Medical Research, Nursing, Health and Midwife Participation
https://medalionjournal.com| ISSN2986-7754

# IMPLEMENTATION OF WEB-BASED COMMUNITY HEALTH SERVICE APPLICATIONS: A LITERATURE REVIEW

**Ananda Mutia Dewi[1], Ainol Mardiah[2], Arista Ardilla[3*], Esar Alkausar[4]**
Universitas Bumi Persada, Aceh, Indonesia[1,2,3,4]
*Correspondence: aristaardilla@unbp.ac.id

**Abstract**

*This study examines the use of web-based applications in Community Health Centers (Puskesmas) in Indonesia, focusing on their impact on healthcare services. The research identifies the types of healthcare services implemented through web-based applications and evaluates their effectiveness in improving healthcare delivery. A systematic literature review was conducted following the PRISMA method, with an initial search of 30 articles published from 2020 to 2024. After applying inclusion and exclusion criteria, 14 articles were selected for final analysis. The results indicate that web-based applications, such as telemedicine and electronic health records, have enhanced the efficiency, accessibility, and management of services at Puskesmas. However, challenges such as infrastructure limitations, lack of standardized policies, digital literacy, and data security must be addressed. The study concludes that integrating various healthcare services into a single web-based platform could improve service delivery and outcomes at Puskesmas. These findings provide valuable insights for policymakers and technology developers in enhancing healthcare systems.*

*Keywords:* ***Community Health Center; Puskesmas; Web-based applications***

## INTRODUCTION

The rapid advancement of information technology has significantly transformed various sectors, including healthcare. Community Health Centers (Puskesmas), as the primary providers of public healthcare in Indonesia, have increasingly adopted technology-based solutions to enhance the quality of their services (Arribe, Safitri, & Tsabitah, 2023). One widely utilized innovation is web-based applications, which have proven effective in supporting various aspects of healthcare, such as queue management, patient registration, and monitoring maternal health (Fitriani & Voutama, 2024; Friadi, Yani, Zaid, & Sikumbang, 2023: Gunawan, Handayani & Purba, 2023). These technological implementations not only improve efficiency but also make it easier for the public to access healthcare services. However, existing research often focuses on specific applications targeting isolated services, without addressing the integration of multiple services into a unified platform.

At the same time, the need for applications capable of encompassing diverse healthcare services has become increasingly urgent (Santoso & Pambudi, 2018). In Puskesmas, essential services such as routine health check-ups, maternal and child healthcare, immunization, and patient data management require integrated systems to enhance operational effectiveness. A holistic approach to designing web-based applications holds significant potential to address these challenges. Unfortunately, studies on such integrated applications remain scarce, leaving much of the technological potential for improving healthcare services unexplored. This lack of integration may also limit the capacity of Puskesmas to meet the growing and complex needs of the communities they serve.

This study aims to review existing literature on the implementation of web-based applications in Puskesmas, focusing on two key aspects. First, it seeks to identify the types of healthcare services that have been implemented using web-based applications. Second, it examines the extent to which these implementations have improved the efficiency and effectiveness of healthcare delivery at Puskesmas. By exploring these questions, the study aims to provide a comprehensive understanding of the opportunities and challenges associated with adopting web-based technology for community healthcare services. Specifically, the research addresses the following questions: (1) What types of healthcare services have been implemented through web-based applications at Puskesmas? and (2) How effectively have these implementations enhanced the efficiency and effectiveness of services?

The findings of this research are expected to make a significant contribution to the development of technology in the healthcare sector, particularly at the Puskesmas level. Additionally, the study's findings could serve as a valuable reference for policymakers and technology developers in creating more holistic and strategic web-based applications. By integrating multiple healthcare services into a single system, the digital

transformation of Puskesmas can be accelerated, enabling them to better meet the needs of the community. While primarily focused on local contexts, this research could also provide insights into the global adoption of technology in healthcare.

