

THE SOCIAL ECONOMICS OF UNIVERSAL HEALTH COVERAGE (BPJS KESEHATAN): A STUDY OF ITS IMPACT ON SOCIAL WELFARE AND HEALTHCARE EQUITY

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Article Info

Received: April 6, 2025

Revised: June 4, 2025

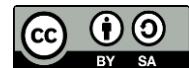
Accepted: September 9, 2025

Online Version: October 17, 2025

Abstract

Indonesia's implementation of Universal Health Coverage (UHC) through the BPJS Kesehatan program has been a significant step toward improving public access to healthcare. The program was designed to address long-standing issues of inequality and inaccessibility in healthcare services. However, its impact on social welfare and healthcare equity remains a topic of ongoing debate, particularly regarding its effectiveness in reducing healthcare disparities across different socio-economic groups. This study aims to analyze the social and economic impacts of BPJS Kesehatan, focusing on its contribution to social welfare and its role in promoting healthcare equity. Specifically, it examines whether the program has achieved its goals of improving healthcare access for marginalized populations and reducing financial barriers to healthcare. A mixed-methods approach was employed, combining quantitative analysis of healthcare utilization data and qualitative interviews with beneficiaries, healthcare providers, and policymakers. The study evaluates the financial sustainability of the program, its reach among low-income populations, and its effects on health outcomes. The results indicate that BPJS Kesehatan has increased healthcare access, particularly for low-income groups, but challenges remain in ensuring equitable service quality and financial sustainability. While healthcare utilization has risen, disparities in service delivery persist, particularly in rural areas. BPJS Kesehatan has made notable strides in improving healthcare access and equity, but further reforms are needed to address ongoing challenges in service quality, financial sustainability, and regional disparities.

Keywords: BPJS Kesehatan, Healthcare Equity, Indonesia, Social Welfare, Universal Health Coverage.



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Journal Homepage

<https://research.adra.ac.id/index.php/politicae>

How to cite:

Lefèvre, P., Dubois, M., & Moreau, A. (2025). The Social Economics of Universal Health Coverage (Bpjs Kesehatan): A Study of Its Impact on Social Welfare and Healthcare Equity. *Cognitionis Civitatis et Politicae*, 2(5), 302–312. <https://doi.org/10.70177/politicae.v2i5.3141>

Published by:

Yayasan Adra Karima Hubbi

INTRODUCTION

The implementation of Universal Health Coverage (UHC) in Indonesia through the BPJS Kesehatan program marks a significant policy shift aimed at addressing long-standing issues of healthcare inequality and access (Ludvigsson et al., 2025). Established in 2014, BPJS Kesehatan was designed to provide comprehensive healthcare services for all Indonesian citizens, with a particular emphasis on reaching underserved and vulnerable populations (Ahmed et al., 2025). Before this program, access to healthcare in Indonesia was marked by significant disparities, particularly for low-income groups, rural populations, and individuals in remote areas (Yakupu et al., 2025). The introduction of BPJS Kesehatan was seen as a vital step toward achieving the goal of universal health coverage, a key element in ensuring social welfare and improving health outcomes across the nation.

Despite the ambitious goals of BPJS Kesehatan, the program has faced various challenges in achieving its intended objectives (Hiebert-Suwondo et al., 2025). While it has expanded healthcare access to millions of Indonesians, issues of financial sustainability, service quality, and healthcare equity remain persistent (Li et al., 2025). The program's ability to deliver equitable healthcare across diverse regions of Indonesia, from urban centers to remote islands, has been questioned, as disparities in healthcare access continue to exist. The effectiveness of BPJS Kesehatan in addressing the root causes of healthcare inequality, such as socio-economic status, geographical location, and local governance issues, has not been fully explored (Qin & Tong, 2025). Thus, this research seeks to critically assess the social economics of BPJS Kesehatan and its broader impact on social welfare and healthcare equity.

