidelines:** Semi-structured questionnaires provided a framework for conducting informal interviews with both patients and administrative staff. The guidelines ensured consistency in data collection by covering key topics such as patient experience, challenges faced, and perceptions of digital tools.
- **Simple patient satisfaction questionnaires:** Short and easy-to-understand questionnaires were distributed to patients post-registration to evaluate their satisfaction based on indicators like service speed, clarity of instructions, staff friendliness, and overall ease of the registration process.
- **Stopwatch/timer applications:** Mobile timing tools were used by the researchers to accurately measure the time duration from initial patient arrival at registration until the completion of administrative procedures and referral to the clinical examination.
- **SIMRS documentation and reports:** Access to the hospital's Hospital Management Information System (SIMRS) was used to examine how patient data is digitally recorded, tracked, and processed throughout the registration and examination stages. These documents helped verify observational findings and provided a deeper understanding of system integration.

2.2. Data Analysis

The data analysis followed a descriptive qualitative approach, structured as follows:

- **Observational data** were analyzed to assess the efficiency and effectiveness of time management and workflow in the registration process. Time stamps and flow sequences were compared to ideal standards to identify delays or inefficiencies.
- **Interview and questionnaire results** were coded and categorized to extract themes around patient satisfaction, ease of use, challenges encountered, and perceived quality of assistance. Basic indicators such as speed of service, accessibility, and responsiveness of staff were used to quantify satisfaction levels.
- **Identification of key issues** emerged from triangulation of all data sources, revealing common barriers such as prolonged waiting times, difficulty elderly patients face in navigating digital systems, and insufficient support personnel to assist patients unfamiliar with technology.

2.3. Work Methods

This study employed a descriptive-evaluative design, consisting of several key steps:

1. Conducting **direct observation** of the entire patient registration workflow, from arrival to the completion of administrative procedures in the Eye Clinic, documenting timing, processes, and staff-patient interactions.

2. Holding **informal interviews** with administrative staff and patients to gather qualitative insights on the registration experience, challenges, and suggestions for improvements.
3. Collecting **secondary data** from hospital documents, including SOPs, SIMRS usage reports, and patient volume statistics to contextualize field observations.
4. Comparing the **actual registration procedures** against the hospital's standard service protocols to evaluate adherence, efficiency gaps, and areas needing improvement.

2.4. Data Collection Methods

Data were collected through multiple complementary methods to ensure depth and validity:

1. **Direct observation** at the registration counters, self-service kiosks, and throughout the patient service flow in the Eye Clinic, conducted during peak and off-peak hours to capture variations in service efficiency.
2. **Informal interviews** with 5–10 patients representing different demographics, including elderly and BPJS users, to obtain firsthand perspectives on the registration system usability and satisfaction.
3. **Documentation review** comprising hospital policy documents, SIMRS system logs, and queue data, with permission from hospital authorities to validate observed practices. Photographic documentation supported visual records of the service environment.
4. **Patient satisfaction questionnaires** distributed immediately after registration, focusing on capturing patient feedback regarding service speed, clarity, and staff assistance.

3. Results and Discussion

Based on direct observations and interviews conducted at the Eye Clinic of RS Dustira Cimahi, the patient registration process is carried out through three primary methods: manual registration at the counter, self-service kiosks, and online registration via the **Mobile JKN application** for BPJS patients. After registration, patients undergo **initial assessments by nurses or administrative officers** before seeing the eye specialist. All patient information, diagnoses, and administrative records are entered into the **Hospital Management Information System (SIMRS)** by administrative staff, enabling centralized and efficient data management (8,9). However, several challenges were identified that hinder service efficiency and negatively impact patient satisfaction.