## LITERATURE REVIEW

The integration of technology into healthcare systems has become a critical factor in improving healthcare service worldwide. In recent years, the focus has shifted to the implementation of web-based applications, which offer the potential to streamline operations, enhance accessibility, and improve the quality of healthcare services. By drawing on established theories, this literature review aims to provide a comprehensive understanding of the potential and challenges associated with web-based healthcare solutions. The Technology Acceptance Model (TAM), proposed by Davis (1989), has been widely used to understand and predict user acceptance of technology in various sectors, including healthcare. The model emphasizes two critical factors that influence the acceptance of technology: perceived ease of use and perceived usefulness. These factors shape users' attitudes toward technology and their willingness to adopt it.

In the context of web-based community health service applications, the perceived ease of use refers to how user-friendly and intuitive an application is for both healthcare providers and patients. If the application is easy to navigate and does not require extensive training, healthcare staff are more likely to adopt and integrate it into their routine work (Mohammed et al., 2020). Moreover, perceived usefulness concerns the extent to which the application improves the effectiveness and efficiency of healthcare delivery. For example, web-based applications that allow healthcare providers to manage patient appointments, track immunizations, and access health records quickly are likely to be seen as valuable, leading to greater adoption (Alomar et al, 2024: Bunyamin & Pratam, 2020).

By applying TAM, it becomes evident that the successful implementation of web-based applications in community health centers depends on ensuring both ease of use and clear benefits for healthcare providers and patients. The more these factors are addressed, the more likely it is that the technology will be embraced by users. While TAM provides an excellent framework for understanding user acceptance, other models are also relevant when discussing the adoption of technology in healthcare. The Health Information Technology (HIT) Adoption Models focus on specific factors that influence the adoption of digital health tools in healthcare settings. For instance, the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh & Zhang, 2010) expands on TAM by incorporating additional variables such as social influence, facilitating conditions, and hedonic motivation. Social influence, for instance, highlights the role of peers and organizational culture in influencing the adoption of technology (Yadav & Ambhaikar, 2024). In community health services, the support and encouragement from senior medical professionals or local government authorities can have a significant impact on the willingness of healthcare providers to use new web-based applications.

Facilitating conditions, such as technical support, infrastructure, and availability of resources, are crucial for the smooth implementation of web-based applications in community health settings. A lack of sufficient internet connectivity, for instance, could hinder the effectiveness of a web-based system, particularly in rural or remote areas (Gashu, 2024). Ensuring that these conditions are met is essential for the success of the technology in enhancing healthcare delivery. A significant body of literature highlights the benefits of web-based applications in community health services, particularly in terms of increasing accessibility, improving efficiency, and reducing healthcare costs. Web-based systems can facilitate a range of services, including patient registration, appointment scheduling, electronic health records management, and maternal and child healthcare monitoring (Fitriani & Voutama, 2024; Friadi et al., 2023). These applications can provide real-time updates to healthcare providers, reducing errors and ensuring that patients receive timely care.

One example of successful web-based implementation is the use of Telemedicine platforms in community health centers, which allows healthcare professionals to consult with patients remotely, providing care to individuals in underserved or rural areas. Telemedicine platforms, which integrate video consultations, appointment scheduling, and electronic health records, improve access to healthcare and reduce the burden on healthcare facilities (Gunawan et al., 2023). These systems also enhance patient satisfaction by enabling them to access care at their convenience, thereby improving health outcomes in communities with limited access to healthcare facilities. Despite these successes, the implementation of web-based applications is not without challenges. Studies show that while healthcare providers in urban areas may have easier access to technological infrastructure, rural areas often face barriers, such as poor internet connectivity and insufficient digital literacy among both healthcare staff and patients (Wilson, 2024).

Additionally, privacy and security concerns related to handling sensitive health data are major challenges when adopting web-based health applications (Bala et al, 2024). Addressing these concerns through robust data security measures and adequate training for users is crucial for successful implementation. One major limitation found in the literature is that many web-based applications focus on individual services rather than integrating different healthcare functions into a single, unified platform. Community health services typically cover a wide range of areas, such as maternal and child health, immunization programs, and chronic disease management. However, many existing applications still operate separately, which can lead to inefficiencies and fragmented care (Santoso & Pambudi, 2018). By integrating these various health services into one comprehensive platform, community health centers could improve their overall efficiency and provide more streamlined, coordinated care for patients.

