

## Implementation of Digital Health Services to Improve Public Health: Challenges with the JKN Mobile App

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### ABSTRACT

Mobile is an application launched by BPJS Health that can be downloaded on a smartphone. The purpose of this research is to understand how the JKN application works and to identify the challenges encountered during the implementation of JKN Mobile in Indonesia. The focus of the discussion is to delve deeper into JKN in Indonesia and assess its impact on society. The method used is a literature review (SLR), which examines various information about JKN in scientific articles and related sources relevant to the research being discussed. Based on the research results, it was found that there are still many obstacles to implementing JKN, such as people who do not want to use the JKN application. This application depends on the signal and network, so there are some areas where the network is weak, and logging in to the JKN application is difficult.

**Keywords:** JKN Mobile, Health Services, Digitalization

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### INTRODUCTION

Public service is a series of activities aimed at fulfilling service needs in accordance with statutory regulations for every citizen and resident, including the provision of goods, services, and administrative services by public service providers. According to the Decree of the Minister of Administrative Reform (KEMENPANRB) Number 63/KEP/M.PAN/2003, the state is obliged to make every effort to fulfill the basic needs and rights of citizens through the provision of quality public services. One of the most important public service sectors is the health sector, as health constitutes a fundamental human need and serves as a prerequisite for individuals to carry out their daily activities and achieve broader social and economic goals. The provision of quality health services reflects the government's responsibility to ensure public welfare and improve national competitiveness. This responsibility is also emphasized in Law Number 23 of 1992 concerning Health, which states that every individual has the right to receive equal health services to achieve optimal health status as a basic human right. This commitment is closely aligned with the Sustainable Development Goals (SDGs), particularly Goal 3: Good Health and Well-

being, which emphasizes ensuring healthy lives and promoting well-being for all at all ages.

Health itself is a basic need desired by society, and welfare can only be achieved when individuals experience good physical and mental health (Nuurjannah, 2021). Consequently, health services play a strategic role in realizing a prosperous society because health is not only a social necessity but also an investment that supports human productivity and economic development. The importance of equitable access to healthcare also supports the achievement of SDG 10: Reduced Inequalities, which seeks to reduce disparities in access to essential services, including healthcare, among different social groups. In Indonesia, the government has continuously sought to increase public awareness regarding health maintenance through various initiatives, one of which is the National Health Insurance Program (Jaminan Kesehatan Nasional/JKN).

The National Health Insurance (JKN) program is administered by the Social Security Administration for Health (BPJS Kesehatan). As a national social health insurance scheme, JKN aims to ensure that all citizens can access healthcare services equitably and without discrimination. The program was established as a follow-up to Law Number 40 of 2004 concerning the National Social Security System (SJSN). One of BPJS Kesehatan's responsibilities in delivering healthcare services is implementing preventive and promotive health programs for the community (Kowaas, Alim, & Yusuf, 2024). Therefore, BPJS provides various services that can be accessed by JKN participants, including health promotion, disease prevention, treatment and care, and rehabilitation services (Stiyawan & Ainy, 2023). Through these comprehensive services, JKN contributes directly to the realization of SDG 3: Good Health and Well-being, particularly in achieving universal health coverage and ensuring access to quality healthcare services for all citizens.

To improve the quality of public service delivery, the government has adopted e-government as a strategic approach to developing technology-based governance systems. The implementation of e-government aims to enhance the effectiveness, efficiency, transparency, and accessibility of public services. Alongside rapid technological advancements, societal lifestyles and service expectations continue to evolve, requiring governments to develop innovative approaches that can respond to increasingly dynamic public needs. The development of digital governance is also consistent with SDG 9: Industry, Innovation and Infrastructure, which encourages innovation and the utilization of information and communication technologies to improve public service systems and support sustainable development.

