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Strategic Management of Health Budget Efficiency in Indonesia's National Health System

Yuniati Lestari
Department of Magister Management
Adhirajasa Reswara Sanjaya University, Bandung, Indonesia
E-mail: yuniatilestari61@gmail.com

ABSTRACT

The National Health System (SKN) is a key pillar in achieving equitable public health, but its implementation still faces obstacles in the form of unequal access to services, uneven distribution of health workers, and inefficient financing. This study aims to examine the main challenges in implementing the NHC in Indonesia, formulate relevant strategies to overcome them, and analyze the effectiveness and efficiency of the national health budget within a performance-based policy framework. The study uses a descriptive qualitative approach through a literature review with data sources including government regulations, official reports, and international publications. The results show that SKN is still limited by fragmented governance, low allocation for promotive-preventive efforts, and the dominance of curative spending. However, opportunities for strengthening exist through six pillars of health transformation, including strengthening primary services, improving referral services, system resilience, financing reform, human resource development, and health digitization. The discussion emphasizes the importance of reorienting budget priorities, improving performance accountability, and diversifying funding sources to support the achievement of Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs). This study shows that performance-based budget optimization, governance strengthening, and equitable distribution of resources are key to building a more resilient, inclusive, and sustainable national health system.

Keywords: National Health System (SKN); Health Financing; Performance-Based Budgeting; Strategic Management

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 *Corresponding Author: yuniatilestari61@gmail.com

INTRODUCTION

The National Health System (SKN) is the main pillar for improving the health status of the community in an equitable, sustainable, and fair manner. National health development faces complex challenges, including unequal access to services, limited health human resources, and uneven distribution of facilities. As of the third quarter of 2021, only 56.4% of primary health facilities (FKTP) and 88.4% of accredited hospitals, as well as 4.97% of community health centers (Puskesmas), had doctors (Bappenas, 2022; Kemenkes RI, 2022).

The COVID-19 pandemic has clearly exposed fundamental weaknesses in Indonesia's health system. Limited surveillance capacity, weak health data management, and the inability of service facilities to respond to a surge in cases are evidence of the need for comprehensive system improvements (Bappenas, 2022). As a strategic response, the Ministry of Health (Kemenkes) launched a health transformation agenda focusing on six main pillars, namely strengthening primary services, improving the quality of referral services, strengthening the health security system, optimizing the health financing system, developing equitable and quality health human resources, and utilizing digital innovation-based health technology (Kemenkes RI, 2022b). This approach aims to strengthen promotive and preventive services, optimize the quality of curative and rehabilitative services, and promote the efficiency of the financing system to make it more sustainable. This vision is in line with the global commitment to Universal Health Coverage (UHC), which emphasizes access to quality health services without financial burden on the community (Kemenkes RI, 2020).

Although positive achievements have been made, such as National Health Insurance (JKN) coverage for >80% of the population, challenges remain, including financing disparities, low promotive-preventive allocation, and suboptimal effectiveness of financing system management (Kemenkes RI, 2020). SKN reform is a long-term strategy to strengthen system resilience, improve quality of life, and support the achievement of the Sustainable Development Goals (SDGs) that target a healthy, productive, independent, and equitable society (Kemenkes RI, 2022).

Regulatory changes through Law No. 17 of 2023 on Health shift financing from mandatory spending to performance-based budgeting, which emphasizes effectiveness, efficiency, and results orientation, although it also raises concerns about the sustainability of health sector allocations. With this regulation, health reform and transformation efforts have stronger legitimacy to create a more resilient, inclusive, and sustainable health system (Kemenkes RI, 2023).

This study aims to comprehensively examine the main challenges in implementing SKN in Indonesia, including disparities in access, service quality, distribution of health human resources (HR), and financing effectiveness. Through a review of the implementation of the six pillars of health system transformation, this study also examines the shift in budgeting policy from mandatory spending to performance-based budgeting in accordance with Law Number 17 of 2023 concerning Health. In addition, this study is expected to provide strategic recommendations for strengthening and optimizing the NHC to support the achievement of Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs) while making the national health system more resilient and sustainable. With this approach, it is hoped that it will contribute to the development of a more responsive, inclusive, and sustainable health system.

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LITERATURE REVIEW

The Concept of the National Health System (SKN)

The National Health System (SKN) is the basic framework for health development in Indonesia, involving all components of the nation (Kemenkes RI, 2012). The SKN serves as a normative and strategic foundation for the government, the business world, academics, professional organizations, and the community, guiding the process of planning, implementation, supervision, and evaluation of health development in line with national objectives (Bappenas, 2022).

SKN consists of seven subsystems that form an adaptive health ecosystem: (1) Health Efforts, including public health efforts (promotive-preventive) and individual health efforts (curative-rehabilitative); (2) Health Research and Development, which provides evidence-based information and innovation; (3) Health Financing, to ensure adequate, equitable, and efficient allocation of funds; (4) Health Human Resources, covering planning, distribution, and competency development of health workers; (5) Pharmaceuticals, Medical Devices, and Food, which ensure the availability and quality of medicines, vaccines, medical devices, and food; (6) Health Management, Information, and Regulation, covering governance, policy, and integrated information systems; and (7) Community Empowerment, which optimizes the active role of the community, the business world, and non-governmental organizations (Kemenkes RI, 2012).

The COVID-19 pandemic has become an important moment that highlights the fundamental weaknesses of the SKN in terms of system resilience, data and information integration, and preparedness for health emergencies. These challenges underpin the government's launch of the SKN Reform agenda, which emphasizes strengthening system resilience, access to quality services, and promotive-preventive efforts.