Web-based applications with an integrated approach allow healthcare providers to manage all aspects of patient care from a single interface. This can include not only scheduling appointments and managing health records but also tracking vaccination schedules, monitoring maternal health, and offering health education resources. Such holistic systems can improve patient outcomes by ensuring that healthcare providers have access to comprehensive patient data, which is crucial for making informed decisions and providing coordinated care (Gunawan, Handayani & Purba, 2023).

The implementation of web-based community health service applications offers significant potential for improving healthcare delivery, increasing accessibility, and enhancing efficiency in community health centers. By applying established models like the Technology Acceptance Model (TAM) and Health Information Technology (HIT) Adoption Models, this literature review provides insights into the factors influencing the adoption and successful implementation of these technologies. The integration of web-based applications into community health services requires careful consideration of both technical and human factors, including ease of use, perceived usefulness, and the facilitation of conditions like infrastructure and social support. Moreover, addressing challenges such as digital literacy, security concerns, and integration of multiple services will be key to realizing the full potential of web-based healthcare solutions. As the adoption of such technologies grows, it is clear that they hold promise not only for enhancing local healthcare delivery but also for advancing healthcare practices globally.

## METHOD

The data for this study was collected using a systematic research method known as PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). This framework provides guidance for researchers to create comprehensive systematic reviews, including reporting the rationale for the review, the methodology used, and the findings from their analysis. The articles selected for further review were sourced from Google Scholar. During the search process, the researcher utilized Boolean logic and proximity operators.

Boolean logic includes three main operators: AND, OR, and NOT. AND is used to combine concepts, ideas, or keywords, narrowing the search strategy. OR is used to link synonyms or related concepts, expanding the search results. NOT is used to exclude specific keywords, allowing the researcher to refine the search focus. The use of parentheses in the search strategy helps achieve more precise results, as search engines prioritize terms within parentheses before processing other terms, ensuring that the search results are more relevant.

In this study, the researcher used the following search: (("Penerapan aplikasi" OR "implementation of applications") AND ("pelayanan puskesmas" OR "health center services") AND ("berbasis website" OR "web-based"). This search resulted in 30 relevant articles. To further narrow down the selection of articles for review, the researcher established inclusion and exclusion criteria based on predetermined considerations. The criteria for including and excluding articles for review are summarized in the diagram below:

**Table 1. Inclusion and Exclusion Criteria of Reviewed Articles.**

| No. | Criteria | Inclusion | Exclusion |
|---|---|---|---|
| 1 | Full paper access | ✓ | |
| 2 | Abstract | ✓ | |
| 3 | Articles published within the last five years, from 2020 to 2024. | ✓ | |
| 4 | Using AI as tools | ✓ | |
| 5 | Improving Puskesmas or Health Center Services | ✓ | |
| 6 | Proceeding paper | ✓ | |

| | | |
|---|---|---|
| 7 | Book | X |
| 8 | Monograph | X |
| 9 | Thesis and Dissertation | X |
| 10 | Inaccessible journal | X |
| 11 | Not related topic and subject | X |
| 12 | Articles are not in English or Bahasa Indonesia | X |

**(Source: Authors, 2024)**

According to the outlined criteria, the researchers subsequently arranged the articles within a PRISMA flow diagram, as depicted below:

