Health Insurance Model In The Perspective Of Health Economics: Transformation, Regulation, And Implementation In Indonesia

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Abstract.

Health insurance is an important component of the health financing system that aims to ensure equitable and sustainable access to health services. From a health economics perspective, the insurance system is able to mitigate the financial risk of illness while managing the efficiency and distribution of financing collectively. This study examines the development of health insurance models in Indonesia, ranging from traditional, modern, to managed care models, and analyses the challenges and implementation strategies of the National Health Insurance (JKN) programme by BPJS Kesehatan. A qualitative approach based on literature study was used with data sources from scientific journals, national regulations, BPJS Kesehatan reports, and public policy documents.The results show that the traditional model tends to be inefficient because it is prone to overutilisation and fraud. Modern models and managed care provide solutions through quality and cost control. However, the implementation of JKN in Indonesia still faces various challenges, such as delays in claim payments, moral hazard, and financing imbalances. One strategy for system sustainability is through the optimisation of participant fund assets, which can be productively invested to support promotive services, infrastructure, and strengthening the healthcare system. With transparent governance, the results of this asset optimisation can be returned for the benefit of the wider community. This study is expected to be a scientific contribution in supporting health financing policy reforms that are inclusive, efficient, and sustainable.

Keywords: *Health Insurance; Health Economics; JKN; Insurance Model and Managed Care.*

I. INTRODUCTION

Health insurance has become an important foundation in efforts to achieve Universal Health Coverage (UHC) in various countries, including Indonesia. According to WHO, equitable and sustainable health financing is key to improving access to health services and protecting people from the financial burden of illness. A health insurance system allows people to get health services without cost barriers, thus preventing poverty due to catastrophic health expenditure [1].In Indonesia, the transformation of the health insurance system has experienced significant developments since the implementation of the National Health Insurance (JKN) programme in 2014, which is managed by the Health Social Security Organising Agency (BPJS). This programme is a concrete form of implementation of the national social insurance system, which aims to ensure health protection for all Indonesian citizens. JKN coverage continues to increase, and by 2023 will cover more than 90% of the population [2].However, despite the increase in coverage, the JKN system still faces serious challenges in management and financial efficiency. One of the most glaring problems is the number of hospital complaints about delays in claim payments by BPJS Kesehatan.Data from the Association of Indonesian Private Hospitals (ARSSI) noted that by mid-2023, more than 400 private hospitals experienced delays in claim payments totalling trillions of rupiah [29,30]. These delays not only impact hospital liquidity, but also have the potential to disrupt the quality of health services to JKN participants [32].In addition, complex claims systems and manual verification often trigger data discrepancies, and open the door to fraud [33].

These problems indicate that the current insurance model is still not fully efficient, both in terms of service quality control and fund management [31]. This reinforces the urgency to re-evaluate the health insurance management model to make it more adaptive and transparent. From a health economics perspective, health insurance is not only an instrument for individual protection, but also a tool for managing

collective resources to achieve system efficiency. Insurance models are evolving from traditional reimbursement-based systems to modern models based on risk management and data integration, as well as managed care models that prioritise cost and quality control [4,5]. This transformation aims to ensure the effective utilisation of public funds and ensure better quality and equitable health services. The implementation of the health insurance model is strongly influenced by regulations. The Indonesian government has issued various regulations supporting health financing, such as Law No. 40 Year 2004, Presidential Regulation No. 82 Year 2018, and Minister of Health Regulation No. 21 Year 2020 [6-8]. However, challenges such as low insurance literacy, health infrastructure inequality, and financing imbalance between contributions and claims are still ongoing [9,31].Against this background, this study aims to critically review the health insurance models that have been and are being implemented in Indonesia, and provide a strategic analysis from a health economics perspective. The aim is to strengthen the argument for the need to reform the insurance model to make the health financing system in Indonesia more efficient, transparent, and sustainable.

II. METHODS

This research uses a qualitative approach through library research. Data sources came from national and international scientific journals published between 2020 and 2024, official policy documents, and regulations related to the health financing and insurance system in Indonesia. The literature was purposively selected based on the suitability of the topics, namely health insurance models, effectiveness of JKN implementation, and economic and regulatory challenges. The analysis was conducted by categorising the content into broad themes such as traditional, modern, managed care models, and policy constraints and recommendations [16]. This study also referred to the WHO and Indonesian Ministry of Health's financing system evaluation framework[1,2,9].