The SKN functions as a cross-sectoral coordination framework involving education, finance, technology, and defense in building a resilient and responsive health system (Kemenkes RI, 2012). This cross-sectoral integration enables the formulation of health policies that are more holistic and adaptive to future challenges (Bappenas, 2022). At the regional level, the implementation of the NHC has shown tangible results through the strengthening of primary services, particularly through the Prima Posyandu (Integrated Health Service Post) program, which is based on the life cycle and supported by a home visit system and village cadres (Kemenkes RI, 2022).

One of the key pillars of SKN is digital transformation through the SATUSEHAT and Indonesia Health Services (IHS) platforms, which integrate health services in community health centers, hospitals, pharmacies, laboratories, and BPJS, enabling real time data monitoring and efficient program management (Bappenas, 2022). The implementation of electronic medical records and telemedicine also expands access to services, particularly in remote areas (Kemenkes RI, 2022). With the strengthening of primary services, digital integration, and financing reforms, SKN is expected to become a solid foundation in realizing UHC and supporting the achievement of SDGs while making SKN more resilient and sustainable (Kemenkes RI, 2022; Bappenas, 2022).

Challenges and Opportunities in Implementing SKN in Indonesia

The implementation of SKN in Indonesia faces complex challenges due to demographic, epidemiological, economic, and technological changes. The main challenges of SKN include:

1. Inequality in access to and quality of services, marked by a low ratio of doctors (0.4/1,000 population) and hospital beds (1.18/1,000), especially in 3T areas (Kemenkes RI, 2020).

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2. Weak health system resilience, evident in poor data integration, delayed emergency response, and fragmented information during the pandemic (Bappenas, 2022).
3. The triple burden of infectious, non-infectious, and re-emerging diseases is exacerbated by urbanization and climate change (Kemenkes RI, 2020).
4. Inefficient financing, due to the dominance of budgets for curative services and minimal allocation for promotional and preventive efforts.

In addition to these challenges, SKN also faces structural problems in the form of weak governance, minimal cross-sector coordination, and limited data-based analysis capacity, resulting in decision-making that is often not evidence-based and less adaptive to field needs (Bappenas, 2022).

On the other hand, there are opportunities for transformation through the six pillars of SKN reform, which include (1) Strengthening primary services by ensuring that community health centers become integrated service centers; (2) Digital-based referral service transformation and increased subspecialty service capacity; (3) Increased health system resilience, including expansion of laboratory networks, technology surveillance, and preparation of rapid response mechanisms for health emergencies; (4) Financing transformation, through sustainable schemes that support promotive-preventive efforts and strengthening the National Health Insurance (JKN); (5) Health human resources transformation, with redistribution to 3T areas and technology-based training; and (6) Service digitalization, through the SATUSEHAT and IHS platforms that support real time data-based decision making (Kemenkes RI, 2022). This reform must be accompanied by strengthening governance that is more transparent, accountable, solid cross-sector coordination, and the use of data in policy planning and evaluation (Bappenas, 2022).

The Concepts of Mandatory Spending and Performance-Based Budgeting

Health financing management in Indonesia is based on a complementary approach of mandatory spending and performance-based budgeting. Mandatory spending guarantees minimum allocation, while performance-based budgeting ensures effective, efficient, and results-oriented use (Kemenkes RI, 2022).

Law No. 17 of 2023 on Health (Kemenkes RI, 2023b) has removed mandatory spending provisions and provided fiscal flexibility, but this has raised concerns about the sustainability of funding for important programs (UNICEF, 2024). As a replacement, the government has implemented performance-based budgeting to improve accountability and effectiveness, through the establishment of Key Performance Indicators (KPIs) and Program Performance Indicators (PPIs), the integration of databased planning and reporting using SIPD and e-Monev, and the evaluation of achievements through a national dashboard (Kemenkes RI, 2022). However, its implementation still faces challenges such as uneven technical capacity, limited data integration, and suboptimal understanding at the regional level (UNICEF, 2024).

However, there are significant opportunities that can be utilized to strengthen health financing. Optimizing these two approaches will not only strengthen the sustainability of health financing, but also support the transformation of the six pillars of health, improve access to services, and accelerate the achievement of UHC targets. For clarity, a comparison between the concepts of mandatory spending and performance-based budgeting is presented in Table 1.

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Table 1. Comparison of Mandatory Spending and Performance-Based Budgeting

Aspect	Mandatory Spending	Performance-Based Budgeting
Definition	Minimum budget allocation for the health sector based on regulations, for example 5% of the state budget and 10% of the regional budget (Law No. 36 of 2009)	Budget allocation linked to measurable targets, outputs, and outcomes to improve spending effectiveness
Main Objectives	Ensuring the availability of health budgets and making health a development priority	Improving accountability, efficiency, and effectiveness in budget utilization
Spending Orientation	Ensuring continuity of funding, especially for public services, promotion, and prevention	Focusing on achieving key performance indicators and program outcomes
Advantages	- Providing certainty in budget allocation - Ensuring the continuity of priority health programs	- More accountable and transparent - Directs budget use toward evidence-based and results oriented programs
Disadvantages	- Less flexible to fiscal dynamics - Implementation is not yet evenly distributed across regions - Tends to focus on nominal values rather than effectiveness	- Requires strong technical capacity and data integration - Implementation in regions is still not optimal
Examples of Implementation	Minimum allocation of the state budget and regional budget for health, such as national immunization programs or strengthening community health centers	Performance-based budgeting for stunting reduction, immunization coverage improvement, or service digitization
Key Challenges	- Fiscal disparities between regions - Dominance of curative spending - Weak supervision and accountability	- Limited planning and evaluation capacity - Limitations in data and technology integration
Future Strengthening Directions	Developing new mechanisms following the removal of mandatory spending provisions in Law No. 17 of 2023 to ensure that the health sector remains a priority	Strengthening data systems, technical training, and digitization of planning to improve the effectiveness and transparency of budget use

Source: Own compilation (2025)

National Health Financing System

Health financing is a key component of the National Health Strategy that not only ensures the sustainability of services but also guarantees public access to quality, equitable, and sustainable care. Furthermore, financing serves as a strategic instrument to support health service transformation, strengthen system resilience, and achieve UHC in line with the global health development agenda (WHO, 2021).