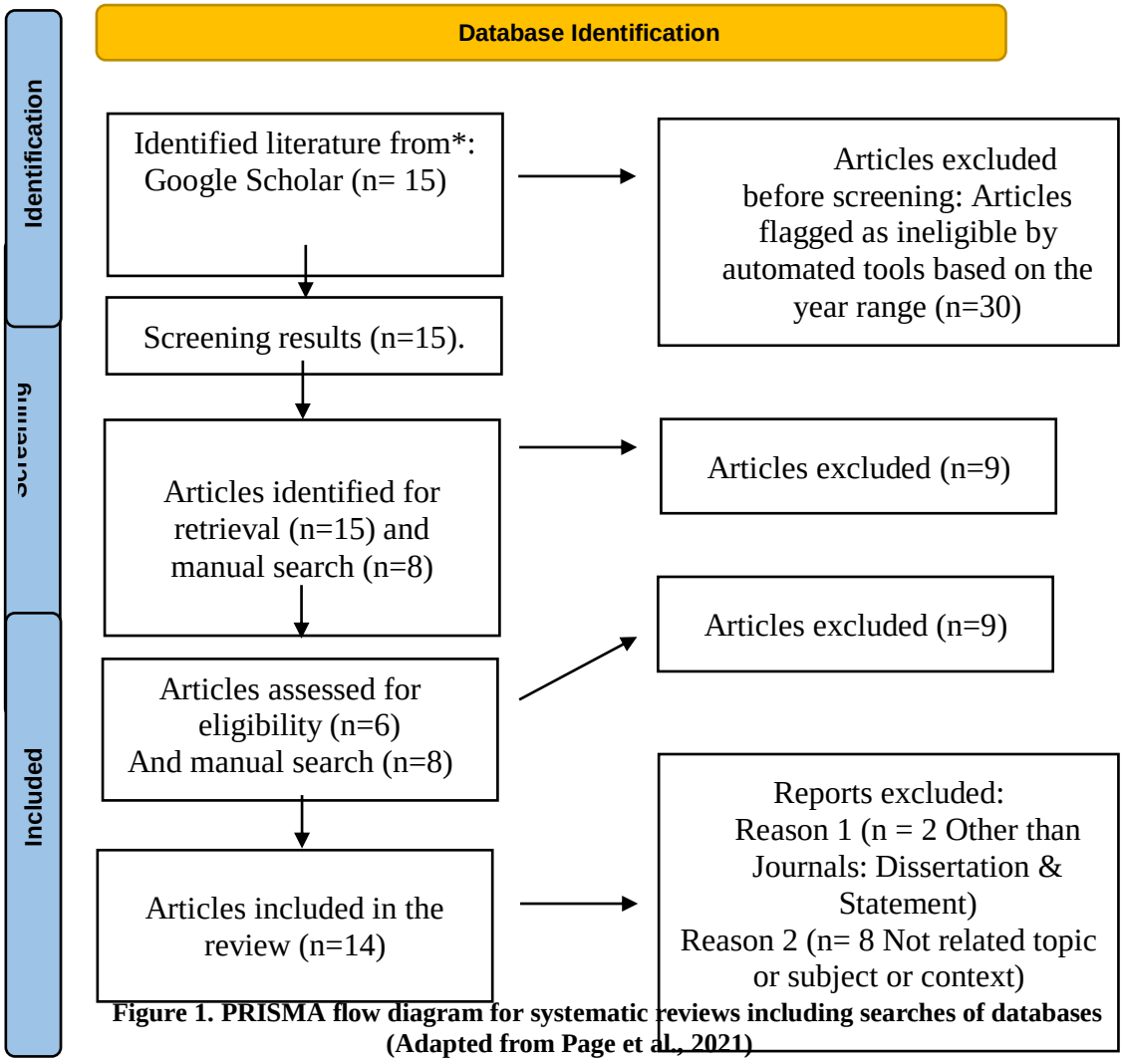


**Figure 1. PRISMA flow diagram for systematic reviews including searches of databases (Adapted from Page et al., 2021)**

## RESULTS AND DISCUSSION

### Results

The findings of this study provide a thorough response to the first research question: What types of healthcare services have been implemented through web-based applications at Puskesmas? Several healthcare services have been successfully integrated through web-based platforms at various Puskesmas, enhancing service delivery, increasing efficiency, and improving patient satisfaction.

One of the primary services implemented through these web-based platforms is patient registration and management. Patients can now register for appointments online, which streamlines the administrative process and reduces wait times. This system allows healthcare providers to manage patient data more effectively, ensuring that medical records are accurately maintained and easily accessible to healthcare professionals. Additionally, web-based applications at Puskesmas have enabled the implementation of telemedicine services. These services allow patients to consult with healthcare professionals remotely, either through video calls or chat features, making healthcare more accessible, especially for individuals in rural or underserved areas.

In that case, Banoet et al. (2023) demonstrated the successful development of an electronic medical record system for outpatient services at Puskesmas Sasi, which significantly reduced patient registration time from 15 minutes to just 6 minutes. This improvement indicates the potential of web-based systems to streamline processes and enhance service efficiency. Similarly, Hermawan and Ary (2020) designed a web-based drug inventory system using the Waterfall method, which minimized human error and enabled faster, more accurate reporting, demonstrating the positive impact of technology on operational accuracy in healthcare facilities.