As Indonesia continues to move toward achieving UHC, understanding the challenges and successes of BPJS Kesehatan is crucial for informing future policy decisions (Naghavi et al., 2025). The increasing pressure on Indonesia's healthcare system, especially with a growing population and the demands of an aging demographic, necessitates a deeper exploration of how this universal health program functions in the context of social welfare (Cheng et al., 2025). Moreover, assessing the social economic impacts of BPJS Kesehatan is essential for ensuring that the program can fulfill its promise of providing equitable and sustainable healthcare to all citizens, particularly those who are most disadvantaged.

This study addresses the challenges and outcomes of BPJS Kesehatan in its role as a tool for promoting healthcare equity and enhancing social welfare in Indonesia (Totaro et al., 2025). While the program has significantly increased healthcare access, disparities remain in the quality of care and the ability of various regions to effectively implement the program. One of the key problems lies in the unequal distribution of healthcare resources, with wealthier provinces and urban centers benefiting from better service delivery, while rural and remote areas continue to face challenges in accessing adequate healthcare (Kim & Yoon, 2025). Additionally, there are concerns about the financial sustainability of BPJS Kesehatan, as its growing membership base places increased pressure on both the program's funding and the healthcare infrastructure it relies on. These issues raise important questions about the effectiveness of BPJS Kesehatan in achieving its goals of equitable healthcare and social welfare for all Indonesians.

Another critical issue that this research seeks to address is the gap between policy intentions and the actual experiences of BPJS beneficiaries (Martins & Matuja, 2025). Despite BPJS Kesehatan's design to provide universal coverage, many individuals, particularly from low-income and marginalized communities, report dissatisfaction with the accessibility and quality of care. This gap in service provision suggests that while the program has expanded healthcare access, it has not yet fully addressed the systemic inequalities in Indonesia's healthcare system. Moreover, there is a lack of comprehensive understanding regarding the socio-economic factors that influence healthcare access and outcomes under BPJS Kesehatan. This study, therefore, aims to investigate these gaps and provide a clearer picture of the social and economic implications of the program.

The study also tackles the problem of measuring the actual impact of BPJS Kesehatan on health outcomes and social welfare. Although the program has been instrumental in expanding coverage, the broader effects on public health, particularly in terms of reducing health disparities and improving social welfare, remain under-explored. An important aspect of this research is to assess how the program has influenced not just the availability of healthcare services, but also the overall well-being of the population, particularly those from economically disadvantaged backgrounds. This will provide insight into whether the program is meeting its social equity goals or if additional reforms are needed to address ongoing disparities.

The primary objective of this study is to assess the social and economic impact of BPJS Kesehatan on healthcare equity and social welfare in Indonesia. Specifically, the research aims to evaluate how well the program has succeeded in achieving its goal of universal healthcare access, particularly for vulnerable and low-income populations. This includes analyzing the extent to which BPJS Kesehatan has improved healthcare accessibility in rural areas, reduced financial barriers to care, and addressed social inequalities in healthcare provision. Furthermore, the study seeks to examine the financial sustainability of the program and its ability to provide long-term benefits to both the healthcare system and the people it serves.

A secondary objective is to identify the socio-economic factors that contribute to disparities in healthcare access under BPJS Kesehatan, with particular attention to the geographical and economic divides that persist across Indonesia. The research will explore how these disparities impact the quality of care received by different segments of the population and what steps can be taken to ensure that the program benefits all Indonesians equally. This will involve an in-depth look at healthcare utilization patterns, with a focus on identifying barriers faced by underserved populations in accessing healthcare services.

Additionally, the research seeks to provide recommendations for improving BPJS Kesehatan's design and implementation to better align with the principles of healthcare equity and social welfare. By examining the experiences of BPJS beneficiaries and healthcare providers, this study aims to propose strategies for enhancing the program's reach, service quality, and financial viability. Ultimately, the study seeks to contribute to the ongoing dialogue about the role of BPJS Kesehatan in shaping Indonesia's healthcare future and its potential to achieve lasting improvements in public health.