In Indonesia, health financing comes from the state budget, regional budgets, National Health Insurance (JKN) premiums managed by BPJS Kesehatan, direct contributions from the community (out-of-pocket), as well as private support, philanthropy, and international donors (Kemenkes RI, 2023). The 2021 National Health Accounts (NHA) show a significant increase in national health spending, with the largest portion coming from JKN and the state budget, reflecting the government's commitment to equitable service provision. However, the distribution is not yet balanced: more than 60% is allocated to curative services, while only 12–15% is allocated to promotive-preventive services. This reactive orientation increases the long-term cost burden due to the increase in diseases that could have been prevented through early (Kemenkes RI, 2023). Based on data from Indonesia's National Health Accounts (NHA) for 2021, an

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illustration of Indonesia's health expenditure distribution can be seen in Table 2. According to the data, JKN remains the backbone of national health financing (32%), but the high proportion of OOP expenses (28%) indicates a financial risk for the community, especially for vulnerable groups.

Table 2. Proportion of health financing by source of funds

Funding Source	Proportion	Description
State Budget/ APBN (Central)	23%	Ministry of Health spending, national programs, and JKN support.
Regional Budget / APBD (Daerah)	11%	Funding for community health centers, regional hospitals, and public health programs.
National Health Insurance/ JKN (BPJS Health)	32%	Funding for curative and promotive/preventive care through the JKN scheme.
Out-of-Pocket (OOP)	28%	Direct payments by the public at public and private health facilities.
Private Sector & Donors	6%	Contributions from CSR, philanthropy, and international donor assistance.

Source: Kemenkes RI (2023a)

An ideal health financing system emphasizes equity, efficiency, and sustainability, namely ensuring equal access for all groups, optimal use of resources, and long-term funding availability (Cali et al., 2018; WHO, 2021). However, major challenges remain, such as dependence on public financing, deficits and compliance with JKN contributions, and fiscal disparities between regions. Nevertheless, JKN is an important innovation because it pools contributions from various segments of society to collectively finance health services, thereby sharing the financial risks associated with health costs (Direktorat Kesehatan dan Gizi Masyarakat, 2022).

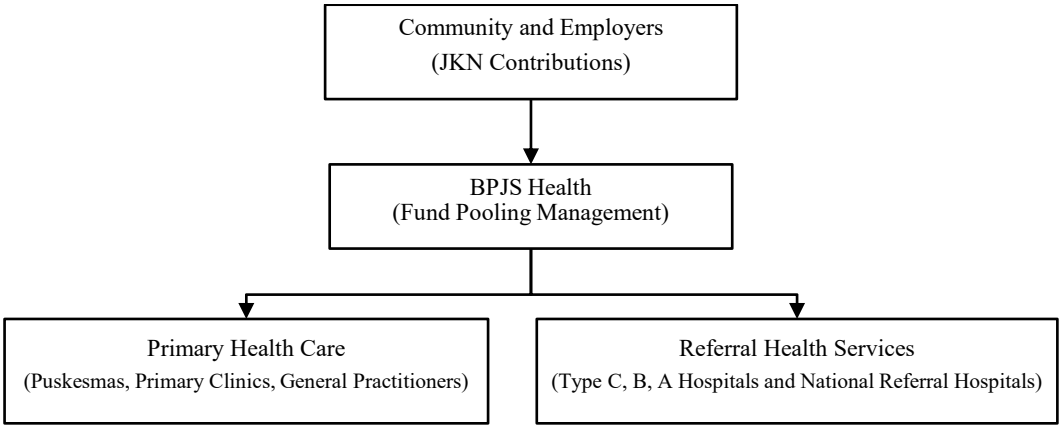

Figure 1. JKN Fund Pooling Flowchart
Source: Own compilation, 2025

Health fund pooling plays an important role in expanding access and reducing cost inequalities between regions and risk groups (Cali et al., 2018; WHO, 2021). However, allocation for promotive-preventive programs in Indonesia is still very low. Fuady et al. (2024) recommend strengthening regulations that guarantee a minimum portion for promotive-preventive programs, developing innovative financing schemes such as CSR, public-private partnerships, and health taxes, increasing the capacity of promotional personnel, and integrating evidence-based national financing information systems.

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According to the WHO (2021), health financing strategies towards UHC include resource mobilization, risk pooling, and efficiency improvements. Indonesia has adopted these strategies through the National Health Insurance (JKN), digitalization, and cross sector integration, although it still faces challenges in the form of the dominance of curative spending, high OOP expenses, fiscal disparities between regions, and low priority given to promotive and preventive measures. The success of the reform will be largely determined by evidence-based governance, diversification of funding sources, digitization of financing, and multi-stakeholder partnerships. Thus, the health financing system can become a strategic instrument for providing inclusive, quality, and sustainable services for all Indonesians.

RESEARCH METHOD

This study employed a qualitative descriptive approach through a library research design. The method was chosen as it enables the researcher to capture the dynamics and complexities of program execution from multiple stakeholder viewpoints, thereby providing a contextual understanding of preventive initiatives at the institutional level (Sugiyono, 2016). The research relied on secondary data obtained from government policy documents, official reports from the Ministry of Health (Kemenkes RI), the National Development Planning Agency (Bappenas), the Social Security Agency for Health (BPJS Kesehatan), as well as publications from international organizations such as the World Health Organization (WHO) and UNICEF.

The research procedure consisted of several stages. First, the identification of key issues was carried out to map the major challenges of the SKN, including unequal access to health services, disparities in human resources for health, quality of care, and financing. Second, data classification was conducted according to the six pillars of health transformation, namely primary health services, referral services, health system resilience, health financing, human resources for health, and digital health. Third, a policy analysis of health financing was undertaken by comparing the concepts of mandatory spending and performance-based budgeting, supported by national data on budget allocation and realization.