Furthermore, Fitriyah et al. (2023) evaluated the online registration system at Puskesmas Kasihan II, revealing that it expedited the registration process to under 5 minutes. However, they identified that the lack of formal policies and standard operating procedures hindered the system's optimal implementation. This highlights the need for supporting infrastructure, including policy frameworks, to maximize the effectiveness of digital solutions. Ilham and Wahyuningsih (2023) found that a web-based complaint system for the Sukaraphih village community facilitated quicker responses to public grievances, thus improving service delivery.

The study by Saputri et al. (2022) on the e-Posyandu application demonstrated a high level of satisfaction (92.75%) among mothers using the Android-based system for monitoring toddler health, underscoring the growing acceptance and reliance on mobile health tools in remote areas. Similarly, Vernanda and Zuraidah (2022) assessed the online patient registration system at Mekar Sari Hospital and found that while the system was reliable, there were still gaps in functionality and data security, suggesting areas for improvement in the app’s design.

In line with these findings, Fatmariani et al. (2024) highlighted the advantages of a web-based public health center service system, which improved data entry and patient management, thereby increasing the efficiency of health services. Dewantara et al. (2021) discussed the online queue management system at Puskesmas Babatan, which allowed patients to register remotely, thus reducing physical crowding and simplifying the process for both patients and healthcare providers.

Moreover, Zaini et al. (2023) and Yuanita et al. (2023) emphasized the positive outcomes of implementing web-based medical record systems and information management tools in health centers. Both studies reported that these systems significantly improved data retrieval and the overall management of patient health information. Gunawan et al. (2023) extended this notion by demonstrating how a mobile-based system for monitoring the health and nutrition of pregnant and breastfeeding mothers streamlined data collection and provided real-time interactions between patients and healthcare staff. Moreover, Saputri et al. (2022) demonstrated the e-Posyandu application, which allows mothers to monitor their toddlers' health, contributing to better maternal and child health outcomes.

However, Hetrianto et al. (2024) found some areas for improvement in the E-Puskesmas application, specifically regarding efficiency, responsiveness, and accuracy. Despite this, their study highlighted the need for thorough evaluations and preparation before the implementation of such systems, ensuring that health centers are fully equipped to support digital health tools.

From the above explanation, it can be implied that web-based applications at Puskesmas have significantly enhanced various healthcare services. These services include patient registration and management, telemedicine, drug inventory systems, and complaint handling systems. The implementation of online registration systems has streamlined administrative processes, reducing patient wait times and improving efficiency. Telemedicine services have made healthcare more accessible, especially for

individuals in remote areas, allowing patients such as maternal care patients to consult healthcare professionals remotely. Additionally, electronic medical record systems have improved data accuracy and accessibility, aiding in better patient care management. Despite some challenges, such as the need for formal policies and infrastructure support, the overall impact of web-based applications at Puskesmas has been positive, contributing to improved service delivery, operational accuracy, and patient satisfaction.

To answer the second research question, the implementation of web-based applications at Puskesmas has effectively enhanced the efficiency and effectiveness of healthcare services in several key ways. Firstly, the online registration and management systems have significantly reduced patient wait times, improving the efficiency of administrative processes. For example, the development of an electronic medical record system at Puskesmas Sasi reduced patient registration time from 15 minutes to just 6 minutes (Banoet et al., 2023), demonstrating a direct improvement in service speed and operational efficiency. This streamlined process allows healthcare providers to focus more on delivering care rather than managing paperwork.

Telemedicine services have also played a vital role in improving the effectiveness of healthcare delivery, especially for patients in remote areas. By enabling remote consultations, these services have expanded access to healthcare, reducing the need for travel and allowing patients to receive timely care. This has enhanced the reach and responsiveness of healthcare services, particularly for underserved populations.

Moreover, systems like the drug inventory management and e-Posyandu applications have contributed to operational accuracy and improved data management. For instance, the drug inventory system at Puskesmas has reduced human error and sped up reporting processes (Hermawan & Ary, 2020), while the e-Posyandu system has effectively monitored maternal health, providing better care for pregnant and breastfeeding mothers (Saputri et al., 2022). These tools not only improve the efficiency of healthcare services but also ensure more effective, real-time data collection and management of patient care.