The data collection process was conducted by searching the Google Scholar database, PubMed, and official government portals, including documents from BPJS Kesehatan, the Indonesian Ministry of Health, and relevant OJK regulations. Searches were conducted using the keywords "health insurance model", "JKN", "managed care", and "health economics". Data validity was determined through analysing and sorting data based on policy relevance and the Indonesian context. The findings are presented in descriptive narrative form, reflecting the relationship between theoretical concepts and health insurance policy implementation in Indonesia.

III. RESULTS AND DISCUSSION

The discussion in this section will outline the development of the health insurance model, its implementation within the framework of the National Health Insurance (JKN), supporting policies and regulations, as well as challenges and strategies from a health economics perspective. Understanding the dynamics of health insurance is important to assess the effectiveness and sustainability of the health financing system in Indonesia.

1. Health Insurance Model

The health insurance model has undergone significant changes over time. The traditional model, which is based on reimbursement and fee-for-service (FFS), allows participants to choose health facilities freely without any coordination between insurance and service providers. The advantage is flexibility in service selection, but the disadvantage lies in the absence of control over financing and quality, as well as a high risk of moral hazard [4]. In addition, this model tends to encourage overutilisation because the payment system is based on the volume of services, not on outcomes [5].In response to these weaknesses, modern models have emerged that utilise value-based approaches and risk management. In this model, claims and insurance premiums are calculated based on actuarial, epidemiological data, and digital information systems [17,18].

Providers and insurers have co-operation contracts so that services can be better controlled and geared towards cost-effectiveness [25]. The modern model also incentivises efficient and quality care by applying the principles of value-based care [5].An increasingly adopted model is managed care. This model

integrates financing and services in a closed system that aims to control costs, improve efficiency, and ensure quality of care [27]. The hallmarks of managed care are a gatekeeper system, a limited provider network, and capitation or bundling payments [2,6].JKN in Indonesia is a clear example of a nationwide managed care system. In this system, participants are required to start treatment at the first-level facility before being referred to advanced facilities, and the entire process is controlled through digital mechanisms and strict regulations.

2. Model Implementation in JKN System

The JKN programme, which began in 2014, has been a major transformation in health financing in Indonesia. The programme implements managed care principles through a tiered referral system, capitation at the FKTP level, and a quality control and cost control system [2]. Some of JKN's supporting programmes include Prolanis (Chronic Disease Management Programme), PRB (Reverse Referral Programme), and early screening of non-communicable diseases such as cervical and breast cancer [7,8]. These programmes help reduce the burden of curative financing and promote cost control through chronic disease prevention [22].

However, a number of challenges are still faced in the implementation of JKN.One of them is low participant literacy in understanding service rights and procedures. Many participants do not understand that services at FKTP are mandatory entry points, resulting in frequent direct referrals that are not in accordance with the provisions. In addition, there are still gaps in the availability of facilities and medical personnel, especially in remote areas [3].In terms of financing, BPJS Kesehatan's budget deficit is still a structural challenge [15]. The imbalance between participant contributions, especially from the Contribution Assistance Recipient (PBI) segment, and the claims burden means that the system must continue to be supported by the state budget. The financing model needs to be re-evaluated to be more adaptive and sustainable[2,9].

3. Supporting Policies and Regulations

The success of JKN cannot be separated from strong government policy support

[11]. Law No. 40 Year 2004 is the legal basis for the implementation of national social security, with the principles of mutual cooperation and social justice [6].Presidential Regulation No. 82/2018 establishes comprehensive health service coverage and membership mechanisms [7]. This regulation is strengthened by Minister of Health Regulation No. 21 of 2020 which encourages the integration of promotive and preventive services in the JKN financing system, through a non-communicable disease control approach [8].In addition to health regulations, the role of the Financial Services Authority is also important, especially in the supervision of private insurance providers and consumer protection. POJK No. 69/POJK.05/2016 regulates the governance of insurance companies including the risk of moral hazard and responsibility towards consumers [10]. These regulations create a legal framework that supports the implementation of a fair, transparent, and sustainable insurance system [12,19,20].

4. Participant Fund Asset Optimisation Strategy

In a social insurance system such as JKN, participant funds collected in the form of contributions are an important asset managed by BPJS Kesehatan. Optimisation of these assets is a key strategy in maintaining the sustainability of the financing system and ensuring that the available funds can provide long-term benefits to the community. Optimisation is carried out through the placement of funds in investment instruments that are in accordance with prudential principles, and refer to regulations from OJK and the Ministry of Finance.In accordance with the BPJS Kesehatan report in 2023, unutilised social security funds (reserve funds) are mostly placed in deposits and government securities (SBN) [2,31]. This investment aims to generate safe returns while still providing added value. Proceeds from these investments are returned to support the financing of JKN participant benefits, such as financing PRB programmes, Prolanis, and cross-subsidies for vulnerable groups [30].