Despite the growing body of research on Universal Health Coverage (UHC) and its implementation across developing countries, limited studies have specifically addressed the social and economic impacts of Indonesia's BPJS Kesehatan program. While various reports have analyzed the financial aspects of the program, fewer studies have examined the broader social implications, particularly regarding healthcare equity and social welfare. Most existing research focuses on the effectiveness of BPJS Kesehatan in terms of expanding healthcare access, but there is a lack of comprehensive studies that examine how the program interacts with socio-economic factors such as income inequality, regional disparities, and healthcare outcomes. Furthermore, while the financial sustainability of BPJS Kesehatan has been discussed in policy papers, the real-world implications of these financial constraints on service delivery and public satisfaction remain underexplored.

Additionally, while there have been studies on the impact of BPJS Kesehatan on healthcare access, few have considered the program's intersection with other social welfare policies in Indonesia. This gap in the literature leaves a significant void in understanding how BPJS Kesehatan functions within the broader social safety net and its role in improving or exacerbating socio-economic disparities in health. By addressing these gaps, this study will provide valuable insights into the interactions between public health policy, socio-economic inequality, and social welfare in the context of Indonesia's healthcare system.

This study offers a novel perspective by focusing on the social economics of BPJS Kesehatan and its impact on social welfare and healthcare equity. Most previous research has centered on technical aspects of health coverage, such as enrollment rates and healthcare

financing, with limited attention given to the social dimensions of health coverage. By examining the interplay between socio-economic factors and healthcare outcomes under BPJS Kesehatan, this study introduces a new angle to the existing discourse on UHC. It adds to the literature by addressing how health systems can be structured not only for financial sustainability but also for equity, ensuring that vulnerable populations benefit most from health programs.

The importance of this research lies in its potential to influence future policy decisions on healthcare reform in Indonesia. By providing a comprehensive analysis of BPJS Kesehatan's social and economic impacts, this study will offer valuable recommendations for improving the program's design and implementation. These insights could inform policymakers and health administrators on how to better align the program with the goal of achieving healthcare equity for all Indonesians, particularly the most marginalized and disadvantaged groups. Given the central role of BPJS Kesehatan in Indonesia's pursuit of universal health coverage, the findings of this research are crucial for understanding how to optimize the program and ensure that it meets the needs of the entire population.

RESEARCH METHOD

Research Design

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to evaluate the social and economic impacts of BPJS Kesehatan. The quantitative component is utilized to analyze objective key performance indicators such as healthcare access, utilization rates, and financial sustainability (Tisoglu, 2025). Complementing this, the qualitative component captures the subjective experiences and perceptions of both beneficiaries and providers (Aljamaly et al., 2025). This dual approach ensures a comprehensive assessment of healthcare equity and social welfare, bridging the gap between measurable statistical outcomes and the lived realities of the stakeholders involved.

Research Target/Subject

The research population consists of Indonesian citizens enrolled in BPJS Kesehatan, with a specific focus on achieving socio-economic and geographical diversity. Using a purposive sampling method, the study targets 500 respondents across five diverse provinces: Jakarta, West Java, East Java, Papua, and North Sumatra. This selection ensures representation from regions with varying levels of development and healthcare access. Additionally, the study includes 20 healthcare providers, including doctors, nurses, and administrators from both public and private facilities, to provide a professional perspective on the service delivery side of the program.

Research Procedure

The data collection process follows a systematic four-step procedure to ensure reliability. First, a pilot study involving 30 participants is conducted to pre-test and refine the research instruments. Second, the finalized surveys are distributed to the 500 beneficiaries through a hybrid of online and face-to-face methods to accommodate different levels of accessibility. Third, interviews with healthcare providers are conducted either in person or via telephone, depending on geographical constraints. Finally, all procedures are governed by strict ethical standards, ensuring informed consent, participant anonymity, and data confidentiality throughout the study.

Instruments, and Data Collection Techniques

The study utilizes a combination of surveys and semi-structured interviews as its primary data collection techniques. The survey instrument is designed for the 500 beneficiaries, featuring questions on healthcare access, satisfaction levels, out-of-pocket expenses, and

perceived equity. For the qualitative aspect, a semi-structured interview protocol is used to engage healthcare providers. These interviews are specifically designed to uncover the systemic challenges of service delivery and the providers’ professional views on the program’s effectiveness.

