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Strengthening Participant Education and Healthcare Service Delivery through Mobile JKN at BPJS Healt in Bantaeng Regency

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ABSTRACT

Purpose of the study: This study aims to examine the role of the Mobile JKN application in strengthening healthcare service delivery and participant education within the National Health Insurance system at BPJS Kesehatan Bantaeng Regency, focusing on its function as a digital service innovation and an educational platform for JKN participants.

Methodology: This study used a qualitative case study design. Data were collected through in-depth interviews, direct observation, and document review. Informants included BPJS Kesehatan officers and Mobile JKN users, selected purposively. Data analysis applied interactive qualitative analysis techniques, including data reduction, data display, and conclusion drawing.

Main Findings: The findings show that Mobile JKN improves healthcare service efficiency, accessibility, and administrative convenience. The application reduces queues and physical visits while providing integrated educational features on JKN procedures, rights, and obligations. However, utilization remains uneven, with lower adoption among elderly participants and those with limited digital literacy and internet access.

Novelty/Originality of this study: This study presents an integrative perspective by positioning Mobile JKN as both a healthcare service delivery tool and a participant education medium. It advances existing knowledge by emphasizing education as a core dimension of digital health innovation within a national health insurance system, supported by localized empirical evidence from a regional BPJS context.

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1. INTRODUCTION

The government holds a fundamental responsibility to ensure equitable access to healthcare services as an integral component of social protection for all citizens [1]. National health insurance systems are designed not only to provide financial risk protection but also to enhance population well-being through accessible, efficient, and high-quality healthcare services [2]. In Indonesia, this mandate is implemented through the National Health Insurance (JKN) program administered by BPJS Kesehatan, which aims to achieve universal health coverage and reduce disparities in healthcare access [3]. Beyond service provision, participant education plays a crucial role in enabling citizens to understand their rights, obligations, and available health services, thereby strengthening informed participation within the health system [4]. Consequently, the integration of effective healthcare service delivery and continuous participant education remains a strategic priority for improving national health outcomes and ensuring the sustainability of the JKN program.

The rapid growth of participation in Indonesia's National Health Insurance (JKN) program has generated new challenges in healthcare service management and effective information dissemination [5]. Although BPJS Kesehatan has significantly expanded service coverage, many participants continue to experience difficulties in accessing services and understanding complex administrative procedures [6]. These challenges are commonly associated with limited health literacy, inadequate communication strategies, and conventional service mechanisms that rely heavily on face-to-face interactions [7]. To overcome these constraints, BPJS Kesehatan has introduced digital health innovations aimed at improving service efficiency and participant understanding, with the Mobile JKN application emerging as a key platform that integrates healthcare services and educational information in a single digital system [8].

Previous studies have emphasized the role of digital health applications in improving service accessibility and administrative efficiency within national health insurance systems [9]. Empirical evidence from Indonesia shows that the Mobile JKN application contributes to reduced waiting times, easier access to healthcare facilities, and increased transparency of participant administrative data [10]. Other studies highlight that digital platforms play a critical role in enhancing health literacy and encouraging active participant engagement in healthcare systems [11]. However, most existing research tends to focus primarily on technical efficiency and service satisfaction, while limited attention has been given to the balanced integration of participant education and healthcare service delivery within the Mobile JKN framework [12].

This condition indicates a research gap regarding how Mobile JKN simultaneously functions as an educational medium and a healthcare service innovation. Existing studies predominantly emphasize administrative efficiency and service accessibility, while empirical evidence examining how participant education through Mobile JKN influences healthcare service effectiveness at the local level remains limited [13]. Furthermore, regional contexts such as differences in digital literacy, age, and access to technology are often overlooked, despite their significant influence on digital health service utilization [14]. Studies on Indonesia's National Health Insurance system also tend to focus on national-level implementation without sufficiently capturing local institutional dynamics and participant experiences [15]. Bantaeng Regency presents a unique context due to its high JKN participation rate and strong commitment to digital-based public services; however, unequal utilization and limited understanding of Mobile JKN features among participants persist, underscoring the need for localized and education-oriented analysis of digital health innovations [16].

The urgency of this study lies in the need to strengthen healthcare services while simultaneously improving participant education within the JKN program. Previous studies emphasize that effective digital health services require not only advanced technological systems but also users who possess sufficient knowledge and skills to utilize digital features optimally [17]. Without adequate participant education, digital health innovations risk excluding vulnerable populations, particularly older adults and individuals with limited digital literacy [18]. Research also indicates that health insurance digital platforms must integrate educational components to enhance service utilization and equity in healthcare access [19]. Therefore, understanding how Mobile JKN bridges healthcare service delivery and participant education is essential to support inclusive and sustainable digital health systems that promote both service quality and health literacy [20].

