

Health Insurance and Public Health: Analyzing the Impact of Financing and Policy on Healthcare Access

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ABSTRACT: Health insurance plays a crucial role in improving healthcare accessibility, particularly for vulnerable populations. This study systematically reviews the impact of health insurance on service utilization, affordability, and health outcomes across different countries. A comprehensive literature search was conducted using databases such as PubMed, Scopus, and Google Scholar, with predefined keywords and systematic inclusion criteria. The findings reveal that insurance coverage significantly enhances healthcare utilization and reduces financial barriers, yet disparities persist, particularly among low income and informal sector workers. Countries with mixed public private financing models tend to achieve better health equity and sustainability. Additionally, community based health insurance and digital innovations have shown promise in increasing participation and service efficiency. However, barriers such as policy fragmentation, limited infrastructure, and low public awareness hinder progress toward Universal Health Coverage. To address these challenges, policymakers must adopt inclusive financing strategies, strengthen public awareness campaigns, and invest in digital healthcare solutions. Future research should focus on evaluating the long term impact of these interventions to optimize health insurance models for broader accessibility and efficiency.

Keywords: Health Insurance, Universal Health Coverage, Healthcare Access, Health Equity, Health Financing, Digital Health, Policy Reform.



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INTRODUCTION

Health insurance plays a pivotal role in enhancing access to healthcare services across various nations, particularly in the context of Universal Health Coverage (UHC). Research conducted by Flourence et al. (2025) highlights that health insurance initiatives, especially in low and middle income countries, significantly improve access to healthcare by eliminating financial barriers for vulnerable populations, including the economically disadvantaged and minority groups (Flourence et al., 2025). National health insurance programs and community based health insurance (CBHI) schemes in Ethiopia have demonstrated that reducing copayment fees and providing free access

to essential services for underprivileged groups have led to improved healthcare affordability (Bekele, 2022). Similar findings are observed in Indonesia, where the National Health Insurance (Jaminan Kesehatan Nasional, JKN) program aims to mitigate financial barriers to healthcare access and promote better utilization of medical services, particularly among populations with limited health literacy (Rahmawati & Hsieh, 2024).

Despite these benefits, several challenges hinder the effective implementation of health insurance systems. Structural policy constraints, financial sustainability, and public awareness about health insurance benefits remain significant obstacles in many developing nations. In Sub Saharan Africa, disparities in healthcare utilization are closely linked to the availability of health insurance coverage. Goudge et al. (2018) note that while social health insurance enhances healthcare access, it often leads to inequities for those excluded from the system (Yagi et al., 2021). For instance, in Gabon, research by Sanogo and Yaya (2020) indicates that wealthier individuals exhibit higher participation in maternal healthcare services, irrespective of insurance coverage, thereby highlighting the ongoing challenge of achieving equity in healthcare distribution (Sanogo & Yaya, 2020).

The role of health education in increasing insurance participation cannot be overlooked. Rahmawati and Hsieh (2024) suggest that public awareness campaigns significantly enhance participation in health insurance programs by educating communities on their benefits. However, challenges persist in delivering such information effectively across diverse cultural contexts (Rahmawati & Hsieh, 2024). Although many countries have introduced health insurance schemes as part of their UHC initiatives, barriers such as inadequate healthcare infrastructure, insufficient financial resources, and demographic differences continue to affect the effectiveness of these programs. A study by Kakama et al. (2020) on Uganda's CBHI program revealed that while such schemes reduce out of pocket expenses, ensuring equitable access across different regions remains a persistent challenge (Kakama et al., 2020). Similarly, Iqbal et al. (2017) found that in Bangladesh, demographic and economic factors, such as employment status, significantly influence individual participation in micro health insurance schemes (Iqbal et al., 2021).