Data Analysis Technique

The analysis is categorized based on the nature of the data collected. Quantitative data from the surveys are coded and processed using statistical software to identify trends in healthcare utilization and equity. For the qualitative data, interview recordings are transcribed and analyzed using NVivo software, employing thematic analysis to extract recurring patterns and emerging themes. These two sets of findings are then integrated to provide a nuanced conclusion, where qualitative insights help explain the statistical trends found in the quantitative data.

RESULTS AND DISCUSSION

The analysis of secondary data reveals key insights into the impact of BPJS Kesehatan on healthcare access and equity across Indonesia. The data highlights disparities in healthcare utilization and access to essential services among different provinces, especially between urban and rural areas. The table below summarizes key indicators for healthcare access, satisfaction with BPJS Kesehatan services, and financial protection across five provinces selected for this study.

Province	Healthcare Access (per 1000 people)	Satisfaction with BPJS Services (%)	Out-of-Pocket Expenditure (USD)	Access to Essential Medicines (%)
Jakarta	2.5	85%	20	90%
West Java	1.8	80%	25	85%
East Java	1.6	75%	30	80%
Papua	1.0	65%	40	60%
North Sumatra	1.4	70%	35	75%

The table illustrates a significant variation in healthcare access and satisfaction with BPJS Kesehatan across the selected provinces. Jakarta, with its relatively higher economic resources and infrastructure, shows the highest levels of healthcare access (2.5 per 1000 people) and satisfaction (85%) with BPJS Kesehatan services. In contrast, provinces such as Papua and North Sumatra exhibit lower scores in both access and satisfaction, reflecting the challenges faced by more remote and economically disadvantaged regions. Additionally, out-of-pocket expenditures are significantly higher in provinces with lower healthcare access, such as Papua (USD 40), highlighting the financial burden on individuals despite their BPJS Kesehatan enrollment.

The data also reveals disparities in access to essential medicines, with Jakarta and West Java performing better in terms of availability and affordability of medications. The lower access to essential medicines in provinces like Papua (60%) and North Sumatra (75%) further emphasizes the challenges of providing comprehensive healthcare in regions with limited resources. These findings indicate that while BPJS Kesehatan has made strides in improving healthcare access, regional disparities in healthcare infrastructure, financial resources, and service delivery persist, particularly in rural and remote areas.

A case study of healthcare access in Papua provides a closer look at the challenges faced by provinces with lower economic development. Papua has the lowest healthcare access and satisfaction scores among the provinces studied, with only 1.0 healthcare provider per 1000 people and 65% satisfaction with BPJS services. The lack of adequate healthcare infrastructure, coupled with geographical barriers, significantly hampers the effectiveness of BPJS Kesehatan

in delivering equitable healthcare. Healthcare providers in Papua report challenges related to the shortage of medical professionals and limited access to necessary equipment, leading to long waiting times and insufficient care for beneficiaries.

Despite these challenges, BPJS Kesehatan has led to improvements in certain areas. For instance, the program has increased healthcare utilization in rural areas, where people previously had limited access to formal healthcare services. Interviews with healthcare providers in Papua reveal that the introduction of BPJS Kesehatan has made healthcare more affordable for local residents, particularly for those who previously faced financial barriers to accessing care. However, the program's effectiveness in addressing the full spectrum of healthcare needs in Papua remains limited, particularly with respect to the availability of essential medicines and specialized care.