The novelty of this research lies in its integrative approach that examines Mobile JKN simultaneously as a healthcare service delivery tool and a participant education platform. Previous studies on digital health innovations have largely emphasized service efficiency, system performance, or user satisfaction, with limited attention to the educational dimension embedded within digital health services [21]. This study addresses that gap by highlighting the balanced strengthening of participant education and healthcare service delivery within the institutional context of BPJS Kesehatan at the local level [22]. By focusing on Bantaeng Regency, this research provides localized empirical insights that reflect variations in digital literacy, service utilization, and institutional capacity often overlooked in national-level analyses [23]. Consequently, this study offers a new perspective on digital health governance by positioning participant education as a core element of service innovation, thereby contributing to policy formulation and practical strategies for improving Mobile JKN implementation in similar regional settings [24].

2. RESEARCH METHOD

2.1 Study Design and Approach

This study employed a qualitative research design with a case study approach to explore the implementation of Mobile JKN as a tool for strengthening participant education and healthcare service delivery. Qualitative methods are widely recognized as appropriate for capturing in-depth perspectives, experiences, and social practices related to complex phenomena such as digital health service innovation [25], [26]. The case study approach enables a comprehensive examination of contemporary programs within their real-life institutional contexts, particularly when the boundaries between the phenomenon and context are not clearly evident [27]. Through this approach, the researcher was able to analyze interactions between service providers

and participants in detail, including perceptions, behaviors, and implementation challenges [28]. Accordingly, this design facilitates an integrated understanding of Mobile JKN as both an educational platform and a healthcare service innovation within the operational setting of BPJS Kesehatan [29].

2.2 Study Site and Duration

The research was conducted at BPJS Kesehatan Bantaeng Regency, South Sulawesi, Indonesia. This site was selected due to its high level of JKN participation and the active implementation of Mobile JKN services. Data collection was carried out over a period of approximately two months. The selected timeframe allowed sufficient observation of service processes and participant interactions. The local context of Bantaeng Regency provided valuable insights into digital health service delivery at the regional level.

2.3 Paicipants and Informants

Informants were selected purposively based on their roles, experience, and relevance to the implementation of Mobile JKN. The study involved key stakeholders from BPJS Kesehatan Bantaeng Regency, including the Head of the BPJS office, staff from the benefits assurance unit, and personnel responsible for membership and contribution management. In addition, JKN participants who actively used the Mobile JKN application were included as informants. This selection ensured representation from both service providers and service users. Such diversity of informants supported a comprehensive understanding of participant education and service delivery processes.

2.4 Data Collection Techniques

Data were collected using multiple qualitative techniques to ensure depth and credibility. In-depth interviews were conducted with BPJS officers and Mobile JKN users to explore perceptions, experiences, and challenges related to the application. Direct observations were carried out to examine service processes, user interactions, and the utilization of Mobile JKN features. Documentation review was also undertaken by analyzing official reports, service guidelines, and relevant previous studies. The combination of these techniques allowed triangulation of data sources. This approach strengthened the reliability of the findings.

2.5 Data Analysis

Data analysis followed an interactive qualitative analysis process to ensure systematic and rigorous interpretation of the findings. Initially, data obtained from interviews, observations, and documentation were organized and transcribed to establish a comprehensive database for analysis [30]. Subsequently, data reduction was conducted by coding and identifying key themes related to participant education, healthcare service delivery, and digital health innovation [31]. The reduced data were then presented in narrative and thematic forms to facilitate meaning-making and pattern recognition [32]. Finally, conclusions were drawn by interpreting relationships and recurring patterns across data sources, supported by continuous comparison and verification to enhance analytical validity [33], [34].

2.6 Trustworthiness of the Study

To ensure data trustworthiness, several validation strategies were applied. Source triangulation was conducted by comparing information obtained from different informants. Technique triangulation was used by cross-checking findings from interviews, observations, and documentation. Time triangulation was also applied through repeated observations and interviews at different points during the research period. These strategies enhanced the credibility, dependability, and confirmability of the study findings.

3   RESULTS AND DISCUSSION

3.1 Research Context

Bantaeng Regency is located in South Sulawesi Province and consists of eight districts with diverse geographical characteristics, ranging from coastal areas to mountainous regions. This geographical diversity influences access to public services, including healthcare and digital infrastructure. BPJS Kesehatan Bantaeng Regency plays a strategic role in administering the National Health Insurance (JKN) program to ensure equitable healthcare access for the population. Services are delivered through both conventional face-to-face mechanisms and digital platforms, particularly the Mobile JKN application. This context makes Bantaeng Regency a relevant setting for examining digital health service innovation and participant education.