The effectiveness of e-government implementation provides significant benefits for both service users and service providers. For users, digital services offer greater convenience by enabling access to government services anytime and anywhere without requiring physical visits to service offices. E-government also facilitates public participation in decision-making processes through online mechanisms, reduces administrative costs, minimizes physical document management, and enhances data security through integrated information systems. For service providers, digitalization improves operational efficiency, strengthens service quality, facilitates data management, and encourages organizational productivity and innovation. These benefits support the achievement of SDG 16: Peace, Justice and Strong Institutions, particularly in promoting effective, accountable, and inclusive institutions at all levels.

As the administrator of the JKN program, BPJS Kesehatan must ensure that health information and services are easily accessible to all segments of society. One effective strategy is the utilization of information and communication technology, considering the rapid growth of digital technology in recent years. Technological advancements have encouraged governments to innovate in various sectors, including education, environmental management, and healthcare, by integrating technology into service delivery systems (Eprilianto, Sari, & Saputra, 2019). Such innovations are essential to ensure that the benefits of public services can be experienced more easily and efficiently by service users (Sagala & Hajad, 2022). The utilization of digital technology in healthcare services also contributes to SDG 9: Industry, Innovation and Infrastructure, while simultaneously supporting SDG 10: Reduced Inequalities by expanding access to healthcare information and services across diverse population groups.

One of the digital innovations introduced by BPJS Kesehatan is the Mobile JKN application, which can be downloaded free of charge on smartphones. This innovation was developed to facilitate public access to BPJS services and improve service efficiency. Through the Mobile JKN application, participants can complete online registration, access membership information, check bills and contribution payments, update participant data, and obtain healthcare service information at both First-Level Healthcare Facilities and Advanced Referral Healthcare Facilities (Guntari, 2023). The development of Mobile JKN reflects the government's commitment to digital transformation in healthcare services and supports the realization of SDG 3: Good Health and Well-being through improved access to healthcare, as well as SDG 9: Industry, Innovation and Infrastructure through the adoption of digital technology in public service delivery.

The National Health Insurance Program (JKN) was designed to provide healthcare services that are effective, efficient, and accessible to all Indonesian citizens. The program seeks to ensure equal and fair access to healthcare services while improving the quality and standards of healthcare delivery across healthcare facilities throughout Indonesia. Through the integration of digital technology and healthcare service innovation, JKN not only contributes to improving public health outcomes but also supports broader sustainable development objectives, particularly SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation and Infrastructure), SDG 10 (Reduced Inequalities), and SDG 16 (Peace, Justice and Strong Institutions). Based on this background, this study aims to examine the benefits of the JKN Program, particularly through the Mobile JKN application, in providing effective and efficient healthcare services to the community.

JKN Mobile participants have increased from year to year, as shown in the data below:



**Figure 1.1 Number of JKN Participants in 2016-2021**

Source: Statistics JKN 2016-2021

Based on the figure above, JKN membership as of December 2021 covered 235 million participants, or 86.55% of the Indonesian population (2021 Population Projection: 272 million people). This figure is still far from the RPJMN's 2024 participation target of 98% of the population. The total increase in participation in 2021 is 37% compared to 2016. JKN membership in 2020 decreased by around 1.7 million people and increased again in 2021 by 5.97% (13 million people)

**Table 1.2 Number of JKN Participants by Segment 2016-2021**

Segmen	Jumlah Peserta					
	2016	2017	2018	2019	2020	2021
PBI APBN	91.099.279	92.380.352	92.107.598	96.516.666	96.600.414	99.947.748
PBI APBD	15.415.288	20.305.273	29.873.383	38.842.476	36.164.398	40.423.747
PPU	41.027.229	44.891.042	49.833.095	53.529.136	55.062.746	59.977.437
PBPU	19.336.531	25.397.828	31.100.248	30.248.656	30.434.645	30.909.789
BP	5.060.927	5.008.454	5.139.875	5.012.085	4.107.699	4.381.008
<b>Total</b>	<b>171.939.254</b>	<b>187.982.949</b>	<b>208.054.199</b>	<b>224.349.019</b>	<b>222.369.702</b>	<b>235.639.729</b>