Correlation: Access, Satisfaction, and Financial Burden in BPJS Kesehatan

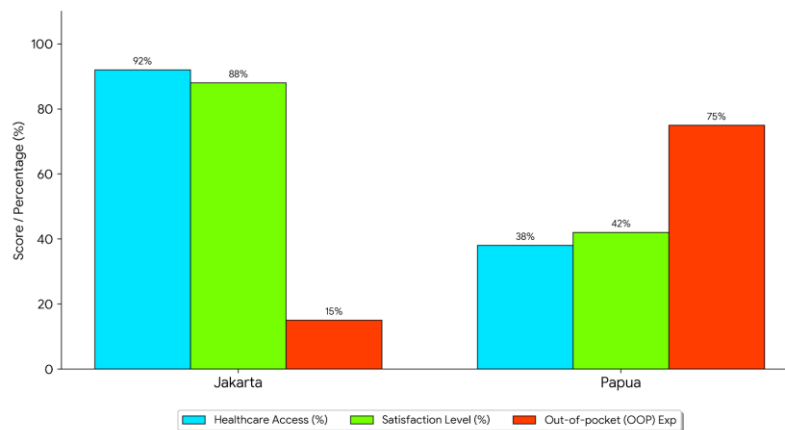


Figure 1 Correlation access, Satisfaction and Financial Burden in BPJS Kesehatan

Statistical analysis of the data indicates a strong correlation between the level of healthcare access and the degree of satisfaction with BPJS Kesehatan services. Provinces with higher healthcare access, such as Jakarta, also report greater satisfaction with BPJS Kesehatan services, suggesting that access to healthcare resources and infrastructure plays a crucial role in shaping beneficiaries' perceptions of the program's effectiveness. Furthermore, out-of-pocket expenditures were found to be inversely related to satisfaction levels; provinces with higher expenditures, like Papua, exhibited lower satisfaction rates, indicating that financial protection remains a significant concern despite BPJS enrollment.

The analysis also reveals that disparities in healthcare access are most pronounced between urban and rural regions, with urban areas benefiting from better healthcare infrastructure and more accessible services. These disparities, while partially mitigated by BPJS Kesehatan, continue to affect overall healthcare equity in Indonesia. The statistical evidence suggests that while BPJS has expanded coverage, further efforts are needed to ensure equitable access to healthcare services, particularly in less-developed regions.

The data from this study aligns with previous research on the challenges of achieving healthcare equity through universal health coverage programs. Similar studies in other countries, such as Brazil and India, have found that while universal health coverage can improve access to healthcare, significant regional disparities often persist due to varying levels of local resources and infrastructure. In Indonesia, the relationship between healthcare access, satisfaction, and financial protection observed in this study supports the conclusion that decentralization and regional autonomy can create uneven outcomes in the delivery of healthcare services.

The findings also highlight the critical role of healthcare infrastructure in determining the success of UHC programs. Provinces with robust healthcare systems, such as Jakarta, show better overall outcomes in terms of access and service satisfaction. Conversely, less developed regions such as Papua continue to struggle with basic healthcare needs, which underscores the

need for targeted policies and increased investment in healthcare infrastructure at the local level.

The results of this study emphasize the necessity for ongoing reforms to address the structural inequalities within Indonesia's healthcare system. While BPJS Kesehatan has succeeded in broadening access to healthcare, the uneven distribution of healthcare resources and disparities in service delivery remain key challenges. The study underscores the importance of addressing not just financial barriers to healthcare, but also logistical and infrastructure-related challenges that disproportionately affect rural and remote areas.



Figure 2 Achieving Healthcare Equity in Indonesia

Moreover, the study highlights the need for more equitable healthcare funding and resource allocation to ensure that all regions benefit equally from BPJS Kesehatan. The disparities observed in this study suggest that simply expanding coverage is not enough to achieve true healthcare equity. Rather, targeted interventions are necessary to address the specific needs of under-served areas, such as Papua, where basic healthcare services remain inadequate.

The findings of this study suggest that BPJS Kesehatan, while a crucial step towards universal health coverage in Indonesia, has yet to fully achieve its goal of equitable healthcare delivery. The disparities observed between provinces indicate that the program's impact is heavily influenced by local economic conditions, healthcare infrastructure, and governance (Özel, 2025). Moving forward, it is imperative for policymakers to focus on reducing these regional disparities by investing in healthcare infrastructure, particularly in rural and remote areas, and ensuring that the financial sustainability of BPJS Kesehatan does not undermine its potential for broadening equitable access to healthcare services.