Furthermore, the study applied a descriptive-analytical technique to assess the effectiveness and efficiency of health budget management. This assessment involved the examination of program performance indicators, budget performance scores, and expenditure distribution between curative and promotive–preventive services. Finally, the findings were synthesized to formulate strategic recommendations for strengthening and optimizing the National Health System in order to accelerate the achievement of UHC and the SDGs.

RESEARCH RESULTS

Challenges and Opportunities for SKN Implementation in Indonesia

Optimization of SKN is still hampered by four fundamental issues. First, weak governance and cross-sector coordination have led to fragmentation of policies between the central and regional governments, resulting in highly variable quality of health services, especially in disadvantaged, border, and island areas (DTPK). Second, limited financing capacity and financial management mean that allocation for promotional and preventive efforts remains low (12–15%), so that financing is directed more towards reactive curative services. Third, the imbalance in the distribution of health human resources is evident in the concentration of medical personnel in urban areas and on the

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island of Java, while remote areas lack health workers in terms of both numbers and competence. Fourth, limitations in information systems and data integration, which were exposed during the COVID-19 pandemic, hampered rapid and evidence-based decision-making, slowing down the response in various regions.

The 2022 Indonesia Health Profile shows both progress and significant gaps. Non communicable diseases (NCDs) now account for more than 70% of the national disease burden, while communicable diseases such as tuberculosis and malaria remain a problem in some areas. National immunization coverage averages 76.5%, but there are significant regional disparities, reflecting unequal service delivery and weak community-based interventions. Nevertheless, the 2022 health transformation presents six pillars of reform that form the strategic foundation for addressing these challenges. The implementation of the SKN can be mapped (Table 3) through the aspects of governance, financing, human resources, information systems, system resilience, and referral services, which serve to identify the root causes of problems as well as potential levers to strengthen the national health system (Kemenkes RI, 2022a).

Table 3. Summary of challenges and opportunities in implementing SKN

Aspect	Key Challenges	Opportunities for Strengthening
Governance & coordination	Fragmentation of central-regional authority; service standards are not yet uniform	Regulatory harmonization; data-based governance; permanent cross-sector coordination mechanisms
Financing	Promotive-preventive portion still at 12-15%; dominance of curative services; regional fiscal disparities	Performance-based budgeting; refinement of primary spending; innovative schemes (health tax, public-private partnerships)
Health Human Resources (HR)	Uneven distribution; uneven competency; weak retention in DTPK	Location- and performance-based incentives; standardized task shifting; education development and certification
Information systems	Fragmented data; low interoperability; poor timeliness	SATUSEHAT & RME national; analytics for decision making; regional performance dashboards
Service indicators & outcome	Face-to-face learning is increasing; immunization coverage is uneven; 12 provinces have stunting rates above 25%	Prima Posyandu based on the life cycle; community-based NCD interventions; risk-based targeting
System resilience	Dependence on imports of medical supplies; uneven emergency preparedness	Self-sufficiency in medicines, vaccines, and medical equipment; laboratory and surveillance networks; integrated stockpiles and logistics
Referrals & facilities	Bottleneck in referral hospitals; uneven access to subspecialists	Strengthening regional hospital capacity; tele-referral & telemedicine; clinical pathway standards

Source: Own compilation (2025)

The implementation of SKN in the field has shown significant achievements. In primary services, the Posyandu Prima program has grown rapidly with more than 6,000 health centers (58.4%) equipped with ultrasound machines and the distribution of 5,600 Hb meters in 12 priority provinces. This has contributed to an increase in early detection of pregnancy complications by more than 30% in several pilot areas, a decrease in the maternal mortality rate from 346 per 100,000 live births in 2013 to 189 per 100,000 in 2022, and a decrease in stunting prevalence from 24.4% in 2021 to 21.6% in 2022. Digital transformation through the SATUSEHAT platform has also expanded with adoption by

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more than 10,000 community health centers, 3,000 hospitals, and 30,000 pharmacies by 2023, which has resulted in accelerated referrals, more accurate epidemiological monitoring, and expanded access to specialist services through telemedicine. On the financing side, the National Health Insurance (JKN) has proven to increase the utilization of health services and provide financial protection, especially for participants of the Contribution Assistance Program (PBI) who have experienced a 30% reduction in direct expenses. Nationally, indicator achievements also show progress, with neonatal visits reaching 90%, deliveries in health facilities increasing to 86% in 2022, basic immunization coverage continuing to rise although not evenly, and household health expenditures (OOP) decreasing, especially among vulnerable groups.

Table 4 presents a mapping of the impacts, challenges, and policy recommendations for SKN implementation in the field. This mapping serves as an analytical tool to identify priority areas for intervention, so that policy direction can be more focused on efforts to equitably distribute the benefits of SKN transformation to all levels of society.

Table 4. Summary of impacts, challenges, and recommendations for SKN implementation in the field

Aspect	Positive Impact	Challenges	Policy Recommendations
Primary Services & Prima Posyandu	Closer access to services; reduction in maternal mortality and stunting; increase in visits by pregnant women	Uneven distribution of human resources; limited equipment in 3T areas	Redistribution of personnel; performance-based incentives; sustainable equipment maintenance
Digital Transformation (SATUSEHAT & RME)	Faster referrals; real-time data; telemedicine reaching remote areas	Limited internet infrastructure; lack of human resource training	Strengthening digital infrastructure; structured training programs
National Health Insurance (JKN)	Reduction in OOP burden; increase in facility visits; stronger financial protection for PBI	Uneven facility quality; transportation costs remain high	Sharpening of benefit coverage; development of health facilities in remote areas
Health indicators	Decrease in stunting to 21.6% (2022); increased immunization coverage and neonatal visits	Uneven immunization coverage; disparities between provinces	Community-based education and outreach programs
System resilience	Rapid pandemic response; increased laboratory capacity	Dependence on imports of pharmaceuticals and medical equipment	Strengthening domestic pharmaceutical and medical equipment independence

Source: Own compilation (2025)

Review of Health Budgeting in Indonesia

1. Mandatory Spending Concept

An analysis of trends in the allocation and realization of the national health budget for the period 2011–2021 (Table 5) shows a consistent increase in allocation and stable realization above 94% per year. A significant surge occurred in 2021 in response to the COVID-19 pandemic, which focused on vaccine procurement, health worker incentives, and strengthening service infrastructure.

