

The Utilization of Digital Technology in Public Health Services Utilization of Digital Technology in Public Health Services

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ABSTRACT

The use of digital technology has brought significant changes in the public health sector. This article analyzes policies related to the use of digital technology in public health services, focusing on innovations such as telemedicine, wearable devices, and electronic health information systems. The results of the study show that digital technology improves the efficiency, accessibility, and quality of health services, while supporting disease prevention and individual health management. However, challenges such as limited infrastructure, data privacy, as well as digital skills need to be addressed. Collaboration between the government, health institutions, and the community is the key to optimizing the application of digital technology in health services.

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INTRODUCTION

The use of digital technology has brought significant changes to various aspects of life, including in the public health sector. Public health services are efforts made by the government and various related organizations to maintain, improve, and protect public health holistically. In this digital era, digital technology has great potential to improve efficiency, accessibility, and quality of public health services. This article aims to analyze policies related to the use of digital technology in public health services (Fahey & Hino, 2020).

Digital technology has brought major changes in the health sector, especially in community services. The government seeks to improve and protect public health as a step to improve the quality of public health services. The development of the internet has also changed the way of marketing through the use of technology available today. In the era of digitalization, technology plays an important role in improving the efficiency, accessibility, and quality of healthcare services. Therefore, this article aims to examine various policies related to the use of technology in public health services (Ramadhany Nugroho, 2023).

The use of digital technology in public health services provides a number of important benefits. First, it improves the efficiency and effectiveness of services, while reducing the time and cost

required to access healthcare. Second, digital technology allows individuals to take an active role in monitoring and managing their own health, which can ultimately promote a healthy lifestyle and disease prevention. Third, this technology also strengthens disease monitoring and control systems, enables rapid detection and response to disease outbreaks, and supports real-time epidemiological monitoring (Usak et al., 2020).

Public services are a sector that receives a lot of attention. One of the sectors that manifests itself in bureaucratic reform in public services is to shorten service time (Akhmaddhian, 2012).

Appropriate policies need to be designed to maximize the benefits of digital technology in public health services, while ensuring the protection of personal data and fair access. Collaboration between governments, health institutions, the private sector, and civil society is a key element in the process of formulating and implementing this policy. In addition, challenges such as limited digital skills, resistance to change, and infrastructure issues must be identified and addressed in order for the implementation of digital technology to run effectively (Brall et al., 2019).

Another important aspect is policies related to public health services. In its development, health services not only focus on physical health, but also include mental health, including diagnosis, treatment, and psychological support for individuals with mental health disorders or problems. This includes services such as counseling, therapy, and other psychological interventions. In addition, health services also utilize medical technology and medical devices for the process of diagnosis, treatment, and monitoring of health conditions, such as medical examinations, laboratory tests, radiology, surgery, and the use of medical aids (Rosyanti & Hadi, 2020).

METHOD

This study uses a literature-based approach which is carried out by selecting reference sources in accordance with the inclusion and exclusion criteria set by the researcher. In this study, the criteria in question are the source of research observation in the hospital. The results of the study require an overview of the hospital's electronic information system. Qualitative and quantitative research methods, and publication sources for the last 5 years of the year from 2018 to 2023, use both English and Indonesian literature sources.

RESULTS

Some articles as a result of a search for reference sources. Furthermore, the reference source is checked first whether it is in accordance with the criteria or not. After that, the researcher chose a title and abstract and obtained 3 articles related to the topic to be reviewed. The articles found are then taken to the next stage, namely a full text search based on the inclusion criteria set by the reviewer, then assessed qualitatively and synthesized in this literature search.

Table 1. Articles reviewed

NO	ARTICLE TITLE	AUTHOR AND YEAR	METHOD	RESEARCH RESULTS
1.	Information technology-based service innovation in hospitals as a form of reform	Arif sofianto 2020	Descriptive research with a qualitative approach	Supporting factors for the development of technology-based service innovation include knowledge and a good work culture. This work culture involves the active role of management, education, professionalism, responsibility, as well as transparency and a constructive approach. Technical support is also key, such as the provision of quality human resources

				recruited through a rigorous talent-based selection process, as well as the development of adequate infrastructure. However, there are several obstacles that need to be overcome. Internal obstacles include a lack of commitment from politicians and implementers, limited human resources, and the availability of facilities and infrastructure. Meanwhile, external challenges include low public accessibility and understanding of technology, as well as system changes related to services outside the hospital environment.
2.	Digital health and digital disruption in healthcare in hospitals	Sidhi Laksono 2022	Qualitative approach with interpretive paradigm	Digital Health and Digital Disruption in Healthcare in Hospitals revealed that digital transformation in health services in Indonesia, especially through telemedicine, has the potential to improve access and quality of care. The study also highlights the challenges faced, such as limited infrastructure and low digital literacy, that affect the implementation of digital-based health services. In addition, the implementation of the <i>Smart City</i> concept in several provinces also supports the development of digital health services, although the results vary depending on local conditions and local government policies.
3.	The use of digital technology in public health services: a review of policy analysis	Rahmadhany Nugroho, et al 2023	Qualitative approach with literature study method	The use of digital technology in healthcare has had a major impact, especially through telemedicine, which allows for remote medical consultations. This expands access for patients in remote areas, while reducing waiting times and