BPJS Kesehatan Bantaeng Regency operates as a public legal entity responsible for implementing JKN in accordance with national regulations. The institution provides administrative services, participant information, and coordination with healthcare facilities. Adequate infrastructure, trained personnel, and service facilities support the implementation of both offline and online services. In line with its vision and mission, BPJS

Kesehatan emphasizes service quality, inclusivity, and digital transformation. Mobile JKN represents a key instrument for strengthening healthcare service delivery and participant education at the local level.

3.2 Implementation of Mobile JKN as a Service Innovation

The findings indicate that BPJS Kesehatan Bantaeng Regency has actively implemented Mobile JKN as a digital health service innovation. The application enables participants to access administrative services, healthcare information, and digital features without visiting the BPJS office. Mobile JKN has contributed to more efficient service delivery by reducing queues and minimizing physical visits. Participants reported improved access to services regardless of time and location constraints. This demonstrates the application's role in enhancing service effectiveness and efficiency.

Despite high JKN enrollment rates in Bantaeng Regency, Mobile JKN utilization has not yet reached optimal levels. Data show that usage is still lower compared to neighboring regencies, even though Bantaeng has one of the highest active JKN participation rates in South Sulawesi. This gap highlights that high insurance coverage does not automatically translate into high digital service utilization. Limited digital literacy, access to devices, and internet connectivity remain barriers. Consequently, participant education becomes a critical factor in maximizing Mobile JKN utilization.

3.3 Uniqueness of Mobile JKN Features

The uniqueness of Mobile JKN lies in its diverse and integrated features that combine healthcare services and participant education within a single platform. The application offers more than 18 features, including online queue registration, digital membership cards, health screening, complaint services, and healthcare facility information. The most frequently used feature in Bantaeng Regency is data modification, reflecting high population mobility and administrative needs. This feature allows participants to update personal data independently, reducing administrative burdens and service delays.

Mobile JKN also serves as an educational medium by providing guidance, notifications, and service instructions directly to participants. Participants can access information related to their rights, obligations, and healthcare procedures through the application. Interviews with BPJS officials indicate that these features are designed based on participant needs and service challenges. The integration of educational content within service features enhances participant understanding of the JKN system. This uniqueness differentiates Mobile JKN from conventional healthcare service mechanisms. A summary of the innovation dimensions and key findings of Mobile JKN implementation is presented in Table 1.

Table 1. Dimensions of Mobile JKN Innovation and Key Findings

Innovation Dimension	Indicators	Key Findings
Uniqueness	Integrated digital features	Mobile JKN integrates administrative services, health information, and participant education in a single platform
	User-oriented design	Features such as digital membership cards and online queues reduce administrative burdens
Quality	Accessibility	Participants can access services anytime and anywhere without visiting the BPJS office
	Service efficiency	Reduced waiting time and lower administrative costs for participants

3.4 Quality of Healthcare Service Delivery through Mobile JKN

The quality of Mobile JKN services is reflected in increased convenience, accessibility, and user satisfaction. Participants reported that the application reduced waiting times and eliminated transportation costs associated with office visits. The availability of online consultation, bed availability information, and service notifications further strengthened service responsiveness. These features contribute to a more user-centered healthcare service experience. As a result, Mobile JKN supports more efficient and transparent healthcare service delivery.

However, findings reveal that not all population groups benefit equally from the application. Younger and working-age participants dominate Mobile JKN usage, while older adults and individuals with limited technological skills face difficulties. Socioeconomic factors, such as limited access to smartphones and internet connectivity, also affect usage patterns. To address these challenges, BPJS Kesehatan Bantaeng Regency provides assistance through help desks, educational posters, and direct guidance at service points. These efforts aim to improve digital health literacy and ensure inclusive service delivery. The main benefits and challenges encountered in the implementation of Mobile JKN are summarized in Table 2

Table 2. Benefits and Challenges of Mobile JKN Implementation

Aspect	Description
Main Benefits	Faster service delivery, reduced queues, improved access to information, enhanced participant education
Key Challenges	Limited digital literacy, low usage among elderly participants, uneven internet access
Support Strategies	Socialization programs, on-site assistance, and participant education at service points

3.5 Multifunctionality and Participant Education

Mobile JKN demonstrates multifunctionality by integrating administrative, informational, and educational services into a single digital platform. Participants can manage membership, access healthcare services, receive health-related information, and submit complaints simultaneously. The digital membership card feature reduces dependency on physical documents, while health screening and installment payment features enhance service flexibility. This multifunctionality supports participants in managing healthcare needs more independently. It also encourages active engagement with the JKN system.

Participant education is embedded in the application through tutorials, notifications, and real-time service guidance. BPJS officials reported that continuous socialization and education programs are conducted to increase application utilization. These programs include outreach at healthcare facilities, collaboration with local institutions, and direct assistance for participants. The findings suggest that Mobile JKN not only improves service efficiency but also strengthens participant knowledge and digital literacy. Thus, the application functions as both a healthcare service innovation and an educational tool.