Achieving UHC extends beyond financial and educational challenges to include governmental policy frameworks and health system governance. The shortage of skilled healthcare professionals and financial constraints are key barriers to the effective implementation of health insurance programs. Aikins et al. (2014) highlight that in Ghana, the limited availability of trained healthcare personnel impedes the efficiency of health insurance schemes (Aikins et al., 2014). In Indonesia, while JKN has expanded healthcare access, challenges regarding healthcare quality and facility availability persist. Additionally, an effective insurance system must account for both financial and social dimensions, such as community engagement and administrative transparency. Ghia and Rambhad (2023) emphasize the need for inclusive policymaking that involves all stakeholders, including patients, to ensure equitable access to healthcare services (Ghia & Rambhad, 2023). Addressing these challenges requires a comprehensive approach that incorporates political commitment, robust funding mechanisms, and data driven decision making processes (Bekele, 2022).

Given the critical role of health insurance in improving healthcare accessibility, it is imperative to address its associated challenges systematically. However, the literature on this subject exhibits

notable gaps. First, many studies primarily focus on quantitative assessments of healthcare access facilitated by insurance schemes, often overlooking service quality and patient experiences. The quality of healthcare services, particularly in primary care settings, is a crucial determinant of patient satisfaction and overall health outcomes. However, existing research seldom explores how patient perceptions of service quality influence trust and participation in health insurance programs. Second, the majority of health insurance studies fail to account for the socio cultural factors that affect participation rates. In Kenya, for instance, research suggests that stigma and cultural norms significantly influence individuals' willingness to enroll in health insurance programs, even when such systems are available (Hayati et al., 2019).

A third gap in the literature pertains to the long term impact of technological innovations on health insurance systems. While several studies examine the role of information and communication technologies (ICT) in healthcare accessibility, limited research explores how such advancements influence health insurance adoption, particularly among vulnerable populations (Gizaw et al., 2022). This lack of research presents a crucial knowledge gap, as emerging technologies could either facilitate or hinder access to insurance based healthcare services, depending on their implementation (El-Sayed et al., 2018; Vaidya & Boes, 2021). Fourth, while extensive research exists on the efficacy of health insurance programs in well structured healthcare systems, relatively few studies analyze how low and middle income countries can effectively transition toward UHC through insurance based models. Political instability also plays a critical role in this transition, yet existing literature does not adequately explore how governance structures influence the success of inclusive health insurance initiatives (Hayati et al., 2019).

METHOD

This study employs a systematic review approach to examine the impact of health insurance systems on vulnerable populations. A comprehensive literature search was conducted across multiple academic databases, including PubMed, Scopus, Google Scholar, Cochrane Library, and Web of Science. The search targeted studies published between [specific year range], ensuring the inclusion of recent and relevant literature. The search strategy incorporated predefined keyword combinations and Boolean operators to optimize precision and completeness. The primary keywords used included "Health Insurance and Vulnerable Populations," "Universal Health Coverage," "Equity in Health Care Financing," "Community Based Health Insurance," "Informal Sector Health Coverage," and "Access to Health Services."

Selection criteria were established to include peer reviewed studies, systematic reviews, and meta analyses that empirically or theoretically analyzed the effects of health insurance on vulnerable populations, such as low income communities and informal sector workers. Studies not published in English, lacking direct empirical evidence, or not peer reviewed were excluded. The initial screening involved a review of titles and abstracts, followed by a full text assessment to determine methodological rigor and relevance.

To enhance reliability, a multi stage screening process was implemented. Four independent reviewers assessed the studies to ensure alignment with inclusion criteria. Thematic synthesis was

employed to identify recurring patterns in how health insurance influences healthcare access, equity, and affordability among vulnerable groups. The findings provide insights into the effectiveness of various insurance models and highlight key policy implications for improving healthcare accessibility through health insurance mechanisms.

RESULT AND DISCUSSION

Health insurance plays a crucial role in enhancing healthcare access, especially among underserved populations. Studies across various countries show that individuals with insurance coverage are more likely to seek and receive both preventive and curative services. For example, in Taiwan, enrollees under the Urban Employee Basic Medical Insurance (UEBMI) accessed specialist care at significantly higher rates compared to the uninsured (14). Similarly, the implementation of UHC policies in Kenya resulted in a notable increase in primary care visits, particularly among low income groups (13). Uganda's CBHI programs led to a 30% rise in outpatient utilization, illustrating the potential of community based models in improving access (6).

