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The Primary Care Financing Paradox Under JKN: A WHO Health System Building Blocks Analysis of Structural Barriers to Primary Care Reorientation in Indonesia

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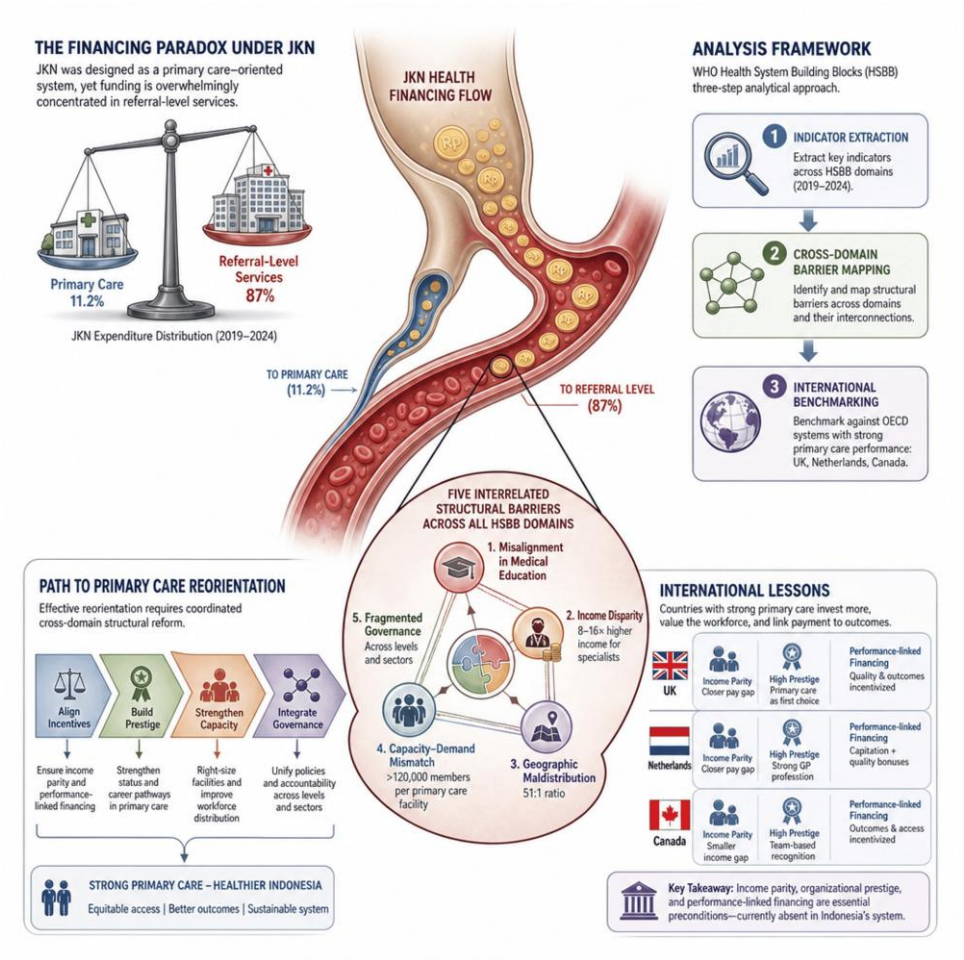
ABSTRACT

Background: Indonesia's National Health Insurance (JKN) was designed as a primary care–oriented system; however, over 87% of expenditures are concentrated in referral-level services, while primary care receives only 11.2%. The structural determinants of this imbalance remain insufficiently examined. **Objective:** This study introduces the concept of the *primary care financing paradox* and analyzes its structural drivers across health system domains. **Methods:** A secondary data and comparative policy analysis was conducted using official datasets (2019–2024). The WHO Health System Building Blocks (HSBB) framework was applied through a three-step approach: indicator extraction, cross-domain barrier mapping, and benchmarking against OECD systems with strong primary care performance (United Kingdom, Netherlands, Canada). **Results:** Five interrelated structural barriers were identified: misalignment in medical education, significant income disparity between primary care physicians and specialists (8–16×), severe geographic maldistribution (51:1), capacity-demand mismatch with primary care facilities serving over 120,000 members, and fragmented governance. These barriers operate across all HSBB domains through mutually reinforcing mechanisms, indicating that single-domain interventions are insufficient. **Conclusion:** Effective primary care reorientation requires coordinated cross-domain structural reform. International evidence highlights income parity, organizational prestige, and performance-linked financing as essential preconditions currently absent in Indonesia's system.

Highlights:

- Indonesia's JKN exhibits a primary care financing paradox, allocating only 11.2% of Rp 175.1 trillion to primary care while 87.1% is absorbed by referral services—contrary to its intended design.
- Cross-domain analysis using the WHO Health System Building Blocks identifies five mutually reinforcing structural barriers—education mismatch, 8–16× income gap, 51:1 maldistribution, capacity overload, and fragmented governance—indicating that single-domain interventions are insufficient.
- International comparison shows that income parity, organisational prestige, and coordinated cross-domain reforms are essential preconditions, forming the basis of a five-priority intervention package for effective primary care reorientation.