3.6 Overall Impact of Mobile JKN Implementation

Overall, the implementation of Mobile JKN at BPJS Kesehatan Bantaeng Regency has positively contributed to healthcare service delivery and participant education. The application reduces administrative barriers, enhances service accessibility, and supports digital transformation in healthcare services. While utilization rates are not yet optimal, ongoing education and support initiatives show promising results. The balance between service innovation and participant education is essential for sustaining digital health services. These findings underscore the importance of strengthening both technological infrastructure and human capacity to achieve inclusive digital healthcare services.

3.7 Discussion

The findings indicate that Mobile JKN plays a significant role in strengthening healthcare service delivery and participant education at BPJS Kesehatan Bantaeng Regency. The application improves service efficiency by reducing administrative queues and minimizing direct visits to BPJS offices. At the same time, Mobile JKN functions as an educational medium by providing information related to JKN procedures, rights, and obligations. These results demonstrate that digital health innovation can simultaneously address service effectiveness and participant literacy. This confirms the study objective of balancing education and healthcare services through digital platforms.

These findings align with previous research that highlights digital health applications as effective tools for improving access to healthcare and administrative efficiency [35]. Prior studies have often emphasized service speed, convenience, and system usability, but have paid relatively less attention to the integration of educational components for users [36]. In contrast, this study demonstrates that Mobile JKN incorporates educational content directly within its service features, enabling participants to gain knowledge about program procedures, rights, and obligations while accessing services. This approach addresses the identified research gap regarding the limited exploration of digital platforms as instruments for participant education and health literacy enhancement [37]. Therefore, the findings extend existing knowledge by highlighting the dual role of Mobile JKN in both healthcare service delivery and participant education, suggesting broader implications for the design of inclusive digital health systems [38].

The novelty of this study lies in its focus on participant education as an integral component of digital healthcare innovation, which goes beyond traditional evaluations of system performance and service efficiency. Unlike prior research that primarily examined technological adoption and administrative outcomes, this study highlights how Mobile JKN strengthens participant understanding and digital health literacy as part of its functional design [39]. By positioning the application not merely as a service tool but as an educational platform, Mobile JKN encourages active user engagement and supports inclusive access to healthcare information, aligning with the evolving demands of digital health systems [40]. This educational dimension is particularly relevant in contexts where disparities in digital literacy and access may hinder the effectiveness of health technologies. Therefore, the study contributes a new perspective on balancing service innovation and participant

education within national health insurance programs, offering implications for future digital health policy and practice [41].

The implications of this study are significant for policymakers and healthcare administrators seeking to strengthen digital health services within national health insurance programs. Strengthening digital health services should be accompanied by continuous participant education and targeted socialization strategies to ensure effective uptake and equitable access across diverse population groups [42]. BPJS Kesehatan and local governments can utilize Mobile JKN as a strategic platform to enhance public health literacy, which has been shown to correlate with improved healthcare engagement and outcomes [43]. Improved digital literacy among participants may increase service utilization, satisfaction, and overall effectiveness of digital health systems, thereby supporting the sustainability and scalability of digital healthcare innovations at both regional and national levels [44].

Despite its contributions, this study has several limitations that should be acknowledged. The research was conducted in a single regency, which may limit the generalizability of the findings to other regions with differing socio-demographic and technological conditions. Data were collected using qualitative methods that predominantly rely on participant perceptions and experiences, which may be influenced by subjective interpretations and context-specific factors. Additionally, variations in digital access and technological proficiency among participants may have affected the depth and breadth of the insights gathered. Future studies are recommended to involve multiple regions and adopt mixed-method approaches, as combining qualitative and quantitative data can enhance analytical robustness and provide more comprehensive insights into digital health implementation [45].

4   CONCLUSION

In This study concludes that the implementation of Mobile JKN at BPJS Kesehatan Bantaeng Regency has effectively strengthened both healthcare service delivery and participant education, in line with the research objective. Mobile JKN improves service efficiency, accessibility, and transparency while simultaneously enhancing participant understanding of JKN procedures, rights, and obligations through integrated digital features. The findings demonstrate that balancing technological innovation with participant education is essential to maximize the utilization and sustainability of digital health services. However, disparities in digital literacy, age, and access to technology remain challenges that limit optimal utilization among certain population groups. Therefore, it is recommended that BPJS Kesehatan and local governments intensify continuous education programs, targeted socialization strategies, and user assistance initiatives to ensure inclusive access, improve digital health literacy, and strengthen the long-term effectiveness of Mobile JKN as both a healthcare service and educational platform.

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