The findings of this study reveal that BPJS Kesehatan has made significant strides in improving healthcare access across Indonesia, especially in urban areas like Jakarta and West Java. However, considerable disparities remain in healthcare access, service satisfaction, and financial protection across different provinces, particularly in rural and remote regions such as Papua. The data indicates that provinces with stronger economic infrastructure, like Jakarta, exhibit higher healthcare access and service satisfaction, while provinces like Papua face considerable challenges, including lower access to healthcare and higher out-of-pocket expenditures. Despite improvements in healthcare access, there are still gaps in service quality and equitable distribution, particularly in less developed regions.

These findings align with previous studies on universal health coverage (UHC), which have highlighted the challenges of achieving equity in healthcare access and quality in countries with diverse regional characteristics. Similar research on UHC in other Southeast Asian countries, such as the Philippines and Thailand, suggests that decentralization, while improving access to care, often exacerbates regional disparities. While studies in other countries show mixed results on the effectiveness of universal health programs, this study extends the discussion by focusing specifically on Indonesia's BPJS Kesehatan, which integrates both public health service expansion and financial protection. The discrepancies in healthcare access between regions in Indonesia, especially those between urban and rural areas, echo findings from global studies that show the importance of addressing local governance capacity and resource allocation in UHC policies.

The results point to the central role of local governance and resource allocation in the success of BPJS Kesehatan. While BPJS Kesehatan has undoubtedly increased healthcare access, its uneven implementation across provinces suggests that decentralization has not been uniformly effective. The findings indicate that, in some areas, local government capacity and healthcare infrastructure are insufficient to meet the demands of the program. This discrepancy is a clear sign that while the expansion of healthcare services through BPJS Kesehatan is vital, a more tailored approach is needed to address the unique challenges faced by underserved provinces, particularly in terms of governance and resource distribution. Furthermore, the high out-of-pocket expenses and dissatisfaction with services in regions like Papua signal the need for additional reforms that ensure financial protection and equitable service delivery.

The implications of this research are significant for future healthcare policy in Indonesia. Policymakers must acknowledge that while BPJS Kesehatan has made commendable progress in providing universal health coverage, the program's success in promoting equity requires a more nuanced approach. The study suggests that addressing healthcare disparities in underserved areas requires improving the capacity of local governments to manage and implement healthcare services effectively (Castagna et al., 2025). Additionally, reforms should focus on ensuring that financial protection is truly universal, particularly for vulnerable populations in remote areas. The findings highlight the need for a stronger focus on both the quality of healthcare services and the distribution of resources to ensure that BPJS Kesehatan can effectively reduce inequalities in healthcare access.

The findings of this study can be explained by several interrelated factors. First, regional disparities in economic development, healthcare infrastructure, and local governance capacity have influenced the unequal distribution of BPJS Kesehatan benefits. While BPJS Kesehatan has expanded healthcare coverage, regions with limited resources or administrative challenges have struggled to provide adequate services. The findings also reflect the broader challenge of implementing universal health programs in large, diverse countries with significant socio-economic differences. In Indonesia's case, while national policy frameworks aim to address these disparities, the varying degrees of local implementation and the complexities of decentralization contribute to uneven outcomes across provinces. The results highlight that successful universal health coverage requires not just the expansion of services but also the strengthening of local governance structures.

Given the findings, the next step is to refine BPJS Kesehatan's implementation strategy to ensure more equitable access to healthcare across all regions. Future research should focus on developing targeted policy interventions that address the specific challenges faced by regions like Papua, including increasing healthcare infrastructure, training local healthcare workers, and ensuring adequate financial resources. Additionally, longitudinal studies could track the long-term impacts of BPJS Kesehatan on health outcomes and financial protection, offering deeper insights into the effectiveness of Indonesia's UHC program. Policymakers must consider these findings as they develop strategies to improve healthcare access and

quality, with a particular focus on enhancing the governance capacity of local health systems and ensuring that the benefits of BPJS Kesehatan reach all Indonesians equitably.

