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Case Study of Implementation of Administrative Innovation in Improving the Quality of Health Services

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ABSTRACT

Administrative innovation is crucial for enhancing health service quality. As health systems evolve, effective administration can expedite service delivery, minimize patient wait times, and enhance the accuracy of patient data. In today's society, there are heightened expectations for health service quality, including information accuracy and accessibility. Implementing innovative, technology-driven administrative systems can bolster public trust in healthcare institutions.This study investigates the changes before and after the implementation of such innovations, assessing their effectiveness in addressing common administrative challenges. Employing a qualitative case study methodology with a descriptive approach allows for an in-depth exploration of administrative innovation processes in specific health facilities and their impacts on service quality. Key respondents include health workers—doctors, nurses, and administrative staff—directly involved in these innovations, alongside patients who evaluate their satisfaction with the changes.Findings indicate positive responses from both health workers and patients regarding the innovations. Health workers reported increased efficiency in their tasks, while patients experienced improved service quality. Despite challenges such as the need for training and concerns over data privacy, there is optimism for continued development of these innovations to foster a more modern and efficient healthcare system. Ultimately, an integrated approach to administrative innovation aims to achieve safer, more efficient, and higher-quality health services accessible to all community members.

Keywords: *Administrative Innovation, Quality of Health Services, Patient Satisfaction*

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INTRODUCTION

Administrative innovation is one of the important pillars in efforts to improve the quality of health services. In a health system that continues to develop, effective and efficient administration can speed up the service process, reduce patient waiting time, and increase the accuracy of patient information (Mailintina et al., 2024). Therefore, the implementation of administrative innovation, which includes the use of digital technology, integrated patient data management, and more responsive processing, is very relevant. With this innovation, health services can be provided more quickly and accurately, thus having a positive impact on patient satisfaction and the operational efficiency of health facilities (Widaningsih, 2023).

The importance of administrative innovation is also closely related to public demands for more transparent and accountable health services. (Panggabean et al., 2023; Saharuddin & Katjina, 2021). In the modern era, people have high expectations for the quality of health services, including the accuracy of information and ease of access to services. The implementation of an innovative and technology-based administration system can increase public trust in health institutions. (Nurhayati et al., 2021; Takain et al., 2022). This can simultaneously improve the image of the institution, create patient loyalty, and increase collaboration between various parties involved in health services.

In various countries, the implementation of administrative innovation in the health sector has been proven to improve the quality of services. For example, in several developed countries, the implementation of Electronic Health Records (EHR) systems has had a significant impact on improving the accuracy and efficiency of services (Elizabeth et al., 2023). On the other hand, administrative innovations involving telemedicine and digital-based services make it easier for patients to access health information, especially for those living in remote areas. This study seeks to examine whether similar innovations can be implemented in health facilities in Indonesia, as well as assess their impact on the quality of services provided (Utami, 2022).

In Indonesia, the challenges faced in health services are very complex, ranging from limited resources to inadequate infrastructure. These limitations often lead to low quality of service, long waiting times, and lack of patient satisfaction. (Al Machmudi, 2021). Thus, an innovative approach is needed in the administration system so that health services can be more equitable and efficient. Administrative innovation is expected to be a practical solution to overcome these obstacles and improve the quality and accessibility of services for all levels of society.

Relevant administrative innovations to be implemented in Indonesia include digitizing administrative processes, implementing cloud-based systems for patient data management, and integrating information systems between units within health facilities. The digitization process allows patient data to be accessed more easily and accurately by medical personnel, thereby minimizing administrative errors. In addition, cloud-based systems help store and exchange information securely, which is especially useful for health services in remote areas that are often constrained by limited access to patient data.

The case study approach in this research is important because it allows researchers to explore in depth how administrative innovations are implemented in Padang City Hospital, including the challenges and opportunities that arise during the implementation process. Thus, the results of this

study can provide a more detailed insight into the supporting factors as well as the obstacles faced in implementing administrative innovations. The findings are expected to serve as a reference for the management of other health facilities that want to implement similar strategies to improve their service quality.