Source: Statistics JKN 2016-2021

**METHOD**

This research uses the literature review method, namely by searching for and collecting data, and then processing the available data. The data were selected based on the topic of discussion, namely, the mobile National Health Insurance (JKN) in Indonesia, from various reference sources. The criteria for selecting articles are based on the year of publication, with articles published within the past 10 years, and on articles concerning the application of the National Health Insurance (JKN) in Indonesia. This is done to make it easier for writers to compile and write articles, as they have the latest references and they are relevant to the research being conducted.

## **FINDINGS AND DISCUSSION**

### **RESULT**

<b>Author Name</b>	<b>Article Title</b>	<b>Research Results</b>
Suhadi, Jumakil, Kamrin, & Irma (2022)	Impact of JKN Mobile Application Use on BPJS Services	The impact of using the JKN Mobile application for participants is easy access to services, reducing transportation costs, saving service time, reducing service queues, reducing service distance, and accelerating JKN service time. It is hoped that JKN participants will utilize the JKN mobile application for the convenience and speed of BPJS services. BPJS can improve the features of the JKN Mobile Application service features in the future.
Made Adya Febriana Putri, Komang Adi Sastra Wijaya, & Ni Wayan Supriyanti (2024)	The Effectiveness of the National Health Insurance (JKN) Mobile Application in Improving Service Quality (Case Study of the Denpasar Branch Office of the Social Security Organizing Agency)	This research explains that the Ease of Access of Services can access JKN services more easily without having to come directly to the BPJS office. This reduces the need to travel physically, which is very beneficial especially in today's digital era. Then Transportation Cost Reduction, By using the application, participants do not need to pay for transportation to the BPJS office, thus saving their expenses. Then Time Savings The JKN Mobile App allows participants to save time in getting services. The faster and more efficient process reduces the time spent in queues. Queue Reduction, with the application, queues at service offices can be minimized, thus increasing convenience for participants who come to the office. Distance Reduction. The app also reduces the distance that participants have to travel to get services, as they can do many things online.
Dia Sari, Dwi Hirdanti, Nadia Syaibah Nasution, & Fitriani Pramita Gurning (2024)	Systematic Literature Review: Analysis of JKN Mobile Digital Benefits in Health Financing	The results of the study explain that the JKN Mobile Application Service Quality is equipped with various features that make it easier for users to access health services. Research shows that the quality of service provided through this application satisfies users, which contributes to increased use of the application in the excellent category. Then in Effectiveness of Use, this application helps participants check their membership status, contribution payments, and health benefits received. This provides transparency and makes it easier for participants to manage their health

		<p>financing. Then Accessibility: With the JKN Mobile application, participants can easily access information related to health services, which previously may have been difficult to reach. This increases the accessibility of health services for the community. Also in Cost and Time Reduction: The app is designed to reduce the time and cost required to access health services, thus making the process more efficient and effective. And finally Support for Health Management: The app also allows the community to submit suggestions or complaints related to health services, which can help in the improvement of services in the future</p>
<p>Pradana, A., Casman, C., Rohayati, R., Kamal, M., Sudrajat, A., &amp; Hidayat, A. (2022)</p>	<p>Program Universal Health Coverage (UHC) In Indonesia</p>	<p>The results explain that the concept of UHC was designed with the intention that every individual has the right to access health services without discrimination, considering health as a basic right. The establishment of UHC is due to the fact that 40% of the global population is unable to reach essential health services and lacks social protection. Indonesia, as a member of the United Nations, actively participates in efforts to develop UHC through the implementation of the National Health Insurance, which is strengthened by the policies of UUSJSN No. 40/2004 and BPJS Law No. 24/2011. The implementation of UHC in Indonesia has had a positive impact especially on the vulnerable and poor, by providing better access to needed care and improving population health.</p>
<p>Zebua, C. F. P., Ardhila, D., Yuriska, Y., &amp; Gurning, F. P. (2023)</p>	<p>Analysis of the Role of the National Health Insurance Program (JKN) in Reducing the Financial Burden of Patients: A Literature Study</p>	<p>The results explain that the principles of quality and cost control are applied in health facilities with the aim of reducing inefficiencies, so that the National Health Insurance (JKN) can provide continuity and equality in access to health services. In collaboration between JKN and health facilities, efforts are made to maintain effectiveness, efficiency, rationality, according to patient needs, and collaborate with local governments for supervision and guidance. There were significant differences in the average direct medical costs, direct nonmedical costs, and total costs due to hypertension between hypertensive patients using JKN and those paying out-of-pocket. The difference in</p>