Additionally, online complaint systems have increased the responsiveness of Puskesmas to community needs, fostering trust and enhancing the overall quality of service delivery (Ilham & Wahyuningsih, 2023). This has improved the patient experience and demonstrated that digital systems positively impact both service efficiency and effectiveness. The web-based applications at Puskesmas have significantly enhanced both the efficiency of administrative processes and the effectiveness of healthcare services, particularly in terms of patient access, data management, and service responsiveness. These improvements highlight the positive impact of digital health tools in streamlining operations and enhancing healthcare delivery.

**Discussion**

The use of web-based applications in Puskesmas has proven beneficial by enhancing efficiency, accessibility, and patient satisfaction. The introduction of telemedicine, online registration, and electronic medical record systems has eased administrative tasks for healthcare providers, improving patient flow and management. Additionally, mobile apps like e-Posyandu, which tracks maternal and child health, have made health information more accessible, enabling timely interventions.

While the advantages of these technologies are clear, there are still challenges to address. A lack of standardized procedures, insufficient infrastructure, and the need for supportive policies are crucial factors affecting the effectiveness of web-based solutions. For example, Fitriyah et al. (2023) pointed out that the absence of formal policies limits the full potential of the online registration system. This suggests that simply adopting technology is not enough; policies and clear guidelines are also essential.

Digital literacy and technical support are also key to successful implementation. Gashu (2024) noted that in remote areas with poor internet connectivity, the potential of these technologies can't be fully realized unless infrastructure issues are addressed. To overcome this, both healthcare providers and patients need digital literacy training, and internet infrastructure must be improved to ensure equal access to healthcare services. Data privacy and security also remain significant concerns. Protecting patient information is critical, and as Bala et al. (2024) highlighted, strong security measures and regular staff training are essential to ensure trust in these technologies and their smooth integration into healthcare services.

Furthermore, integrating various healthcare services into a single platform remains an area for improvement. While some services, such as registration, telemedicine, and health monitoring, have been successfully implemented, many systems still operate separately. This fragmentation can lead to inefficiencies and affect the quality of care. Gunawan et al. (2023) showed that integrating services into one platform can enhance data sharing and improve patient outcomes, especially in managing maternal and child health.

From the above explanation, it can be seen that web-based applications in Puskesmas hold great potential to improve healthcare services, especially in underserved areas. However, challenges related to infrastructure, policy, digital literacy, and data security must be addressed for these technologies to reach their full potential. By integrating various healthcare services into a single platform, Puskesmas can improve efficiency, streamline care, and enhance health outcomes for the communities they serve. These insights are valuable for policymakers and healthcare administrators considering the adoption or expansion of web-based applications in community health centers. Future research should explore the long-term impact of these technologies on healthcare outcomes and examine how integrating more services can further improve efficiency and patient satisfaction.

## CLOSING

### Conclusion

The use of web-based applications at Puskesmas has greatly improved healthcare services by making processes more efficient, reducing patient wait times, and increasing patient satisfaction. Online registration, telemedicine, electronic medical records, and health monitoring systems have streamlined administrative tasks and made healthcare more accessible, especially in remote areas. Apps like e-Posyandu have also improved maternal and child health. However, challenges like the need for clear policies, better infrastructure, and digital literacy remain.

To fully maximize the benefits of web-based applications, clear policies and guidelines should be set. Improving internet access in rural areas and providing digital training for both healthcare workers and patients is also important. Stronger data protection is needed to ensure patient privacy and trust. Combining all healthcare services into one system could make things more efficient and improve care.

Ongoing evaluations should help identify areas for improvement. By addressing these challenges, Puskesmas can offer even better services and improve health outcomes. Future research should look at the long-term effects of these technologies and ways to improve service integration.

## REFERENCES

Alomar, Dalia, et al. 2024. “The Impact of Patient Access to Electronic Health Records on Health Care Engagement: Systematic Review.” *Journal of Medical Internet Research*, 26: e56473. DOI: 10.2196/56473.

Arribe, Edo, Safitri, Eliyani, and Tsabitah, Nayla. 2023. “Perancangan Sistem Pendaftaran Pasien Rawat Jalan Rumah Sakit Pmc Berbasis Web.” *PROSISKO: Jurnal Pengembangan Riset dan Observasi Sistem Komputer,* 10(2): 136-145. DOI: https://doi.org/10.30656/prosisko.v10i2.7064.