This study also aims to present empirical data on the real impact of administrative innovation on the quality of health services in Padang City Hospital. Some of the quality indicators that will be investigated include patient satisfaction, service time, and data accuracy. This study will describe the changes that occurred before and after the implementation of the innovation, so as to assess the effectiveness of the strategy in overcoming administrative problems that are often faced in the field.

Through this study, it is hoped that the contribution of this research will not only provide practical benefits for improving service quality in Padang City Hospital, but also provide an empirical basis for the government and other stakeholders in formulating policies related to administrative innovation in the health sector.

METHODS

This study uses a qualitative case study method with a descriptive approach. This approach was chosen to explore in depth the process of implementing administrative innovation in certain health facilities and assess its impact on the quality of health services. This method allows researchers to understand the phenomenon in a real context, namely in the environment of health facilities that implement administrative innovation.

This research will be conducted in health facilities in Padang City, such as hospitals or puskesmas that have implemented administrative innovations, such as digitisation or Electronic Health Records (EHR). The main informants consist of health workers, namely doctors, nurses, and administrative staff who are directly involved in the implementation of innovations. Doctors and nurses were selected based on their work experience of at least 2-3 years and their involvement in workflows affected by the innovation, while administrative staff were selected based on their responsibilities in data management or other administrative services. In addition, patients who have used the services before and after the implementation of the innovation will be involved to evaluate their satisfaction. Patient characteristics include a minimum age of 18 years and willingness to participate in interviews or discussions. This combination of informants is expected to provide a comprehensive view of the impact of administrative innovations.

Data collection techniques by means of interviews, participant observation and documentation during data collection in the field while the instruments used include semi-structured interview guides for in-depth interviews with health workers and patients. Observation guides will be made to identify aspects of the implementation of administrative innovations and user behavior during their implementation. In addition, documentation sheets will be prepared to record relevant secondary data.

This research procedure includes several main stages, namely preparation, data collection, data analysis, and reporting of research results. In the process, this research upholds the principles

of research ethics, such as participant consent, confidentiality of information, and the right of participants to refuse or stop participation at any time without consequences. To ensure data validity, this study used the data triangulation method. Triangulation is done by combining various data sources, such as in-depth interviews with doctors, nurses, administrative staff, and patients, direct observation of the implementation of administrative innovations in health facilities, and analysis of related documents or reports. This approach aims to obtain a more accurate, consistent, and reliable picture of the phenomenon under study.

RESULTS

The research results are based on interviews with respondents who are directly involved in administrative innovation in improving the quality of patient services, as well as patient respondents as service users to evaluate satisfaction with service changes.

A. Interview Results

1. Health Workers

a. Doctor

Most doctors feel helped by the Electronic Health Record (EHR) system, because access to patient data is faster and more accurate. One doctor stated, "EHR makes it easier for us to see patient history, so we can make decisions faster." With the digital system, the time spent on administration is reduced so that more time can be spent on patient consultations. Doctors also emphasized that the digital system minimizes recording errors that often occur when using a manual system.

b. Nurse

Nurses found that the digital system helped them monitor patient progress more effectively. "We can immediately see updates from doctors or other departments, so our actions are more focused," said one nurse. Administrative innovation improves communication between departments, so there is no need to search for data manually. This makes it very easy to give medication or other actions that are in accordance with the doctor's notes.

c. Administrative staff

Administrative staff feel that this system is very helpful in reducing workload, especially in terms of patient data management. "The registration process and data management are faster with this digital system, reducing patient queues," said an administrative staff. Administrative staff said that the main challenge in implementing this innovation is technological skills. They need training to understand the new system, and health facilities need to update their infrastructure so that the system runs optimally.

2. Patient

Most patients expressed their satisfaction with the faster and more efficient service after the implementation of the digital system. "The waiting time is shorter, and the registration process is easier," said one patient. Patients also feel more at ease because their data is well recorded and not easily lost. They feel that digital medical records are more

accurate and make it easier for them to do further examinations. Patients hope that this system can be implemented more widely, including in areas with limited access. Some patients expressed concerns about data privacy, so they hope that health facilities will ensure the security of their data.