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Table 5. Trends in national health budget allocation and realization 2011–2021

Year	Budget Allocation (Rp Trillion)	Realization (Rp Trillion)	Percentage of Realization
2011	30,0	28,7	95,7%
2012	36,0	34,2	95,0%
2013	42,0	39,8	94,8%
2014	47,0	45,1	95,9%
2015	61,0	58,3	95,6%
2016	75,0	72,1	96,1%
2017	93,0	88,7	95,4%
2018	103,0	98,4	95,5%
2019	108,0	102,8	95,2%
2020	107,0	102,0	95,3%
2021	169,0*	162,4*	96,1%

Source: National Health Accounts (2021), Ministry of Health Financial Report (2022)
*Note: The 2021 budget has increased significantly due to additional allocations for handling the COVID-19 pandemic.

The upward trend in national health budget allocation and realization from 2011 to 2021 can be seen in Figure 2, which shows a consistent pattern of increase from year to year, with a sharp spike in 2021 in response to the need to handle the COVID-19 pandemic.

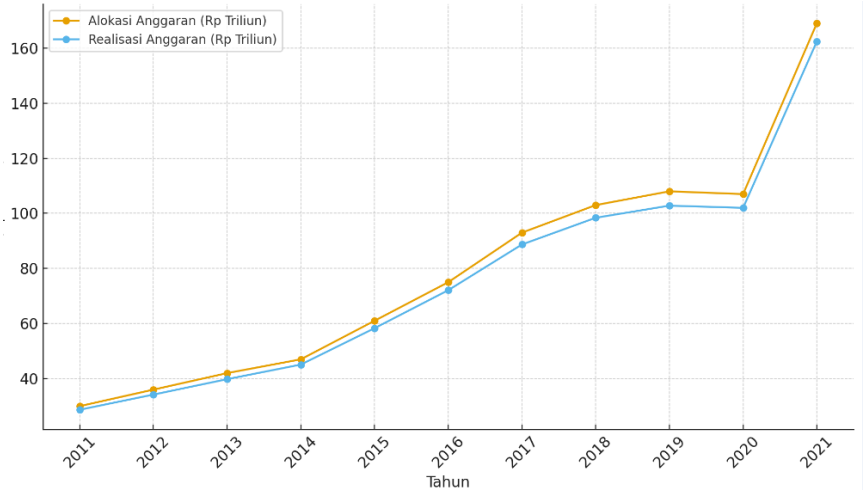

Figure 2. Trends in National Health Budget Allocation and Realization (2011 – 2021)

The visualization in Figure 3 highlights the proportion of spending between promotive–preventive and curative programs during the 2015–2021 period. This graph provides an in-depth perspective on the imbalance in funding orientation, where curative spending still dominates despite the increasingly urgent need to strengthen promotive and preventive services.

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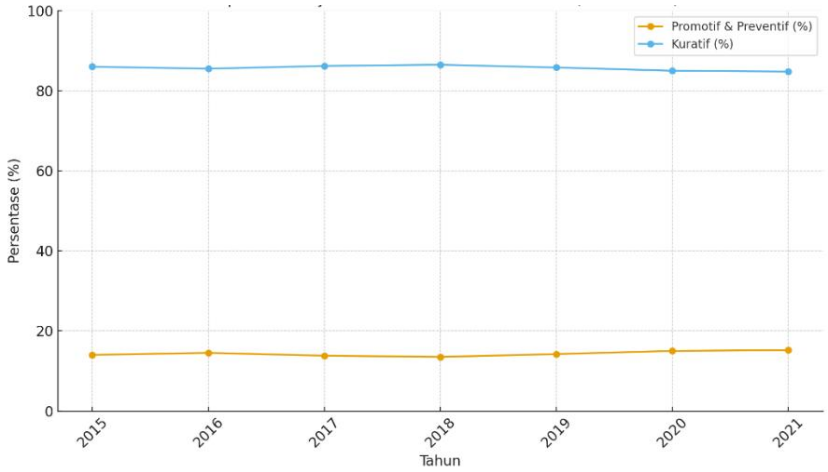

Figure 3. Proportion of Promotive–Preventive vs. Curative Expenditures (2015–2021)

2. Performance-Based Budgeting

Performance-Based Budgeting The performance-based budgeting approach emphasizes that every allocation of funds must produce measurable outputs and outcomes. In the Ministry of Health's 2020–2024 Strategic Plan, performance-based budgeting is the main instrument supporting the six pillars of health transformation. In 2021, the Ministry of Health's budget performance score reached 95.22, although it declined to 88 in 2022, it remained in the good category (Kemenkes RI, 2022). The performance score remained good despite the decline in 2022, reflecting the effectiveness of absorption and contribution to national priorities, such as primary services and health digitization.