Bala, Indu, et al. 2024. “Ensuring Security and Privacy in Healthcare Systems: A Review Exploring Challenges, Solutions, Future Trends, and the Practical Applications of Artificial Intelligence”. *Jordan Medical Journal,* 58.3. Retrieved from https://jjournals.ju.edu.jo/index.php/JMJ/article/view/2527

Banoet, Oriegenes Elia Gihon, et al. 2023. “Analisis Pengaruh Implementasi Rancang Bangun Sistem Informasi Rekam Medis Elektronik Pasien Rawat Jalan Berbasis Web terhadap Waktu Tunggu di Puskesmas Sasi Kabupaten Timor Tengah Utara.” *Jurnal Kesehatan, Sains, Dan Teknologi (Jakasakti)*, 2.1. DOI: https://doi.org/10.36002/js.v2i1.2469

Bunyamin, Muhammad, and Pratama, Rezki. 2020. “Perancangan Aplikasi Sistem Informasi Puskesmas Sebagai Sarana Pendataan Ibu Dan Anak Berbasis Mobile.” *Jurnal Nasional Ilmu Komputer,* 1(3): 105-118. DOI: 10.47747/jurnalnik.v1i3.157

Davis, Fred D., Bagozzi, R. P., and Warshaw, P. R. 1989. “Technology Acceptance Model.” *J Manag Sci*, 35(8): 982-1003. Accessed from https://quod.lib.umich.edu/b/busadwp/images/b/1/4/b1409190.0001.001.pdf

Dewantara, Andi Fauzy, et al. 2021. "Aplikasi Antrean Online Berbasis Website dan Mobile (Studi Kasus Puskesmas Babatan)." IRWANS Pros. 12th Ind. Res. Work. Natl. Semin, 12(1), 4-5.

Fatmariani, Fatmariani; Saputra, Andri; Sari, Lindia Guspita. 2024. "Web-based UKP Public Health Center Services System Using the Waterfall Method." Journal of Computer Networks, Architecture and High Performance Computing, 6(1), 302-314. DOI: 10.47709/cnahpc.v6i1.3380

Fitriyah, Yuli; Fitriana, Syarah Mazaya; Khotimah, Noer Usnnul. 2023. "Evaluasi Sistem Pendaftaran Online di Puskesmas Kasihan II Bantul." In *Prosiding Seminar Nasional Rekam Medis & Manajemen*

*Informasi Kesehatan*. Accessed from https://www.publikasi.aptirmik.or.id/index.php/prosidingmedan2023/article/view/249

Fitriani, Khairunnisa, and Voutama, Apriade. 2024. "Perancangan UML Sistem Registrasi Pasien Pada Rumah Sakit Bekasi Berbasis Web." *JATI (Jurnal Mahasiswa Teknik Informatika)*, 8(3): 2626-2633. DOI: https://doi.org/10.36040/jati.v8i3.9527.

Friadi, John, et al. 2023. "Perancangan Pemodelan Unified Modeling Language Sistem Antrian Online Kunjungan Pasien Rawat Jalan pada Puskesmas." *Jurnal Ilmu Siber dan Teknologi Digital*, 1(2): 125-133. DOI: https://doi.org/10.35912/jisted.v1i2.2298.

Gashu, Kassahun Dessie. 2024. "The Digital Ecosystem and Major Public Health Informatics Initiatives in Resource-Limited Settings." In *Public Health Informatics: Implementation and Governance in Resource-Limited Settings*, 97-140. Cham: Springer Nature Switzerland.