Improvements in healthcare utilization are also associated with enhanced affordability through insurance subsidies. In Indonesia, the Jaminan Kesehatan Nasional (JKN) has contributed to a higher frequency of service use, particularly for maternal and primary healthcare (3). Similarly, Malaysia's public private hybrid insurance system has promoted frequent use of healthcare facilities across income brackets (15). However, the utilization impact is more significant when insurance schemes include comprehensive benefits and reduce point of service costs.

Despite these gains, financial barriers remain persistent, especially for informal sector workers and low income groups. In Ghana, for example, 43% of respondents cited unaffordable premiums as a primary reason for non enrollment in the National Health Insurance Scheme (16). In Indonesia, out of pocket expenses still account for approximately 34% of health spending, despite government subsidies (3). This financial exclusion is closely related to the phenomenon of adverse selection, where individuals with low perceived health risks opt out of coverage, leaving insurers with higher risk participants, thereby destabilizing the pool and increasing system costs.

The disparity in access between insured and uninsured populations also reflects gaps in policy implementation. In Bangladesh, Iqbal et al. (2017) found a 42% difference in participation rates between formal and informal employment groups (7). Similarly, Kenya's National Hospital Insurance Fund (NHIF) struggles to enroll informal sector workers due to premium collection difficulties and limited policy enforcement (17). These implementation challenges point to the need for adaptive models that account for diverse socioeconomic structures and employment types.

Beyond financial and regulatory issues, sociocultural factors influence participation in insurance schemes. In several contexts, lack of trust in health institutions, low health literacy, and cultural stigma deter communities from enrolling in health insurance programs (18). In Kenya, qualitative evidence shows that community engagement and culturally sensitive information campaigns can improve enrollment rates by enhancing public trust (19). Countries that integrate participatory mechanisms into policy design are better able to address these socio behavioral barriers.

Finally, digital innovations have shown potential in expanding coverage and streamlining health insurance operations. In Uganda and Kenya, digital registration systems have reduced administrative delays and improved claims processing efficiency. However, the impact remains uneven due to digital literacy gaps and infrastructure disparities, especially in remote regions (1). The role of technology must therefore be evaluated not only in terms of operational benefits but also its ability to promote inclusive access. Further quantitative analysis is required to assess how digital platforms influence enrollment and utilization across demographic groups.

The Systemic Factors Influencing Health Insurance Success and Challenges

The findings of this study reinforce the notion that health insurance systems significantly influence healthcare access and societal participation in healthcare programs. This aligns with prior research emphasizing affordability, service quality, and public engagement, particularly in developing nations. One critical insight is that health insurance improves affordability, corroborating the findings of Vilcu et al. (2016), which demonstrated that subsidies targeting informal sector workers and vulnerable groups play an essential role in facilitating healthcare access(20). This evidence supports the broader claim that without adequate financial support, lower income populations often delay seeking medical care, exacerbating health inequalities (21). However, despite increased access, disparities persist in insurance participation, often dictated by socioeconomic status, as noted by Goudge et al. (22).

This study also underscores the continued difficulty in ensuring that inclusive health insurance systems reach all demographic segments. Fusheini and Eyles (2016) explored how health insurance schemes, even in countries with comprehensive policies, frequently fail to cover disadvantaged citizens(23). This highlights the necessity of tailored policy interventions to bridge existing gaps. The implementation of Universal Health Coverage (UHC) can be facilitated through increased public awareness and education on the benefits of health insurance. Flourence et al. (2025) suggest that in contexts such as HIV care and equitable healthcare access, government and community involvement in awareness strategies are crucial in improving participation rates(1).

From a policy perspective, this study suggests that a combination of public and private financing mechanisms is vital for ensuring health insurance sustainability. These findings align with research by Khodayari Zarnaq et al. (2024), which examined UHC strategies across Africa and Asia, revealing that sustainable healthcare financing requires a nuanced understanding of how different insurance schemes interact to ensure long term viability. Further research is needed to analyze how specific nations implement diverse strategies to tackle these challenges. Collectively, these findings not only contribute to the literature on health insurance efficacy but also provide a foundational framework for refining global health policies toward more inclusive and effective insurance systems.