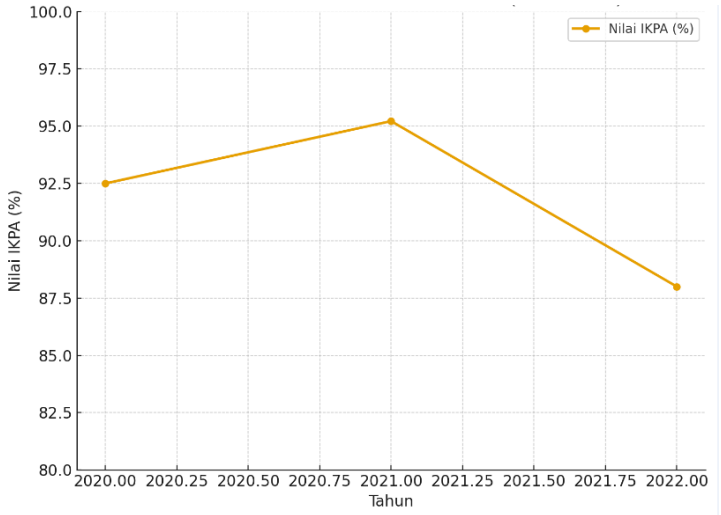

Figure 4. Trends in the Ministry of Health's IKPA Score (2020–2022)

3. Analysis of Budget Effectiveness and Efficiency

Data shows that national health spending continues to increase, but is still dominated by curative financing, while promotive-preventive allocations remain stagnant at a low level. Evaluation mechanisms are weak, marked by duplication of funding between programs, such as in stunting interventions. JKN has succeeded in reducing direct household expenditure, although the financial burden on poor and vulnerable groups remains high. Budget efficiency is evident from the IKPA achievement of 92.5–95.22% in 2020–2021, but it fell to 88% in 2022. Structural barriers include limited regional fiscal capacity, weak performance incentives, and a lack of cross-sector coordination. Globally, the WHO assesses that Indonesia has been relatively successful in pooling funds through the JKN,

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but quality- and performance-based purchasing mechanisms remain weak.

Analysis of the National Health Financing System

1. Sources of Financing

Data from the 2021 National Health Accounts (NHA) shows that total national health expenditure reached IDR 598 trillion. This composition is divided into several main sources, such as the state budget, direct household expenditure (Out-of-Pocket/OOP), corporate contributions, regional budgets, international donors, and non-profit institutions (Kemenkes RI, 2021).

Data shows that the proportion of public financing in Indonesia continues to increase, although the out-of-pocket (OOP) portion is still relatively high (34%), whereas the WHO recommends that it should ideally be ≤20% in order to provide stronger financial protection for the community. JKN plays a major role in pooling funds, with coverage reaching ±235 million people or around 86% of the population in 2021. JKN funds come from a combination of the state budget for PBI contributions, household and self-employed contributions, and corporate contributions. The WHO report emphasizes three main functions of health financing, namely revenue collection, pooling, and purchasing. Indonesia has been relatively successful in the pooling aspect through JKN, but the quality and performance-based purchasing mechanism is still not optimal.

The structure of health financing in Indonesia has a number of strategic implications, such as high out-of-pocket (OOP) expenses, which place many households at risk of catastrophic health expenditures, while fiscal capacity disparities between regions hinder equitable access to quality services. In addition, the fragmentation of financing between central and regional programs reduces service integration, and suboptimal service procurement mechanisms reduce the effectiveness of public funds in improving service quality.

2. Efficiency and Equity in Budget Allocation

In terms of efficiency, although health budget realization has increased every year, the equitable distribution of service quality remains limited due to the weak integration of performance-based planning with real-time monitoring (Kemenkes RI, 2020). Financing efficiency is influenced by three main functions: fund raising, fund collection, and service purchasing (WHO, 2018). Indonesia has shown progress in pooling through the National Health Insurance (JKN), but quality-based service purchasing is still limited, so the potential for cost control and service quality improvement has not been maximized. Strengthening strategic purchasing in primary services has been shown to improve service quality while reducing long-term costs through the prevention and early detection of chronic diseases (WHO, 2022).

From the perspective of fairness, fiscal disparities between regions remain evident; regions with low fiscal capacity face budget constraints despite higher health burdens, while the distribution of health workers is also uneven, for example, DKI Jakarta has 12 doctors per 100,000 population versus Papua with 3–4 per 100,000 (Kemenkes RI, 2020; Bappenas, 2022). Differences in technical and managerial capacity and the lack of synchronization between central and regional performance-based payment mechanisms hinder the achievement of national indicators, including TB services (Health Policy Plus, 2022). Data from the 2021 National Health Accounts show the dominance of curative spending (>80%) and disparities in per capita spending of up to threefold between provinces.

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SWOT Analysis of the National Health Financing System

The JKN system is strong in its principle of mutual cooperation through cross-subsidies, whereby healthy and affluent participants support sick and underprivileged participants, reflecting social justice. By 2023, participant coverage will reach approximately 240 million people (≈90% of the population), strengthening risk pooling and financial protection for the community. The government's commitment to budget allocation remains intact even though mandatory spending has been abolished, supporting the achievement of UHC. Health transformation emphasizing six pillars, particularly financing, promotes efficiency through strategic purchasing, INA-CBGs tariff updates, and performance-based budgeting.

However, there are weaknesses, including the risk of a BPJS deficit due to an imbalance between contributions and claims, the dominance of curative spending over promotive-preventive spending (±12–15%), the uneven distribution of budgets and facilities between regions, and the inadequate capacity of regions to develop performance indicators, resulting in the effectiveness of performance-based budgeting not yet being maximized.

Several opportunities can be exploited, such as health taxes (excise taxes on cigarettes and sweetened beverages) for additional funding and health promotion, digitization of systems through SATUSEHAT and big data analytics for efficiency, transparency, and fraud detection, public-private partnerships for health financing and technology, and optimization of strategic purchasing and e-catalogues of medicines and medical devices to reduce costs while improving service quality.

In terms of threats, high out-of-pocket spending (±28%) increases financial risk, dependence on the state budget and BPJS contributions poses a risk to sustainability, claim fraud and service inefficiency can increase costs and reduce public trust, and resistance to new policies such as performance-based budgeting, service standardization (KRIS), and digitization can slow down the implementation of reforms.