Gunawan, Arie; Handayani, Endah Tri Esthi; Purba, Olipa Sarta Matilda. (2023). Pengembangan Sistem Informasi Aplikasi Puskesmas untuk Mengetahui Kecukupan Gizi Ibu Hamil dan Menyusui. JIPI (Jurnal Ilmiah Penelitian dan Pembelajaran Informatika), 8(2), 718-728. DOI: https://doi.org/10.29100/jipi.v8i2.3650

Hermawan, Warman; Ary, Maxsi. 2020. "Perancangan Aplikasi Persediaan Obat Berbasis Web Dengan Metode Waterfall Di Klinik Pratama Amanah Bandung." *Eprosiding Sistem Informasi (Potensi)*, 1.1: 341-347. Accessed from http://eprosiding.ars.ac.id/index.php/psi

Hetrianto, Novian Dwi; Putri, Dian Utama Pratiwi; Arisandi, William. (2024). Effectiveness of Using E-Puskesmas Application in Public Health Centre in the Work Area at Public Health Office. An Idea Nursing Journal, 3(02), 27-32. DOI: https://doi.org/10.53690/inj.v3i02.316

Ilham, Nurul; Wahyuningsih, Anik Sri. 2023. "Website Pengaduan Masyarakat Desa Sukaraphih Menggunakan Metode Prototype." Jurnal Teknologika, 13(2), 294-305. DOI: https://doi.org/10.51132/teknologika.v13i2.314

Mohammed, M. N., et al. 2020. "An Internet of Things-based Smart Homes and Healthcare Monitoring and Management System." In *Journal of Physics: Conference Series*, IOP Publishing, p. 012079. DOI: https://iopscience.iop.org/article/10.1088/1742-6596/1450/1/012079/meta.

Page, Matthew J., et al. 2021. "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews." *BMJ*, 372. https://doi.org/10.1136/bmj.n71

Santoso, Dian Budi, and Pambudi, Dwi Setya. 2018. "Pengembangan Sistem Informasi Manajemen Puskesmas Berbasis Elektronik Di Puskesmas Ambal Ii Kabupaten Kebumen." Jurnal Manajemen Informasi Kesehatan Indonesia, 6(1): 27-30. doi: 10.33560/.v6i1.181

Saputri, Nurul Aini Suria; Damayanti, Melly; Rachmawati, Nur Cahya. 2022. "The Satisfaction of Toddler's Mother Toward the Use of the e-Posyandu Kesehatan (e-PoK) Application in Island Territory." International Journal of Social Science, 2(1), 1163-1168. DOI: https://doi.org/10.53625/ijss.v2i1.2315

Venkatesh, Viswanath, and Xiaojun Zhang. 2010. "Unified Theory of Acceptance and Use of Technology: US vs. China." *Journal of Global Information Technology Management*, 13(1): 5-27.

Vernanda, Amalia; Zuraidah, Eva. 2022. "Analisa Kualitas Layanan Pendaftaran Pasien Secara Online Pada Rs Mekar Sari Bekasi Menggunakan Metode Servqual." Resolusi: Rekayasa Teknik Informatika dan Informasi, 2(6), 243-250. DOI: https://doi.org/10.30865/resolusi.v2i6.378

Wilson, Sarah, et al. 2024. "Recommendations to Advance Digital Health Equity: A Systematic Review of Qualitative Studies." *NPJ Digital Medicine*, 7.1: 173. https://doi.org/10.1038/s41746-024-01177-7

Yadav, Lowlesh, and Asha Ambhaikar. 2024. "IOHT Based Tele-Healthcare Support System for Feasibility and Performance Analysis." *Journal of Electrical Systems*, 20.3s: 844-850. https://creativecommons.org/licenses/by/4.0/legalcode

Yuanita, B., Fakhri, M. M., & Hidayat, W. (2021). Sistem Informasi Medical Record Pasien Pada Puskesmas Sudu Kec. Alla Kab. Enrekang Berbasis Website. Journal of Embedded Systems, Security and Intelligent Systems, 93-100. Retrieved from http://journal.unm.ac.id/index.php/JESSI/article/view/445

Zaini, A., Rahman, M. F., & Syaiful, S. (2023). Sistem Pelayanan Pasien Berbasis Website di Puskesmas Gayam Sumenep. Informatika Mulawarman: Jurnal Ilmiah Ilmu Komputer, 17(2), 66-72. DOI: http://dx.doi.org/10.30872/jim.v17i2.6140

Zaman, Sally Nurlita; Merlina, Nita; Nurajijah, Nurajijah. (2021). Sistem Informasi Keluhan Pelanggan Berbasis Website. Evolusi: Jurnal Sains dan Manajemen, 9(1). Accessed from: https://ejournal.bsi.ac.id/ejurnal/index.php/evolusi/article/view/9636