According to researchers, both health workers and patients generally responded positively to the implementation of administrative innovations in health facilities. Health workers felt efficiency in their work, while patients felt an increase in the quality of service. Although there were some challenges, such as the need for training and data privacy, respondents expressed hope that these innovations would continue to be developed to create a more modern and efficient health care system.

DISCUSSION

Based on the results of the study, researchers identified several innovations in the administration system that were implemented to improve the quality of health services, especially in terms of speed, accuracy, and patient satisfaction. Here are some of the main aspects of these innovations:

1. Use of Electronic Health Records (EHR)

EHR is an electronic medical record system that replaces manual recording systems and allows digital storage and access of patient data. Positive impacts, Doctors can access patient health history in real-time, which shortens the time for diagnosis and decision-making, digitally stored medical data reduces the risk of loss or misrecording of important patient information, EHR allows better collaboration between departments, so that all parties involved can access the same information. Respondents' responses to the use of Electronic Health Records Doctors feel very helped by this system because they can check patient history quickly. Nurses also admit that EHR helps them access patient condition updates without having to wait for manual records. In a study conducted (Nugroho, 2020) stated that integrated hospital management information systems, such as EHR, increase operational efficiency and speed of service, and assist in faster decision making.

Frederick Taylor's theory related to the principles of scientific management states that increased efficiency can be achieved through better work system arrangements, including the application of technology (Groedu Team, 2021). In the context of this study, the implementation of Electronic Health Records (EHR) and the digitization of administrative processes have succeeded in reducing the time required for data recording and processing. Interview results showed that doctors and nurses can access patient history more quickly, allowing for more timely medical action and reducing the risk of administrative errors. The book (Mindell, 1999) discusses how scientific management principles such as time and motion measurement affect efficiency in various industrial sectors, based on this theory, operational efficiency is achieved when each unit in a healthcare facility can focus on its core tasks without being distracted by excessive administrative burdens. The application of digital technology helps eliminate inefficient processes and increases the productivity of healthcare workers. Frederick Taylor's scientific management theory underpins this, saying that

better systems of work, including the use of technology to replace time-consuming and error-prone manual processes, can improve efficiency (Mindell, 1999).

One of the second assumptions is that better collaboration among departments in a healthcare facility can occur. By using an EHR, various medical personnel, including doctors, nurses, and administrative staff, can access the same patient data in real-time. This assumption stems from the belief that better collaboration between medical departments can improve coordination in providing patient care. With more accessible and more accurate information, medical personnel can plan more precise and coordinated medical actions, which will ultimately lead to better outcomes.

The third assumption is that EHRs have the potential to reduce administrative errors and improve data accuracy. Previously error-prone manual processes can be replaced with a more efficient and safer digital system. With more structured and easily accessible data storage, the risk of losing important information or inputting incorrect data can be minimised. This assumption is supported by the interviews which showed that the respondents, both doctors and nurses, felt the benefits of EHR systems in reducing recording errors and improving the accuracy of information available for medical actions.

2. Cloud-Based Digitalization and Data Management System

The implementation of a cloud-based system for patient data management allows for secure data storage and can be accessed from anywhere by authorized health workers. The positive impacts felt are that patient data can be stored centrally, reducing the risk of data loss in various service units, the data management process becomes faster and is not hampered by physical storage space constraints, cloud-based access supports health services in areas with limited resources or accessibility, enabling long-distance collaboration between health facilities. Respondents' responses, administrative staff feel that the cloud-based system makes it easier to record and access data, and reduces the time required to search for patient data manually. The cloud-based system enables water quality monitoring in aquaculture through IoT and data management, which can be applied to patient data monitoring. Cloud computing ensures data can be accessed in real-time and integrated, supporting quick decision-making (Yunior & Kusrini, 2021).

Stating that patient data accuracy is very important in providing health services. Digital-based systems, such as EHR, allow for more accurate recording of information and faster data access, improving the quality of medical decisions (Maulana, 2024). In this study, health workers emphasized that EHR supports accuracy in medical actions and strengthens patient trust in the health services provided.

This study supports this theory, as cloud-based systems and EHRs minimize input errors and data loss, two major challenges in manual record-keeping. These systems also allow for data protection through encryption technology, in accordance with information security standards.