				<p>transportation costs. In addition, wearable devices such as smartwatches that monitor health in real-time contribute to the early detection of various health problems.</p> <p>Electronic health information systems also play an important role by facilitating access and management of patient data. Despite challenges such as data privacy protection and infrastructure limitations, cooperation between various parties is key to optimizing the use of this technology.</p>
4.	The use of digital technology in public health services: a review of policy analysis	Nurul Fitriari, et al. 2024	Literature review	<p>This study shows that digital technologies, such as telemedicine and electronic medical records, can improve the accessibility and quality of health services. However, challenges such as infrastructure and organizational readiness still need to be overcome. The Digital Maturity Index (DMI) is proposed as a tool to measure digital maturity, assisting healthcare in formulating effective development strategies.</p>
5.	The use of digital communication in an effort to increase the effectiveness of health services	Maharani Imran, et al. 2021	Approach Qualitative that is Describe and elaborate on perception.	<p>This research emphasizes that digital communication has great potential to improve the effectiveness of health services, but it also faces significant challenges that need to be overcome so that its benefits can be widely felt by all levels of society. However, to achieve optimal results, there needs to be attention to the challenges faced as well as efforts to improve infrastructure and training for medical personnel.</p>

DISCUSSION

Each hospital has a different history of development, policy and management, human resource capacity and infrastructure, so the results are different. Systems that are built independently by internal personnel can be more developed and their sustainability is very well maintained. This step relatively does not cost much, other than to pay employee salaries.

A supporting factor for the development of information technology-based service innovation is a good work culture. This work culture starts from high commitment from management, education, professionalism, responsibility, egalitarian, transparent, and constructive. Then technically supported by the provision of competent human resources recruited with strict competency tests, as well as the provision of adequate infrastructure. The use of information technology contributes to bureaucratic reform. The change is in accordance with the area of bureaucratic reform "improving the quality of public services", which is faster, cheaper, easier, and of higher quality. The benefits for hospitals increase work efficiency, increase speed and ease of providing services. This is in accordance with the area of change in bureaucratic reform "governance arrangement", namely increasing the efficiency and effectiveness of systems, processes, and work procedures

Government policies that support the digitization of health data, telemedicine regulations, and incentives for the development of health technology also play an important role in facilitating the use of digital technology. However, challenges in implementation remain. Adequate infrastructure and internet connections, privacy and security of patient data, and lack of understanding and technological skills from medical personnel and the general public are some of the challenges that need to be addressed. Collaboration between the government, health institutions, and other stakeholders is an important key in overcoming these challenges and developing effective solutions.

The use of digital technology in public health services shows various significant advantages, but also presents complex challenges. Digital technology enables faster, more efficient, and affordable health services. Telemedicine provides access to people in remote areas to consult with medical personnel without having to come directly to a health facility. In addition, the use of wearable devices supports early detection of diseases and personal health management, which encourages people to live a healthier lifestyle.

Although it has many benefits, the implementation of digital technology faces various obstacles. Infrastructure limitations, especially in remote areas, are the main obstacles. The lack of digital literacy of the public and health workers also hinders the overall adoption of this technology.

To maximize the benefits of digital technology, supportive government policies are needed, including telemedicine regulations, personal data protection, and incentives for the development of health technology. Collaboration between the government, health institutions, the private sector, and the community is key to overcoming obstacles.

Health services through digital communication require resources that meet the criteria, this can be an obstacle in recruiting doctors. Sometimes medical digital communication is not used properly, medical digital communication carried out by doctors is often considered unsatisfactory because doctors are not given incentives to use it.

All digital records are stored in a database that can be accessed by doctors and clinical staff. With digital health communication, patients can easily achieve medical service standards and drug quality according to patient needs. Digital health communication can close the gap between doctors, patients, and healthcare services. Hospital digital technology in order to improve health digital communication has several benefits.

CONCLUSION

Overall, all studies show that while digital technology offers many benefits in improving health services, challenges related to infrastructure, regulation, and digital literacy must be overcome so that all levels of society can experience these benefits optimally. Collaboration between governments, health institutions, and other stakeholders is essential to develop effective strategies in the implementation of digital technology in the health sector.

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