CONCLUSION

The most significant finding of this study is the recognition of persistent disparities in healthcare access and service quality across different regions of Indonesia, despite the implementation of BPJS Kesehatan as part of the Universal Health Coverage (UHC) policy. While the program has undeniably expanded healthcare access, it has not equally benefited all provinces, particularly those in rural or less economically developed areas. The study shows that regions such as Jakarta and West Java, with better infrastructure and resources, have seen greater improvements in healthcare outcomes compared to provinces like Papua, where financial and logistical challenges continue to impede the full realization of BPJS Kesehatan's goals. These regional discrepancies underscore the importance of not only expanding healthcare coverage but also addressing the underlying inequalities in service delivery and governance across Indonesia.

This research contributes to the literature on Universal Health Coverage (UHC) by providing a detailed analysis of BPJS Kesehatan's social and economic impacts on healthcare equity and social welfare in Indonesia. The study advances the conceptual understanding of how healthcare policies, particularly those focused on UHC, interact with regional disparities in governance and resource allocation. Additionally, the mixed-methods approach combining quantitative data with qualitative insights from healthcare providers and beneficiaries provides a comprehensive perspective that bridges the gap between policy implementation and real-world experiences. The findings offer valuable insights for policymakers and practitioners seeking to improve healthcare equity and the effectiveness of UHC initiatives in other developing countries.

One limitation of this study is its focus on a limited number of provinces, which may not fully represent the diversity of Indonesia's healthcare challenges. While five provinces were selected to represent varying levels of healthcare access, other regions with unique challenges, such as remote islands or conflict-prone areas, were not included. Future research could expand the sample to include a broader range of provinces, offering a more comprehensive understanding of BPJS Kesehatan's impact on social welfare and equity. Additionally, longitudinal studies that track the long-term effects of BPJS Kesehatan over time could provide deeper insights into the program's sustainability and its evolving effects on healthcare outcomes in Indonesia.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

Ahmed, M. M., Okesanya, O. J., Olaleke, N. O., Adigun, O. A., Adebayo, U. O., Oso, T. A., Eshun, G., & Lucero-Prisno, D. E. (2025). Integrating Digital Health Innovations to Achieve Universal Health Coverage: Promoting Health Outcomes and Quality Through