The use of encryption technology in storing and managing patient data can reduce the risk of data loss or input errors that often occur in manual record keeping. With a centralised system that can be accessed from multiple locations, health workers can more quickly and easily access patient information, which in turn can improve the speed and accuracy of medical decision-making. This

assumption supports the theory that digitalisation of health administration systems can improve service quality through more efficient and secure data management.

The second assumption is that the implementation of cloud-based systems and EHRs can strengthen collaboration between health facilities, especially in areas with limited resources or low accessibility. With easy and remote access to patient data, medical personnel in different locations can collaborate more effectively, share information, and provide more coordinated care. This assumption relates to the importance of technological innovation in expanding access to healthcare services, improving operational efficiency, and strengthening the network of co-operation between healthcare facilities, thus providing more holistic and quality care for patients.

3. Digitalization of Registration Process and Document Processing

The patient registration process and document processing are carried out through a digital system that is directly connected to the health database. Positive impacts, the registration process is shorter, reducing queues and patient waiting times, administrative staff can manage data faster and reduce manual workloads, allowing them to focus more on other more critical tasks, patients feel more comfortable because they do not need to fill out many forms manually and can immediately get service. Respondent responses, patients gave positive feedback regarding this digitalization because the process was faster and more efficient. Administrative staff also felt a significant reduction in workload.

Satisfaction increases when expectations of a service are met or exceeded. Based on this theory, innovations that can significantly increase accessibility and speed up services will increase patient satisfaction (PuskoMedia Indonesia, 2024). The findings of this study indicate that patients are satisfied with faster service, short waiting times, and ease of administration. In the context of health services, short waiting times and ease of access to services are important aspects for patients. Digital systems that enable more efficient registration and data management processes have been shown to increase positive patient perceptions of health services.

The researcher assumes that implementing a digital system in patient registration can improve patient satisfaction through reduced waiting time and ease of administration. With a more efficient system, patients no longer need to fill out time-consuming manual forms, and the registration process can be done more quickly. This assumption is supported by customer satisfaction theory, which states that satisfaction will increase when service expectations, such as short waiting times and ease of access, are met or even exceeded.

The second assumption is that digitisation of administrative processes can reduce the workload of administrative staff and increase their productivity. With less manual tasks that require time and effort, administrative staff can focus more on other more critical and strategic tasks. This can lead to improved operational efficiency in healthcare facilities, thereby speeding up the service delivery process and supporting improved service quality. This assumption is relevant to the findings of the study which showed that administrative staff perceived a significant reduction in workload, which in turn contributed to improved patient satisfaction.

4. Cross-Unit Integration System and Improved Internal Communication

This system integrates information from various units in a health facility, such as registration, inpatient, laboratory, and pharmacy units. The impact felt by digitally available patient information facilitates communication and synchronization between units without having to move manual records, this integration system reduces the risk of errors in administering drugs or other actions because medical and administrative staff have access to the same data, with this integration, each unit can immediately take the necessary actions without waiting for information manually. Nurses expressed that this integration helps them in ensuring consistency of information between medical records and pharmacy units, so that they can take action faster without worrying about data being left behind or not updated.

Patient trust in healthcare services will increase if there is assurance that their personal data is secure and well managed. In this study, although some patients showed satisfaction with the new system, some patients also expressed concerns about data security. This confirms that technological innovation must be accompanied by adequate data security assurance in order to build sustainable trust. The assumption in this theory is that with strong data protection and transparent security policies, public trust in technological innovation in healthcare services will increase, supporting successful implementation.

The first relevant assumption is that an integrated system that combines information from various units can improve coordination between departments and reduce the risk of medical errors. With information available digitally and accessible to all medical and administrative staff, the communication process between units becomes faster and more accurate. This assumption is supported by the finding that data integration makes it easier for nurses to ensure consistency of information between medical records and pharmacy units, thus speeding up decision-making and medical actions. This suggests that an integrated system can improve the efficiency and safety of health services.