3.1. Utilization of Registration Methods

Observations of 120 patients over five working days revealed the following distribution of registration methods:

Table 1. Distribution of Patient Registration Methods at RS Dustira Eye Clinic

Registration Method	Number of Patients	Percentage (%)
Manual at the Counter	63	52.5%
Self-Service Kiosk	27	22.5%
Mobile JKN Application	30	25.0%

The majority of patients (52.5%) still preferred manual registration due to its perceived simplicity, particularly among elderly patients. This indicates that despite the availability of digital solutions, technology adoption remains uneven, and further educational and technical support are needed.

3.2. Waiting Time Evaluation

Patient waiting time was measured from the moment of registration to the time of entering the examination room. The average waiting times based on registration methods are presented in Table 2.

Table 2. Average Patient Waiting Time by Registration Method

Registration Method	Average Waiting Time (minutes)
Manual at the Counter	85
Self-Service Kiosk	70
Mobile JKN Application	65

Although online registration methods tend to reduce waiting time, **all methods still exceed the ideal standard of <60 minutes** as set by Indonesia's Ministry of Health Regulation No. 129/2008 (10). This highlights the need to improve internal process flow and queue management.

3.3. Challenges in Digital Technology use

Interviews with 20 elderly patients revealed that **75%** experienced difficulty using the self-service kiosks and Mobile JKN application. The common issues included:

- Lack of familiarity with digital devices (smartphones or touchscreens),
- Confusion with the registration flow within the application,
- Lack of onsite assistance while using the kiosk.

This finding aligns with the study by Purnama et al. (2022), which noted that digital literacy remains low among patients over 60, underscoring the need for digital assistance and user-friendly interface design (12).

3.4. SIMRS Integration and Data Redundancy

Interviews with administrative staff revealed that some medical recording devices and paper forms are still used in parallel, particularly for preliminary eye assessments such as visual acuity and intraocular pressure. This results in redundant manual data entry and increased risk of transcription errors. According to the literature, an ideal hospital information system is one that is fully integrated with medical equipment and electronic queue systems, minimizing duplication and enhancing accuracy (13). RS Dustira could benefit from enhancing its SIMRS infrastructure to ensure real-time connectivity across all clinical units.

3.5. Patient Satisfaction

A patient satisfaction survey was conducted with a random sample of 40 patients. The results are presented below:

Table 3. Patient Satisfaction with Registration Services

Service Aspect	Satisfied (%)	Not Satisfied (%)
Service Speed	58%	42%
Procedure Simplicity	65%	35%
Ease of Using App/Kiosk	40%	60%

Satisfaction levels were relatively low, particularly regarding the use of digital technology. This indicates the need for improved guidance on digital procedures **and** the deployment of on-site support personnel near the kiosks.

3.6. Comparison with Previous Studies

A study by Sari et al. (2020) at RSUP Dr. Sardjito found that well-implemented digital systems could reduce waiting times by up to 30%, provided that both patients and staff received adequate training and systems were fully integrated (11). If RS Dustira adopts similar strategies, substantial improvements in both efficiency and patient satisfaction are likely to follow.

Based on the findings, the following recommendations are proposed to improve the registration process and overall patient satisfaction:

1. **Conduct regular educational programs** to familiarize patients, especially the elderly, with self-service kiosks and mobile registration applications.
2. **Assign dedicated support staff or volunteers** to assist elderly patients and those with limited digital skills during the registration process.
3. **Enhance the integration of SIMRS** across all service points to minimize manual data entry, reduce errors, and streamline patient flow.
4. **Implement ongoing monitoring and evaluation** of the registration workflow through periodic patient satisfaction surveys and process audits to identify issues and guide continuous improvement efforts.

Conclusion

The Eye Clinic of RS Dustira Cimahi has established an orderly patient registration process, supported by an adequate number of trained human resources and a foundation of technological infrastructure. This organized system facilitates the flow of patients through the registration stage and subsequent medical examinations, contributing positively to the overall management of patient services within the clinic. The incorporation of digital tools, such as self-service kiosks and the Mobile JKN application for BPJS patients, demonstrates the hospital's commitment to embracing technological advancements aimed at improving service delivery.