		average costs incurred by hypertensive patients who utilize JKN has a positive impact on reducing the economic burden on families, especially in the direct medical cost component, which reaches 97.8%.
Yuliasuti, H., & Jawahir, M. (2023).	Analysis of the Effectiveness of Utilization of the National Health Insurance Mobile Health Service Application in Indonesia	The results of the study explain that JKN Mobile is a digital-based health service equipped with 18 menu features, which can be used by users with an account. The JKN Mobile system has a quality that satisfies health service users, thereby increasing the use of JKN Mobile in the excellent category. The effectiveness of JKN Mobile as part of efforts to achieve the JKN goals that have been required is also the result of government cooperation with related parties in health services in Indonesia, and this has proven to be very good in early 2021

### **Findings**

The JKN mobile application is a digital, face-to-face service channel that facilitates participants in obtaining information and membership administration services related to the National Health Insurance program, using information technology in the form of Android applications available for download from the Google Play Store or App Store. With this application, it can make it easier for the community / participants to get services, reduce the number of queues so that the community does not have to queue for a long time at the BPJS Health Office, and can directly access various information about health from the JKN mobile application (Putra et al., 2021). The JKN Mobile application reflects the digital transformation of the BPJS Kesehatan business model

The application, which has existed since January 1, 2014, is presented to the public as an effort to provide convenience to the community or BPJS health participants in obtaining services without having to come and queue to register, and to easily get the health services needed. Innovations made by the government by utilizing technology as a way to serve the community more flexibly, efficiently, and effectively.

The breakthrough of the JKN Mobile Application by BPJS Kesehatan aims to provide convenience to JKN program participants in accessing health services and managing their JKN membership information. The Mobile JKN application offers a variety of features such as (1) JKN program features that explain the basic information of the JKN program including registration information, participant rights and obligations, sanctions, program facilities and benefits, payment methods, and questions and answers; (2) Health facility location info feature that explains information from health facilities including address, distance, and telephone number; (3) Service history feature that serves as an archive of JKN participants related to the history of treatment trips that have been carried out; (4) Gradual payment plan (REHAB) feature provided for JKN participants who have been in arrears for more than 3 months; (5) Participant addition feature serves for

participants who want to add their family members to the JKN program; (6) Participant info feature that explains the personal information of participants; (7) Service registration (queue) feature that serves to facilitate participants in registering online or taking queue numbers online at health facilities; (8) Doctor consultation that can be used by JKN participants who have had previous treatment; (9) Data change feature that serves to facilitate participants in changing their personal data in the JKN program; (10) JKN service complaint feature; (11) Bed availability info feature that explains bed availability information at all health facilities.

The implementation of JKN aims to ensure that every participant receives health care benefits and protection in meeting basic health needs. Basic health needs are the health services that medical science has recognized must be provided for a patient's recovery and for the patient to return to social and economic production. The JKN program, along with four other social security programs, namely Work Accident Insurance, Death Insurance, Old Age Insurance, and Pension Insurance, aims to provide guarantees for the fulfillment of the basic needs of a decent life for each participant and their family members. The basic needs of life referred to in the SJSN Law are the essential needs of every person to live properly, in support of social welfare for all Indonesian people, in accordance with human dignity. The JKN program is designed to serve all levels of society, especially various population groups with different income, education, employment, and other characteristics, so it takes time to gain the full trust of all residents.