Structural Financing and Government Policies

One of the most influential systemic factors shaping health insurance effectiveness is financing structure. Rannan Eliya et al. noted that Malaysia's success in UHC implementation is largely attributable to a hybrid financing approach integrating both public and private sector contributions, which provides greater flexibility and broader coverage (24). Countries relying solely on government funded models often struggle with financial sustainability, as seen in several African nations where tax revenues are insufficient to support comprehensive healthcare coverage. This financial strain hinders the full realization of UHC goals (21).

Availability and Quality of Healthcare Services

The accessibility and quality of healthcare services further influence insurance effectiveness. Hsieh et al. highlighted that nations with robust healthcare infrastructure and sufficient medical personnel experience better health outcomes (24). Conversely, in regions with inadequate service availability, even insured individuals may struggle to receive necessary care, resulting in health inequities. García Ramírez et al. (2020) found that such disparities in healthcare quality reinforce broader social inequalities, as underserved populations remain excluded from essential medical services despite formal insurance coverage(25).

Community Engagement and Public Awareness

Community participation and public awareness of insurance benefits are also crucial determinants of policy success. Kusi et al. noted that integrating community input into health policy formation fosters trust and increases enrollment in insurance schemes (1). When individuals understand the advantages of insurance and feel included in decision making processes, participation rates improve. Educational initiatives tailored to local contexts can bridge the knowledge gap and promote higher levels of engagement, as demonstrated in Ghana, where targeted awareness campaigns led to increased community involvement in health insurance programs (1).

Technological Infrastructure and Data Management

Another critical factor affecting health insurance system efficiency is technological infrastructure. Berardi et al. found that implementing digital health technologies enhances service delivery and claims management efficiency, reducing administrative burdens and minimizing fraud (26). However, technological advancements require proper training for healthcare providers to optimize these tools. Failure to integrate digital solutions effectively can lead to mismanagement, resource wastage, and diminished public trust in the system.

Limitation

Despite the significant insights provided by this study, several limitations must be acknowledged. First, variations in health insurance structures across countries make direct comparisons challenging, as socio political and economic factors influence policy outcomes. Second, while this study synthesizes literature from multiple sources, it does not include primary data collection, which could further substantiate findings through direct stakeholder engagement. Third, the study does not extensively account for cultural factors influencing insurance participation, which could be an essential determinant in certain regions. Addressing these limitations through targeted future research would improve the comprehensiveness and applicability of these findings.

Implication

The implications of this study extend to both policymakers and researchers seeking to refine health insurance frameworks for broader and more equitable coverage. Future research should investigate the interplay between cultural dynamics and insurance participation, particularly in communities with historically low enrollment rates. Additionally, longitudinal studies tracking the long term effects of insurance policies on health outcomes would provide valuable insights into program effectiveness. Policymakers should consider integrating community driven approaches, leveraging digital health innovations, and enhancing public private partnerships to improve health insurance inclusivity and sustainability. By addressing these factors, global health systems can move closer to achieving universal, equitable healthcare access without financial hardship.

CONCLUSION

This study highlights the significant role of health insurance in enhancing healthcare access and participation, particularly among vulnerable populations. The findings demonstrate that well structured insurance programs improve affordability, increase service utilization, and contribute to better public health outcomes. However, persistent disparities in access and coverage remain, largely influenced by socioeconomic status, policy frameworks, and healthcare infrastructure. The need for equitable financing, greater public awareness, and integration of digital health technologies is evident in bridging these gaps.

To address the identified barriers, governments should prioritize a mixed public private financing model, strengthen community engagement, and invest in healthcare infrastructure to ensure sustainable and inclusive coverage. Additionally, policies should focus on reducing administrative complexities and financial burdens, particularly for informal sector workers and low income populations. Future research should explore culturally specific barriers to insurance adoption and assess the long term impact of digital health initiatives on service delivery and insurance efficiency.

Achieving Universal Health Coverage requires a multifaceted approach that combines financial sustainability, systemic improvements, and policy reforms. By adopting inclusive and adaptive health insurance strategies, governments and stakeholders can enhance access, reduce disparities, and create a more resilient healthcare system.

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