

Digital Education: Online Registration as an Effort to Improve Administrative Efficiency

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Abstract

Digital transformation in the healthcare sector encourages health service facilities to improve administrative efficiency through the use of technology, including online registration systems. Dr. Bratanata Hospital Jambi has provided an online registration service; however, initial survey results indicate that its utilization rate remains low due to limited patient understanding and insufficient socialization. This community service program aims to improve the digital literacy of patients and their families through education, training, and assistance in using the online registration system as an effort to support administrative efficiency in the hospital. The methods implemented include direct socialization in the outpatient area, demonstrations of the application/website registration process, distribution of digital educational materials, and one-on-one assistance for patients using the online registration system for the first time. Evaluation was conducted using pre-test and post-test assessments to measure knowledge improvement, as well as observation of the number of patients using the online registration system after the activity. The results show a significant increase in patients' understanding of the online registration steps, a rise in the proportion of online registration users, and a reduction in queue length at the administrative counters during peak hours. This program demonstrates that digital education can enhance the utilization of health service technologies and support administrative efficiency in hospitals. It is recommended that this activity be continued regularly to ensure sustainability and equitable digital literacy among patients.

Keywords: Digital education, health service, online registration,

Abstrak

Transformasi digital di sektor kesehatan mendorong fasilitas pelayanan kesehatan untuk meningkatkan efisiensi administrasi melalui pemanfaatan teknologi, salah satunya sistem pendaftaran online. Rumah Sakit dr. Bratanata Jambi telah menyediakan layanan pendaftaran online, namun hasil survei awal menunjukkan bahwa tingkat pemanfaatannya masih rendah akibat kurangnya pemahaman pasien serta minimnya sosialisasi. Kegiatan pengabdian kepada masyarakat ini bertujuan untuk meningkatkan literasi digital pasien dan keluarga melalui edukasi, pelatihan, dan pendampingan penggunaan pendaftaran online sebagai upaya mendukung efisiensi administrasi rumah sakit. Metode kegiatan meliputi sosialisasi langsung di area rawat jalan, demonstrasi penggunaan aplikasi pendaftaran, pemberian media edukasi digital, serta pendampingan individual bagi pasien yang melakukan pendaftaran pertama kali. Evaluasi dilakukan dengan pre-test dan post-test untuk mengukur peningkatan pengetahuan, serta observasi terhadap jumlah pasien yang menggunakan pendaftaran online setelah kegiatan. Hasil menunjukkan adanya peningkatan signifikan pada tingkat pemahaman pasien terkait langkah-langkah pendaftaran online, peningkatan proporsi pengguna pendaftaran online, serta berkurangnya antrean di loket administrasi. Program ini membuktikan bahwa edukasi digital mampu meningkatkan pemanfaatan teknologi layanan kesehatan dan mendukung efisiensi administrasi di rumah sakit. Kegiatan ini direkomendasikan untuk dilanjutkan secara berkala guna memastikan keberlanjutan dan pemerataan literasi digital di kalangan pasien.

Kata Kunci: Edukasi digital, pendaftaran online, pelayanan kesehatan

A. INTRODUCTION

Public services are a series of activities carried out by government institutions to meet citizens' needs for goods, services, and administrative services. Based on the provisions of Law Number 25 of 2009 concerning Public Services, every citizen has the right to obtain quality, open, and accountable services. The government, both at the national and regional levels, has the responsibility to provide public services that prioritize the principles of efficiency and effectiveness in order to improve people's standard of living. Furthermore, the right to public services is also guaranteed in the constitution, namely the 1945 Constitution of the Republic of Indonesia, specifically Article 28H paragraph (1), which states that every

citizen has the right to a healthy living environment and decent services from the state (Widanti, 2022).

The rapid development of the digital transformation era requires the healthcare sector to transform its service delivery system. One major innovation is the use of digital applications to support healthcare administration and service processes through the National Health Insurance (JKN) Mobile App. This app allows patients to register online without having to physically queue at hospitals or healthcare facilities (Utami et al., 2024).