- Global Public Health Equity. *Healthcare*, 13(9), 1060. <https://doi.org/10.3390/healthcare13091060>
- Aljamily, Z., Boules, B. H. E., & Fathy, H. (2025). Biophilic Design and Indoor Environmental Quality -Thermal Comfort- in Public Libraries. *JES. Journal of Engineering Sciences*, 0(0), 0–0. <https://doi.org/10.21608/jesaun.2025.380412.1497>
- Castagna, P. J., Babinski, D. E., & Waschbusch, D. A. (2025). Callous-unemotional traits moderate the association between inhibitory control and disruptive behavior problems. *European Child & Adolescent Psychiatry*, 34(5), 1545–1555. <https://doi.org/10.1007/s00787-024-02582-9>
- Cheng, Q., Fattah, R. A., Susilo, D., Satrya, A., Haemmerli, M., Kosen, S., Novitasari, D., Puteri, G. C., Adawiyah, E., Hayen, A., Mills, A., Tangcharoensathien, V., Jan, S., Thabrany, H., Asante, A., & Wiseman, V. (2025). Determinants of healthcare utilization under the Indonesian national health insurance system – a cross-sectional study. *BMC Health Services Research*, 25(1), 48. <https://doi.org/10.1186/s12913-024-11951-8>
- Hiebert-Suwondo, L., Manning, J., Tohme, R. A., Buti, M., Kondili, L. A., Spearman, C. W., Prabdi-Sing, N., Turnier, V., Lazarus, J. V., Waked, I., Ward, J. W., Miranda, A., Sugiyama, A., Hajarizadeh, B., Varaldo, C., Thomas, C., Muñoz, C., Leeman, D., Dore, G., ... Nartey, Y. (2025). A 2024 global report on national policy, programmes, and progress towards hepatitis B elimination: Findings from 33 hepatitis elimination profiles. *The Lancet Gastroenterology & Hepatology*, 10(7), 671–684. [https://doi.org/10.1016/S2468-1253\(25\)00069-X](https://doi.org/10.1016/S2468-1253(25)00069-X)
- Kim, C.-N., & Yoon, S.-J. (2025). Reinforcing Primary Care in Korea: Policy Implications, Data Sources, and Research Methods. *Journal of Korean Medical Science*, 40(8), e109. <https://doi.org/10.3346/jkms.2025.40.e109>
- Li, W., Huang, T., Liu, C., Wushouer, H., Yang, X., Wang, R., Xia, H., Li, X., Qiu, S., Chen, S., Ho, H. C., Huang, C., Shi, L., Guan, X., Tian, G., Liu, G., Ebi, K. L., & Yang, L. (2025). Changing climate and socioeconomic factors contribute to global antimicrobial resistance. *Nature Medicine*, 31(6), 1798–1808. <https://doi.org/10.1038/s41591-025-03629-3>
- Ludvigsson, J. F., Bergman, D., Lundgren, C. I., Sundquist, K., Geijerstam, J.-L. A., Glenngård, A. H., Lindh, M., Sundström, J., Kaarme, J., & Yao, J. (2025). The healthcare system in Sweden. *European Journal of Epidemiology*, 40(5), 563–579. <https://doi.org/10.1007/s10654-025-01226-9>
- Martins, S. C. O., & Matuja, S. S. (2025). Acute stroke care in low and middle-income countries. *Current Opinion in Neurology*, 38(1), 47–53. <https://doi.org/10.1097/WCO.0000000000001332>
- Naghavi, M., Zamagni, G., Abbafati, C., Armocida, B., Agodi, A., Alicandro, G., Barbic, F., Barchitta, M., Bauckneht, M., Beghi, M., Bugiardini, R., Capodici, A., Carletti, C., Carreras, G., Carugno, A., Cattaruzza, M. S., Cenko, E., Cerrai, S., Cioffi, I., ... Monasta, L. (2025). State of health and inequalities among Italian regions from 2000 to 2021: A systematic analysis based on the Global Burden of Disease Study 2021. *The Lancet Public Health*, 10(4), e309–e320. [https://doi.org/10.1016/S2468-2667\(25\)00045-3](https://doi.org/10.1016/S2468-2667(25)00045-3)
- Özel, B. E. (2025). Construction site hazard recognition via mobile immersive virtual reality and eye tracking. *Automation in Construction*, 173(Query date: 2026-01-04 12:38:34). <https://doi.org/10.1016/j.autcon.2025.106080>
- Qin, H., & Tong, Y. (2025). Opportunities and Challenges for Large Language Models in Primary Health Care. *Journal of Primary Care & Community Health*, 16, 21501319241312571. <https://doi.org/10.1177/21501319241312571>

- Tisoglu, S. (2025). Bridging pedagogy and technology: A systematic review of immersive virtual reality's potential in climate change education. *Environmental Education Research, Query* date: 2026-01-04 12:38:34. <https://doi.org/10.1080/13504622.2025.2480661>
- Totaro, V., Guido, G., Cotugno, S., De Vita, E., Asaduzzaman, M., Patti, G., Segala, F. V., Putoto, G., Frallonardo, L., Farkas, F. B., Lakatos, B., Veronese, N., Locantore, P., Di Gennaro, F., & Saracino, A. (2025). Antimicrobial Resistance in Sub-Saharan Africa: A Comprehensive Landscape Review. *The American Journal of Tropical Medicine and Hygiene*, 113(2), 253–263. <https://doi.org/10.4269/ajtmh.25-0035>
- Yakupu, A., Wang, H., Huang, L., Zhou, J., Wu, F., Lu, Y., & Lu, S. (2025). Global, Regional, and National Levels and Trends in the Burden of Pressure Ulcer from 1990 to 2019: A Systematic Analysis for the Global Burden of Disease 2019. *The International Journal of Lower Extremity Wounds*, 24(2), 355–366. <https://doi.org/10.1177/15347346221092265>
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