

## Economic Enabling Factors and the Sustainability of Indonesia's National Health Insurance: Evidence from Hospital Utilization

Sofia<sup>1\*</sup>, Agam Fadhila<sup>1</sup>, Syarifuddin<sup>1</sup>, Arif Asridin<sup>1</sup>

<sup>1</sup>Universitas Negeri Jakarta, Indonesia

\*Corresponding Author, Email: [soldamilia@gmail.com](mailto:soldamilia@gmail.com)

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### Abstract

The Indonesian National Health Insurance (JKN) program is one of the largest public health financing schemes in the world, aiming to ensure equitable access to health services while maintaining fiscal sustainability. Hospital utilisation, particularly outpatient and inpatient care, significantly impacts the program's financing and long-term sustainability. This study analyses enabling factors, such as hospital availability, referral patterns, and INA-CBG claim rates, and their economic implications for the sustainability of JKN. Using BPJS Kesehatan claim data from 2016–2019, we conducted bivariate analysis to assess correlations between enabling factors and hospital visit rates. Results show that higher INA-CBG rates, more hospital availability, and higher referral proportions are positively correlated with utilisation, thereby increasing health expenditures. From an economic perspective, these findings highlight the tension between access and sustainability, where expanding utilisation without adequate cost containment may jeopardise fiscal stability. The study concludes that strategic purchasing, equitable hospital distribution, and optimised referral mechanisms are critical economic strategies for ensuring the sustainability of JKN as part of Indonesia's contribution to sustainable development.

**Keywords:** *Health Economics, Hospital Utilization, Sustainable Development, Strategic Purchasing.*

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### INTRODUCTION

The National Health Insurance (JKN) scheme, launched in 2014, represents Indonesia's commitment to universal health coverage (UHC) and sustainable development, particularly in line with Sustainable Development Goals (SDG 3: good health and well-being, and SDG 8: decent work and economic growth). Beyond its role as a social protection system, JKN is also a major macroeconomic instrument, influencing household welfare, labour productivity, and national fiscal stability.

In health economics, insurance programs like JKN involve balancing three core objectives: equity (universal access), efficiency (optimal use of limited resources), and sustainability (maintaining long-term financing). Hospital utilisation is a key determinant of JKN's expenditure, making it crucial to understand the economic enabling factors that drive utilisation patterns.

Theoretical frameworks from economics and business are relevant here. Andersen's model highlights enabling factors such as financial resources and access to facilities. From a health economics perspective, these factors interact with issues like supplier-induced demand, principal-agent problems, and externalities. Meanwhile, sustainability in health financing involves ensuring that expenditures are

aligned with revenue generation without compromising access or quality.

This study aims to identify and analyse the economic enabling factors that influence outpatient (RJTL) and inpatient (RITL) hospital visits among JKN participants. By linking health service utilisation with cost implications, this paper contributes to the discourse on sustainable health financing and policy reforms.

### METHODS

This quantitative study used secondary data from BPJS Kesehatan claims across all collaborating hospitals between 2016 and 2019. The total dataset included 308,911,815 outpatient claims and 42,793,828 inpatient claims. Variables included: Dependent variables: hospital visit rates (RJTL and RITL per 1,000 participants) and Independent variables (enabling factors): INA-CBG unit costs, number of hospitals by class (A–D), and referral ratios from primary care facilities (FKTP).

Bivariate correlation analysis was applied to determine associations between enabling factors and utilisation rates. The analysis framework reflects the interaction between economic enablers and service consumption, with implications for fiscal sustainability.

## RESULTS AND DISCUSSION

Univariate analysis shows average outpatient visit rates of 28.29 per 1,000 participants and inpatient rates of 4.79 per 1,000 participants. The mean outpatient unit cost was IDR 246,580, while inpatient services averaged IDR 3,692,072 per claim. Most hospitals available to JKN participants were in classes C and D, while higher-class hospitals (A and B) were less prevalent. Bivariate correlation analysis revealed:

1. Claim costs had a strong positive correlation with both RJTL and RITL rates.
2. Number of hospitals (particularly class B and C) positively correlated with visit rates.
3. Referral ratios significantly influenced both outpatient and inpatient utilisation.

These results confirm that economic enabling factors, financing mechanisms, facility availability, and referral flows are strongly associated with utilisation patterns, which in turn drive JKN expenditures. The findings illustrate the economic tension between expanding access and maintaining sustainability. From a health economics perspective:

1. Health Service Costs: Rising claim costs, especially for inpatient services, increase fiscal pressure on JKN. This reflects the classic cost-escalation challenge in insurance systems. Without cost containment, expenditure growth may outpace revenue, leading to persistent deficits.
2. Hospital Availability: Expanding hospital infrastructure improves access but also induces higher utilisation, consistent with supplier-induced demand (SID) theory. The uneven distribution of hospitals also creates inequities, requiring strategic investment to balance accessibility and efficiency.
3. Referral Patterns: The gatekeeping role of primary care is essential for cost control. Weak referral systems increase unnecessary hospital visits, reducing system efficiency. This aligns with agency theory, where misaligned incentives between patients, providers, and payers can increase costs.

From a business and management perspective, hospitals face dual pressures: meeting service demand while maintaining financial viability. For BPJS Kesehatan as the purchaser, strategic purchasing contracting with providers based on performance, quality, and cost-effectiveness is vital for achieving value for money.

In the context of sustainability, JKN's long-term viability depends on balancing social objectives with economic constraints. This requires integrating health financing policies with broader fiscal policy, ensuring that health expenditure growth aligns with economic growth.

## CONCLUSION

This study confirms that hospital utilisation under JKN is strongly influenced by economic enabling factors such as claim costs, hospital availability, and referral ratios. While these factors expand access, they also drive higher expenditures, creating sustainability challenges. From an economic and policy perspective, sustaining JKN requires:

1. Continuous evaluation of INA-CBG tariffs to ensure cost-effectiveness and equity.
2. Strengthening referral systems to optimise primary care gatekeeping.
3. Strategic investment in hospital distribution to ensure access without overburdening fiscal resources.
4. Implementation of strategic purchasing mechanisms to promote efficiency and quality.

Ultimately, JKN is not only a health program but also an economic policy instrument that contributes to sustainable development. Ensuring its sustainability requires balancing equity, efficiency, and fiscal responsibility to safeguard both population health and economic stability.

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