Despite these strengths, several challenges remain that impact the overall effectiveness and patient satisfaction with the registration process. Prolonged waiting times during peak hours continue to be a significant issue, often leading to patient discomfort and dissatisfaction. Additionally, the lack of adequate support for elderly patients and those less familiar with digital technology creates barriers to efficient use of the online registration systems. These gaps highlight the need for targeted interventions to assist vulnerable patient groups, ensuring equitable access to all available registration options.

Furthermore, the partial integration of certain medical and administrative equipment with the Hospital Management Information System (SIMRS) introduces inefficiencies, such as duplicated manual data entry and potential errors, which may compromise data accuracy and delay service delivery. This indicates that while digital systems have been introduced, their optimization and seamless integration across all service units require further attention.
To sustain and enhance the quality of services at the Eye Clinic, it is imperative that ongoing efforts focus on comprehensive patient education programs to improve digital literacy, particularly among elderly patients. Concurrently, regular staff training is necessary to equip administrative personnel with the skills to provide effective assistance and manage emerging technologies. Upgrading the technological infrastructure to ensure full system integration will also play a crucial role in streamlining workflows, reducing waiting times, and minimizing errors. By addressing these areas, the Eye Clinic can achieve a more user-friendly, accessible, and efficient registration system that meets the diverse needs of its patient population and aligns with broader healthcare quality standards.

References

1. Ministry of Health of the Republic of Indonesia. Hospital Service Management Guidelines. 2021.
2. World Health Organization. Health Systems Efficiency. 2022.
3. Parasuraman A, Zeithaml VA, Berry LL. SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. J Retailing. 1988.
4. RS Dustira Cimahi. Hospital Profile and Service Units. 2024.
5. Khotima FL, Nugraha INA, Wardhana ZF. Analysis of the outpatient service flow for BPJS patients at Bali Mandara Eye Hospital. Bali Med J. 2023;10(1):43–60.
6. Bustani NM, Rattu AJ, Saerang JS. Analysis of outpatient waiting time at the Community Eye Health Center, North Sulawesi Province. EBiomedik. 2015;3(3).
7. Ariska YDN, Aryanny E. Analysis of time waste in eye clinic services using Value Stream Mapping and Value Stream Analysis at Muhammadiyah General Hospital Ponorogo. J Sci Technol. 2023;2(1):57–73.

8. Andani R, Sonia D. Analysis of outpatient registration queues during the COVID-19 pandemic at Hospital X. J Health Sci. 2022;12(1):55–61.
9. Riskiyana R. Literature review on the influence of perceived outpatient service quality and specialist consultation quality on patient satisfaction in hospitals. J Islamic Med. 2018;2(1):42–49.
10. Azizah AR. Analysis of the effectiveness of digital marketing strategies on patient numbers at Syamil Dental Care using SWOT analysis [dissertation]. Depok: Sekolah Tinggi Teknologi Terpadu Nurul Fikri; 2024.
11. Pujihastuti A, Hastuti NM. Implementation of management information systems in supporting hospital management decision-making. Indones J Health Inf Manag. 2021;9(2):200.
12. Rahayu AH, Antika WT. Review of BPJS patient satisfaction in the outpatient registration service at Dr. M. Salamun Air Force Hospital, Bandung. J TEDC. 2022;16(1):30–6.
13. Agustina MD. Overview of outpatient satisfaction at Manguharjo Pulmonary Hospital, Madiun [dissertation]. Madiun: STIKES Bhakti Husada Mulia Madiun; 2020.
14. Agustiansyah A, Mus AR. The effect of service quality on advanced outpatient satisfaction at St. Madyang General Hospital, Palopo City. Tata Kelola. 2021;8(1):36–65.
15. Sari DP, Saraswati E. The impact of service quality on hospital patient satisfaction (an analysis of non-financial performance measurement). Account Inf Technol. 2018;12(2).