This innovation is a strategic step in improving the efficiency of health services in Indonesia, which has been faced with the problems of long queues, service uncertainty, and patient discomfort. Therefore, the effectiveness of online registration services is a crucial aspect in increasing patient satisfaction, especially outpatients who require fast and efficient services. Patient satisfaction has long been an important indicator in assessing the quality of health services (Sodali et al, 2024). Satisfaction not only impacts patient loyalty, but also the overall image of the hospital. Amidst increasingly fierce competition among healthcare facilities, hospitals are required to continuously innovate in providing services based on patient needs. Online registration systems are one such innovation designed to increase patient satisfaction by speeding up administrative processes, reducing waiting times, and providing easier access to information (Imani et al., 2022) (Primadahani & Ilyas, 2021). However, the implementation of these systems has not always been smooth. Various challenges such as patient ignorance about online procedures, application technical problems, and obstacles in user experience are factors that can affect service effectiveness (Tugiman & Yudhana, 2022).

Patient registration is the first touchpoint in the hospital service chain. Slow registration processes lead to long queues, patient frustration, delays in clinical services, and wasted resources. The use of online registration (e-registration) can reduce waiting times, streamline patient flow, and provide useful baseline data for clinical units. International empirical evidence shows a positive relationship between electronic registration systems and patient satisfaction and outpatient visit efficiency (Carini et al, 2021).

However, this potential efficiency can only be realized if, in addition to technology, effective educational and outreach interventions are also available. Digital education for patients and staff aims to increase knowledge of application use, reduce barriers to adoption, and ensure online registration procedures are consistent with hospital policies. Without adequate education, online registration systems often remain underutilized, resulting in suboptimal benefits (Pratama & Handayani, 2020).

Implementation experience at other healthcare facilities in Indonesia shows that the success of e-registration depends on technical integration, hospital policy support, and continuous staff training. Therefore, community service programs that simply install the system without education and monitoring programs tend to fail to achieve utilization targets (Nugroho & Wulandari, 2022).

Effective digital education should consider patient demographic profiles, digital inclusion (smartphone/internet access), and easy-to-follow materials (short videos, posters, live demonstrations, and assistance during initial registration). A mixed approach between community-based outreach and direct assistance at the point of service can accelerate adoption (Delice, 2021).

In addition to the benefits for patients and hospital management, online registration also opens up opportunities for improving the quality of service data – for example, more consistent demographic data, streamlined appointment scheduling, and better service analytics capabilities. Better data helps managerial decision-making and clinical capacity planning (Delice, 2021).

However, digital implementation also brings ethical and privacy challenges: patient data protection, access security, and compliance with national regulations must be

maintained. Education should include simple security aspects so that patients and staff understand the safe practices of using registration apps. WHO guidelines and recommendations on digital interventions provide a framework for assessing the benefits, risks, and feasibility of digital interventions in health services (Kurniawan & Sari, 2022).

Indicators of program success will include an increase in the proportion of patients registering online, a reduction in wait times at the registration counter, and an increase in patient satisfaction scores with the administrative process. Measurements will be taken before (baseline from the initial survey), during, and after the educational activities to assess the impact of the intervention (Oktamianiza, 2017).

Dr. Bratanata Hospital in Jambi is one of the hospitals that has the potential to improve its administrative efficiency through the implementation of an online registration system. The results of an initial internal survey conducted at Dr. Bratanata Hospital revealed several important findings: many patients and families were unfamiliar with the hospital's online registration application; administrative staff reported high workloads during peak hours ; and there were indications that online registration had not been disseminated evenly to outpatients. These findings underscore the need for integrated educational interventions to increase adoption. By providing digital education to healthcare workers at this hospital, it is hoped that this will improve their ability to utilize information technology and support the realization of a more effective and efficient patient registration system.

Based on the background above, the purpose of the community service that will be carried out is to find out about Digital Education for Online Registration as an Effort to Increase Administrative Efficiency at Dr. Bratanata Hospital, Jambi.

B. METHODS

This community service activity was conducted at Dr. Bratanata Hospital in Jambi, in the outpatient care area. The target group included patients, their families, and administrative staff who interact directly with the outpatient registration process. The implementation method was designed to improve digital literacy and patient skills in using the hospital's online registration system, thereby impacting hospital administrative efficiency. Respondents in this community service was 12 people.

1. Preparation Stage

The initial phase included coordinating with hospital management to determine the schedule, location, and logistical requirements, as well as identifying necessary facilities such as computers, tablets, internet access, and educational materials. The team also developed an educational module that covered the steps for using the online registration application/website, a simple troubleshooting guide, and easy-to-understand infographics for patients.