However, the effectiveness of this asset optimisation still requires strengthening the strategy. A study from the Ministry of Finance suggested that social security funds could be more flexibly allocated to social impact investments such as health infrastructure, digital service technology, or primary care development in underdeveloped areas [34]. This would not only increase the value of the investment, but also provide direct benefits to the national healthcare system.To realise this, transparent and accountable investment governance

is required.The government through OJK has issued POJK No. 85/POJK.05/2022 on Investment Governance of Social Security Funds, which emphasises the principles of prudence, transparency and regular reporting [35]. This strategy is in line with the practice of other countries such as South Korea and Germany that allocate surplus social funds to build service infrastructure and support primary service innovation [36].Thus, the optimisation of participant fund assets is not just a matter of financial management, but is part of a long-term inclusive and sustainable health development strategy.

5. Health Economic Challenges and Strategies

From a health economics perspective, health insurance serves to protect the public from financial risks as well as to organise the efficient distribution of health resources [13,14]. However, implementation on the ground still faces major challenges. One of the main challenges is the presence of moral hazard from both participants (overutilisation of services without indications) and providers (upcoding of claims or mark-up of services) [3,9].Strategies include improving internal audit systems and using information technology such as big data and AI to detect fraud patterns [28]. Integration of claims systems with electronic medical records can improve transparency and efficiency of claims verification [21,23]. In addition, pay-for-performance systems can motivate providers to provide quality and appropriate services [2,5,12].

Public education programmes should be intensified so that people understand the benefits of health insurance, how the referral system works, and the importance of utilising preventive services. Increased literacy will reduce the burden of future curative claims and strengthen the role of prevention in the system [24,26].Strengthening the incentive system for health facilities that successfully manage promotive and preventive programmes also needs to be a priority in order to create a paradigm shift in national health services.With these aspects in mind, strengthening health insurance systems such as JKN requires synergy between the government, providers, participants, and financial system supervisors. This will ensure that the health financing system can continue to be sustainable, equitable, and fair in accordance with the principles of modern health economics.

IV. CONCLUSION

The health insurance system is an essential component of health development and social protection in Indonesia. Through the evolution from traditional to modern models and finally to the managed care model, this system has experienced improvements in terms of financing, risk management, and quality of service. The National Health Insurance (JKN) managed by BPJS Kesehatan is a concrete representation of the implementation of a managed care model that prioritises the integration of financing and services. The tiered referral system, capitation payments, and various programmes such as the Chronic Disease Management Programme (Prolanis) and the Reverse Referral Programme (PRB) have shown policy directions based on efficiency and prevention of chronic diseases.However, the implementation of JKN in the field has not been completely free from structural challenges. Low participant literacy, health facility disparities, and financing imbalances between participant segments are still crucial issues. In addition, moral hazard from both participants and providers threatens the sustainability of the system. In the context of health economics, this is a major concern because it concerns the efficiency of resource allocation and long-term fiscal sustainability.Therefore, efforts to improve the effectiveness of the health insurance system require a multi-sectoral and good governance-oriented approach. Strategies that need to be emphasised include strengthening regulations, integrating health information systems, increasing the capacity of human resources, and providing incentives to providers who run promotive and preventive programmes optimally.

The implementation of performance-based payment systems and information technology-based audits are also solutions to reduce the potential for fraud and improve service quality.One important strategy emerging in the context of health economics is the optimisation of assets from JKN participant funds. These funds, if managed efficiently and according to good governance principles, can generate sustainable investment surpluses. The return on investment can be reused to support promotive services, strengthen primary care, and build health infrastructure, especially in underserved areas.Furthermore, education to the public must be systematically intensified so that they understand the benefits of health insurance, referral procedures, and the importance of active involvement in maintaining health. The success of this system is

not only determined by policy design, but also by community participation and the quality of implementation at the field level.With a collaborative and data-driven approach, Indonesia can realise an inclusive, equitable and sustainable health insurance system. This is in line with national health development goals and global commitments to achieve Universal Health Coverage (UHC). Therefore, health insurance is not just an instrument of individual protection, but also an important foundation in economic development and overall community welfare.

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