DISCUSSION

Challenges and Opportunities for SKN Implementation in Indonesia

The implementation of the SKN in Indonesia is at a critical stage that requires policy consolidation, governance strengthening, and systemic innovation to address various multidimensional challenges. These challenges are not only structural, but also technical, managerial, and social (Bappenas, 2022). Analysis in Table 3 shows that each aspect of the SKN has challenges as well as opportunities that can be leveraged for improvement. These opportunities for improvement include:

- Financing: Shift the focus from curative spending to promotive and preventive spending to reduce long-term costs and improve system efficiency.
- Health Human Resources: Redistribution of personnel in disadvantaged, border, and island areas (DTPK) must be accompanied by increased competence and incentive-based retention schemes in order to improve service quality.
- Health Information Systems: Strengthening interoperability through SATUSEHAT and electronic medical records (EMR) is the foundation for evidence-based governance for more accurate policy planning, implementation, and evaluation.
- System Resilience: Self-sufficiency in pharmaceuticals and medical devices, as well as laboratory networks and integrated logistics systems, are important buffers against future health emergencies.

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Strategic recommendations for addressing complex challenges to build a sustainable health system foundation:

1. Strengthening primary and referral services through life cycle-based Posyandu Prima and regional referral networks with standard clinical pathways expands access and equalizes basic to specialized services.
2. Digital health transformation, with data integration through SATUSEHAT, RME, and telemedicine, improves decision accuracy, speeds up referrals, and expands services to remote areas.
3. Optimization of health financing, with a shift to performance-based budgeting and an increase in promotive-preventive spending ≥20% to reduce long-term curative costs and ensure budget efficiency.
4. Strengthening the resilience of the health system by enhancing surveillance, laboratories, emergency logistics, and domestic pharmaceutical and vaccine independence as a buffer against health crises.
5. Cross-sector collaboration, through synergy between education, technology, industry, and finance, supports the provision of health workers, digital integration, and financing innovation within the framework of sustainable national development.

Opportunities for improvement are wide open through six pillars of transformation. In addition, with policy consistency, performance-based financing optimization, resilience strengthening, and cross-sector collaboration, Indonesia has the strategic capital to accelerate the achievement of UHC and the SDGs.

The implementation of SKN in the field has shown significant progress in strengthening primary services, health digitization, and public financing, as reflected in the decline in maternal mortality, stunting, increased immunization coverage, and a decrease in out-of-pocket (OOP) expenses (Bappenas, 2022; Kemenkes RI, 2022a; Kemenkes RI, 2022b; Kosen et al., 2023). However, the effectiveness of the program is still limited by the uneven distribution of human resources, infrastructure disparities, service quality disparities, and administrative barriers to JKN. The success of SKN reform requires continuous efforts in the equitable distribution of health workers, strengthening digital infrastructure, improving service quality in remote areas, and simplifying JKN bureaucracy (Prasetyo et al., 2023; Efawati et al., 2024). The innovations that have been implemented have had a positive impact, but continued intervention is still needed, with an adaptive approach, strengthening human resource capacity, and optimizing infrastructure.

Health Budget Review in Indonesia

1. The Concept of Mandatory Spending

The national health budget allocation increased sharply from IDR 30 trillion in 2011 to IDR 169 trillion in 2021, with a consistent realization rate above 94%, reflecting improved fiscal management and adaptive responses to the COVID-19 pandemic, particularly for vaccination, health worker incentives, and service infrastructure (UNICEF, 2024). However, the portion of promotive-preventive spending remains low (12–15%), while curative spending and personnel dominate, meaning that the orientation of health financing is not yet optimal towards prevention.

National curative spending dominates at 84–86% per year, with promotive preventive spending stagnating at 13–15% (2015–2021), ignoring evidence that promotive–preventive investments, such as immunization and early detection of noncommunicable diseases (NCDs), are more effective in reducing long-term costs and improving public health. The increase in promotive-preventive spending in 2020–2021

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was mainly driven by the need to control the pandemic, but the proportion is still far from ideal, emphasizing the need for budget rebalancing and performance-based governance and data to support strategic programs such as immunization, stunting prevention, and early detection of NCDs.

The imbalance in spending orientation also widens disparities between regions, as low-income areas are only able to allocate limited budgets despite having heavier health burdens, including stunting, weak primary services, and a shortage of health workers. Budget flexibility following the enactment of Law No. 17 of 2023 has raised concerns about reduced funding guarantees in fiscally poor regions (UNICEF, 2024).

Thus, although mandatory spending has become an important pillar of health financing, its effectiveness will be optimized through a shift in orientation towards promotive-preventive spending, strengthening performance-based governance, and digital integration. This approach makes mandatory spending a strategic instrument for accelerating the achievement of UHC and the SDGs.

2. Performance-Based Budgeting

Figure 4 shows an increase in the IKPA value from 92.5% in 2020 to 95.22% in 2021, reflecting the effectiveness of budget planning and execution, particularly in response to the pandemic, before falling to 88% in 2022. Although the system at the central level is relatively mature, implementation at the regional level is still constrained by technical capacity, data integration, and the use of digital technology, so that budget planning and accountability are not yet optimal. UNICEF's analysis (2024) highlights the dominance of curative spending, uneven allocation between regions, and weak data integration, while WHO (2021) emphasizes the need to strengthen outcome-based allocation, investment in primary services, and digital financing integration. Thus, the effectiveness of performance-based budgeting is highly dependent on strengthening regional capacity, integrating performance and financial data, affirmative allocation for poor regions, and increasing the share of promotive and preventive spending. These strategies will ensure that the budget functions as an effective instrument to strengthen the health system.