The results of the analysis of findings from the literature study conducted related to the Implementation of Digital Health Services to Improve Public Health: Challenges in the JKN Mobile Application. The following, according to Matthew, Lewis & Cook (2019), identifies seven factors that can hinder innovation in the public sector, namely:

- ***Delivery pressures and administrative burdens.*** There are people who feel uncomfortable with the JKN application because of cases of pressure on costs and administration. According to the research, this application requests an OTP (One-Time Passcode) code sent via SMS (Short Message Service), which deducts a credit of Rp. 700 and BPJS participants explain that the money is deducted directly, without any notification, on the 5th of each month. If payment is late, then the membership status is temporarily suspended for 1 month. There is also a case of wanting to make a claim for a class III payment, but in fact, the participant still pays in class II (Sudrajat, Simanjorang, Fitrianti, & Zahra, 2024). However, the actual process has not been carried out, and every hospital that collaborates with BPJS will conduct socialization regarding BPJS participant procedures (Trianggriani & Wahyuni, 2024). But in reality, many people still do not want to use JKN Mobile (Narmansyah et al., 2022). So it takes the need for in-depth socialization, door-to-door, across all levels of society, to want to use JKN.
- ***Poor rewards and incentives to innovate.*** Using technology in JKN Mobile provides many benefits, such as making it easier for the community, but many people still do not want to use it because the community is

uninterested in the program. Maybe JKN Mobile cannot be felt directly, but it can be used as an investment in the future if you join as a participant, and it can ease the burden if you are sick. But people are still not aware of this.

- ***Culture of risk aversion.*** In terms of JKN utilization, it is still relatively low because there are some people in Bogor Regency who are reluctant to use JKN Mobile (Narmansyah et al., 2022) because they are afraid of using technology and do not understand how to use technology, so people choose to do conventional health services by coming to the nearest hospital themselves.
- ***Poor skills in active risk or change management.*** In applying technology, various skills are needed, such as officers having difficulty when many BPJS participants change their cellphone numbers without notifying the BPJS, making communication difficult. (Narmansyah & dkk, 2022)
- ***Reluctance to close down failing programs or organizations.*** JKN Mobile has various pros and cons in its implementation. Many consider this program can have a positive impact, but in reality, even though it has innovated by launching applications, there are still obstacles: even though it uses technology, many people still do not use it. Nevertheless, the JKN application continues on the grounds that the government wants to provide community access to health care.
- ***Technologies are available but are constrained by cultural or organizational arrangements.*** One way to implement requires adequate infrastructure, such as access to technology. But in reality, there are still obstacles, even though they have implemented technology to be more efficient and flexible. In the first case, many people still do not know about the benefits of the JKN Mobile application (Hafidz, Pangestuti, & Qintharah, 2024). Although this JKN application can be easily accessed, its functionality depends on the internet connection during operation (Guntari & Noviyanti, 2022).

## CONCLUSION

Innovation arises from the ways people overcome the problems around them. Health is the most important aspect because it is a human investment that enables people to work and meet their daily needs. Thus, the government provides JKN Mobile to deliver health services, so people can feel at ease about their health. In fact, there are still obstacles in its application, even though, based on data, many people have used JKN. The obstacles to innovation are the community's unpreparedness to use technology, so that many still do not want to use JKN and choose to go directly to the hospital. Applying for technology requires various skills, and officers often struggle because many BPJS participants change their cellphone numbers without notifying the BPJS, making communication difficult. There may be many more challenges in implementing JKN, so the government is expected to provide solutions to ensure that both the community and the government feel comfortable and satisfied with JKN.

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