2. Pre - Assessment

Prior to the training, an initial survey was conducted using a questionnaire to measure the level of patient knowledge about online registration .

3. Direct Education and Socialization

Educational activities are carried out in the outpatient waiting room through:

- a. Group counseling on the benefits and how online registration works .
- b. Explanation of the registration flow using visual media (posters, short video tutorials) .
- c. Live demonstration of the use of the application or online registration site through the device provided.
- d. The material is delivered interactively using simple language so that it is easy for various age groups to understand.

4. Individual Mentoring
After group counseling, patients who want to try online registration are guided directly by the team:
 - a. Help with application installation (if needed),
 - b. Guide the registration steps independently,
 - c. M provides support for patients who are registering digitally for the first time.
5. Provision of Digital Educational Media
The team provides educational materials in the form of video tutorials, leaflets and short guides in QR code form that can be accessed at any time. This aims to ensure that education continues even after the activity has finished.
6. Activity Evaluation
The evaluation was conducted using two methods:
 - a. Pre-test and Post-test
Used to measure the increase in patient knowledge regarding:
 - 1) L online registration steps
 - 2) M benefits of its use
 - 3) Ability to register independently
 - b. System Utilization Observation
The team recorded changes after the activity took place, including:
 - 1) Number of patients using online registration
 - 2) intensity at the administration counter
 - 3) Smooth service process during peak hours

C. RESULTS

The community service activities carried out at Dr. Bratanata Hospital in Jambi have shown very positive results and align with the program's primary objectives, namely improving digital literacy and patient utilization of the online registration system. Evaluation was conducted through pre- and post-tests, direct observation, and recording the number of online registration users before and after the activities.

Overall, this community service program achieved all achievement indicators, including:

1. Increased patient understanding of the online registration flow
2. Increasing number of digital registration users
3. Reduced queues at the administration counter
4. Increasing the effectiveness of outpatient services
5. Increasing patient participation in utilizing technology-based services

Table 1. Pretest and Posttest Values

Pretest	Category	Posttest	Category
55	Enough	85	Good
60	Enough	90	Good
50	Not enough	80	Good
65	Enough	95	Very good
45	Not enough	75	Good
55	Enough	85	Good
60	Enough	88	Good
50	Not enough	82	Good
58	Enough	90	Good
62	Enough	92	Very Good
48	Not enough	78	Good
52	Not enough	82	Good
Average	55.0 (Enough)	85.3 (Good)	

Based on table 1 above, the average knowledge increased from 55.0 to 85.53, which shows a very significant increase. The knowledge category changed, during the pre-test the dominant categories were sufficient and less, after being given education the majority of post-test scores were in the good and very good categories.

Observations showed an increase in the proportion of patients using the online registration system. Prior to the intervention, most patients still relied on manual registration at the administration counter. After the training, more patients chose to register digitally, either through the hospital app. This increase indicates the program's success in encouraging behavioral change and increasing the use of healthcare technology.

Overall, this activity demonstrated that digital education is an effective approach to improving patients' ability to utilize technology-based healthcare services. The combination of education, demonstrations, and personal support contributed to the success of this intervention. The program's success also demonstrated that previous barriers to online registration were primarily due to a lack of understanding, rather than significant technological difficulties.



Figure 1. Educational Process

Refers to community service activities which are the dissemination of science, technology and art to the community. These activities must be able to provide added value to society, both in economic activities, policies, and behavioral (social) changes. Describe how community service activities have been able to bring about changes for individuals/communities and institutions, both in the short and long term.

D. CONCLUSION

The implementation of community service activities related to digital education on online registration at Dr. Bratanata Hospital in Jambi was effective and had a significant positive impact. Evaluation results showed a significant increase in patient understanding of the steps to use the online registration service after socialization, demonstrations, and individual support. Furthermore, there was an increase in the proportion of patients utilizing online registration compared to before the activity.

The implementation of digital education also contributed to reduced queues at administration counters during peak service hours, thus supporting a more efficient and convenient service flow. These findings demonstrate that a good understanding of technology usage plays a crucial role in improving the effectiveness of administrative processes in healthcare facilities.

Given the success of this initiative, it is recommended that the digital education program be implemented sustainably and expanded in scope to reach more patients and ensure equitable digital literacy across the hospital. The program's sustainability is expected to strengthen the digital transformation of healthcare services and improve the quality of administrative services at Dr. Bratanata Hospital in Jambi.

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