3. Analysis of Budget Effectiveness and Efficiency

Budget effectiveness and efficiency reflect the extent to which health financing is able to produce outputs and outcomes in line with national priorities, based on the principles of adequacy, targeting, performance-based, efficiency, fairness, transparency, and accountability (Kemenkes RI, 2022). Findings show that although Indonesia's health financing has improved nominally and the evaluation system has begun to be integrated, its effectiveness is still hampered by the dominance of curative spending, fiscal disparities between regions, and weak data-based evaluation (Kemenkes RI, 2021). Political and governance barriers slow down the shift in allocation to promotive-preventive programs. Therefore, the strengthening strategy is directed at reorienting spending towards prevention, strengthening performance-based governance with fiscal incentives, digital integration for real-time monitoring, optimizing JKN purchasing based on quality and efficiency, and an affirmative approach for fiscally poor regions. With these reforms, the health budget can play a more effective role in strengthening the health system.

Analysis of the National Health Financing System

1. Sources of Financing

Although public financing and pooling through the JKN have shown significant achievements, a number of major challenges still need to be addressed. High out-of pocket expenses continue to place many households at financial risk, while fiscal disparities

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between regions and fragmentation of central-regional financing exacerbate inequalities in access to health services. On the other hand, weaknesses in strategic purchasing mean that financing has not yet had a full impact on improving service quality. Therefore, structural reforms are needed in the form of:

- Increasing the proportion of public financing through tax revenue optimization and expansion of the contribution base.
- Reduce OOP to ≤20% as recommended by the WHO by expanding JKN coverage and integrating other health protection programs.
- Strengthen the integration of central and regional financing to make service implementation more effective and efficient.
- Optimize quality-based service procurement in JKN through a performance-based payment scheme.
- Utilizing digital technology to monitor pooling and purchasing in real time to ensure greater transparency and accountability.

With this strategy, national health financing can move towards a more equitable system and support the sustainable achievement of Universal Health Coverage (UHC).

Indonesia's health financing structure has shown progress through the strengthening of the role of public financing and the JKN pooling mechanism, but it still faces high OOP costs, fiscal disparities between regions, and central-regional fragmentation. Integrated reforms through tax revenue optimization, expansion of JKN membership, and strengthening of quality-based strategic purchasing, accompanied by the utilization of digitalization and reorientation towards promotive-preventive programs, are necessary to build an inclusive, efficient, and sustainable financing system.

2. Efficiency and Fairness in Budget Allocation

Efficiency and equity are key dimensions of health financing. Efficiency ensures optimal use of public funds, while equity ensures equal access to quality services for all people, including those in disadvantaged areas. The main problems with efficiency are limited strategic purchasing, the dominance of curative spending, and weak data integration. Equity issues arise from fiscal disparities, uneven distribution of health workers, and differences in managerial capacity and payment mechanisms between regions. These gaps mean that increases in the national budget do not automatically lead to improved access and quality of services across the board.

To improve this situation, several strategic steps are needed, including: strengthening performance-based governance with clear outcome indicators, expanding strategic purchasing in primary services, affirmative policies for disadvantaged regions through fiscal incentives and technical support, integrating digital systems for transparency and accountability, and harmonizing central-regional payment mechanisms. By applying the principles of efficiency and fairness simultaneously, the national health financing system can be more effective, fair, and sustainable.

SWOT Analysis of the National Health Financing System

Based on the results of the SWOT analysis, in terms of efficiency, the national health financing system has begun to move towards the use of modern instruments such as strategic purchasing, digitization, and performance-based budgeting. However, efficiency is still hampered by the dominance of curative spending, limited regional capacity, and the potential for fraud in claims. In terms of fairness, the JKN cross-subsidy principle already reflects the value of equity, but the uneven access to services between regions and the high level of out-of-pocket expenses still indicate a gap in budget allocation.

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To strengthen the National Health System (SKN), an integrated strategy is needed, including cost control, diversification of funding sources, equitable access, and transparent, data-driven governance. Leveraging opportunities such as health taxes, digitalization, public-private partnerships, and strategic purchasing optimization can improve service efficiency and quality, while affirmative policies for disadvantaged regions can reduce disparities and increase fairness in the financing system. With this approach, Indonesia can build a sustainable, efficient, and fair financing system that supports the achievement of UHC and the SDGs.

CONCLUSIONS

This study shows that Indonesia's National Health System still faces significant challenges, ranging from limited human resources, uneven distribution of services, and deficits and inefficiencies in financing. However, there are also significant opportunities through regulatory reform, the use of digital technology, and the strengthening of performance-based financing. The shift in budget policy from mandatory spending to performance-based budgeting is an important step toward improving the effectiveness, accountability, and efficiency of health fund utilization. The principle of mutual cooperation in the JKN remains the foundation of financial protection, but the sustainability of the system requires diversification of funding sources, cost control, and strengthening of primary and referral services.

To strengthen the National Health System, consistent governance and regulation are needed through central-regional synchronization and transparency based on public dashboards, supported by performance-based budget optimization that emphasizes the achievement of key health indicators with a minimum allocation of 20% for promotive-preventive programs. Sustainable financing can be achieved through diversification of funding sources via health taxes, expansion of JKN membership, and strengthening of primary and referral services through the redesign of community health centers (Puskesmas), integration of integrated health service posts (Posyandu), and implementation of KRIS standards. The use of digital technology, particularly SATUSEHAT, big data, and health analytics, needs to be expanded with infrastructure support and increased human resource capacity, while the distribution of health workers to disadvantaged areas must be strengthened through incentives, task shifting, and continuous training. On the other hand, domestic independence in pharmaceuticals, vaccines, and medical devices, as well as strengthening laboratories and surveillance systems, are key to improving the resilience of the health system so that it is better prepared to face future crises. Going forward, further research is needed to evaluate the effectiveness of performance-based budgeting, the impact of healthcare system digitalization, and sustainable financing strategies to ensure that Indonesia's healthcare system is truly capable of delivering equitable, high-quality, and fair services.

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