The second assumption relates to the importance of data protection and security policies in building patient trust in technological innovations in the healthcare sector. Although digital systems offer many benefits in terms of efficiency and data management, some patients expressed concerns regarding the security of their personal data. This assumption is based on the theory that public trust in the use of technology in healthcare will increase if there is a guarantee that patient data is managed securely and transparently. Therefore, to support successful implementation, healthcare facilities need to ensure strong data protection and clear security policies are in place.

5. Implementation of a Digital Patient Satisfaction Assessment System

This system allows patients to provide direct assessments of the services they receive through electronic devices or applications after receiving health services. The impact is that health facilities can find out patient satisfaction quickly and directly, allowing for service improvements in a short time, recorded patient satisfaction data can be used to evaluate and improve overall service quality, patients feel heard and cared for, which increases their trust in health facilities. Patients feel comfortable with this system because they can directly express their opinions about the services

received. Health facility management also finds it easier to monitor service quality based on the results of this assessment.

The implementation of administrative innovation in health services has shown positive results in increasing efficiency, accuracy, and patient satisfaction. The results of this study are consistent with theories and conclhepts in health service management that emphasize the importance of technology and digitalization in improving operational effectiveness and quality of service to the community. This is reinforced by research conducted by (Ismandani et al., 2023) found that the implementation of electronic medical records at Dr. Oen Kandang Sapi Solo Hospital shows that various dimensions such as ease of use and security increase health worker satisfaction, supporting the efficiency of administrative digitalisation.

The first assumption is that the researcher suspects that the use of a digital feedback system can improve the quality of healthcare services by allowing facilities to immediately know the level of patient satisfaction. With quick and direct feedback from patients, healthcare facilities can make timely service improvements, increasing efficiency in responding to existing issues or complaints. This assumption is supported by findings that patients feel more heard and valued, which in turn increases their trust in healthcare facilities.

The second assumption is that the application of technology to collect patient satisfaction data can support better managerial decision-making in improving service quality. With satisfaction data recorded digitally and structured, healthcare facility management can more easily monitor and evaluate the overall quality of services. This assumption aligns with healthcare service management theory, which emphasizes the importance of digitalization in enhancing operational efficiency and service effectiveness, as well as providing a strong foundation for continuous improvement in healthcare services to the community.

CONCLUSIONS

This study shows that digital technology-based administrative innovation has a significant impact on improving the quality of health services. However, the success of implementing this innovation depends on several factors:

1. Infrastructure Readiness and Training of Health Workers: Without adequate infrastructure and effective training for health workers, the full potential of these digital systems is difficult to achieve.
2. Developing a Strong Data Security Policy: Patient concerns about data privacy are a signal for healthcare facilities to implement a strong security policy, thereby ensuring patient trust.
3. Expanding Implementation to Remote Areas: As part of efforts to equalize health services, cloud-based systems and digitalization must be expanded to areas with limited infrastructure to bridge the gap in access to services.

The results and discussion of this study emphasise the importance of administrative innovation in health services, especially through the application of application-based technology. Based on theories of efficiency management, health information systems, customer satisfaction, and trust in technology, administrative innovation is proven to be able to overcome various problems of

conventional systems. The case study shows that the implementation of a hospital management information system (SIMRS), digital queuing platform, telemedicine application, as well as the integration of electronic medical records (EMR) contribute significantly to improving efficiency, service speed, and patient satisfaction. Health facilities are advised to adopt technology in stages, starting from online registration and digital payment applications to full integration of EMR systems to support data-driven clinical decisions.

The involvement of all parties, including health workers, administrative staff, and patients, is key to the success of technology implementation, supported by regular training to improve user competence and patient education to make optimal use of technology. Periodic evaluation of the system's effectiveness is also necessary to maintain the quality of service and fix any problems that arise during implementation. In addition, the development of specific applications such as patient navigation systems, medication schedule reminders, and doctor-patient communication platforms is highly recommended to improve user experience.

The government is expected to provide support in the form of policies, funding, digital infrastructure upgrades, and national training programmes to support digital transformation in the health sector. The integration of national administrative technology systems is also a strategic step to facilitate data management across health facilities and support data-based decision-making. With an integrated and sustainable approach, administrative innovation through technology can realise more efficient, safe, and quality health services for the entire community.

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