GRAPHICAL ABSTRACT



INTRODUCTION

The relationship between primary care system strength and population health outcomes is one of the most consistently demonstrated findings in health systems research. Primary care-oriented health systems have been shown to achieve better population health outcomes at lower cost across diverse country contexts and income levels.[1,2] The underlying mechanisms are well established: strong primary care reduces unnecessary specialist utilisation, lowers rates of avoidable hospitalisations, and improves health outcomes through continuity, coordination, and sustained patient–provider relationships that enable attention to broader social determinants of health.[3]

Indonesia's National Health Insurance program (*Jaminan Kesehatan Nasional*, JKN) reached 278.1 million enrolled members by December 2024.[4] JKN's architecture is explicitly primary care-oriented: every member registers with a designated primary care facility (*Fasilitas Kesehatan Tingkat Pertama*, FKTP) as mandatory gateway, with secondary and tertiary referrals requiring FKTP authorisation.[5]

Existing scholarship on JKN has generated important insights into coverage expansion dynamics,[6] political economy of provider payment reform,[5] and patient satisfaction with FKTP services.[7] However, a systematic analysis of the *structural determinants* of the financing paradox — why a primary care-designed system persistently behaves as a hospital-led system — remains absent from the literature. This gap matters because policy responses calibrated to the wrong causal model will continue to fail.

Three aspects of novelty distinguish this analysis. First, novelty of framework application: this is the first study applying the WHO HSBB framework as a systematic analytical lens to the JKN primary care financing paradox, conducting cross-domain mapping that reveals mutual reinforcement among barriers. Second, novelty of construct: this paper introduces the 'primary care financing paradox' as a distinct, analytically transferable construct applicable to LMIC health systems undergoing mandatory UHC

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expansion. Third, novelty of policy synthesis: the first evidence-based cross-domain intervention package ordered by structural impact rather than administrative convenience.

This paper applies the WHO Health System Building Blocks (HSBB) framework[8] to identify and interpret structural barriers sustaining the JKN primary care financing paradox and generate cross-domain policy recommendations.

METHODS

Study Design

This study employs a secondary data analysis with comparative policy analysis design. The HSBB framework[8] organises health system analysis into six domains: service delivery, health workforce, health information, medical products, financing, and leadership/governance. This framework was selected because its domains correspond directly to the organisational levers available to health system policymakers, enabling actionable intervention design.[9]

Data Sources

Official government datasets published 2019–2024 were used: BPJS Kesehatan Annual Reports 2022–2024; DJSN Monthly JKN Monitoring Reports (December 2024); KKI Physician Registry Statistics (October 2024); Kementerian Kesehatan Health Profiles 2021–2023; and OECD Health at a Glance 2023.[10-14] Peer-reviewed literature was identified through Scopus and PubMed searches (2015–2024) supplemented by foundational references where empirically necessary.

Analytical Procedure

Three sequential steps were applied for each HSBB domain. Step 1 — Indicator extraction: quantitative indicators were extracted, tabulated by domain, and compared against WHO benchmarks and OECD reference values. Indicators were selected based on measurability from official data and established association with primary care performance in the literature.[8,14] Step 2 — Barrier identification and cross-domain mapping: each indicator was interpreted against JKN's design intent. A barrier was classified as 'structural' if it operates at the level of system design or incentive architecture (not individual behaviour) and is reproduced independently of specific personnel or facility-level factors.[9] Step 3 — Comparative benchmarking: barriers were compared against corresponding domains in the United Kingdom, Netherlands, and Canada to identify structural conditions associated with successful primary care reorientation.[2,15] Policy recommendations were prioritised by cross-domain impact: barriers implicated in three or more domains were designated first-tier priorities.

Limitations

This analysis relies on published secondary data, which may underreport informal sector dynamics and facility-level heterogeneity. The comparative analysis is descriptive rather than causal. Primary data from health workers, patients, or policymakers were not collected; qualitative and mixed-methods research would complement the structural analysis presented here. In addition, subnational variation—particularly between urban Java and remote eastern regions of Indonesia—may not be fully captured in aggregated national datasets, despite evidence of significant geographic disparities in physician distribution.

Ethical Considerations

This study is a secondary data analysis of publicly available datasets. No primary data involving human subjects were collected. Ethical approval is not required for this study design.

RESULTS AND DISCUSSION

The Financing Paradox: Profile and Literature Positioning

JKN's December 2024 expenditure data document the financing paradox (Table 1): of Rp 175.1 trillion total expenditure, 87.1% was absorbed by referral facilities while primary care received 12.8%.[4] This pattern reflects broader concerns identified in the literature on health systems in low- and middle-income countries, where nominal coverage expansion is not always accompanied by improvements in effective service quality. As noted by Margaret E. Kruk et al., such systems risk becoming "poor-quality health systems," characterised by limited health gains despite expanded access.[16]. This analysis builds on

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prior scholarship on Indonesia's JKN system by Rina Agustina et al.[5] and Elizabeth Pisani et al.[6] by providing a systematic cross-domain structural analysis of the factors underlying persistent financing imbalances within a primary care-oriented system.

Table 1. Distribution of JKN Financial Burden by Care Level, December 2024

Type of Service	Expenditure (IDR)	Share (%)	Classification
Inpatient Referral Care (RITL)	Rp 99.0 trillion	56.6%	Referral level
Outpatient Referral Care (RJTL)	Rp 53.4 trillion	30.5%	Referral level
Total Referral Expenditure	Rp 152.4 trillion	87.1%	
Primary Outpatient Care (RJTP)	Rp 19.6 trillion	11.2%	Primary level
Promotive & Preventive	Rp 0.9 trillion	0.5%	Primary level
Other / Primary Inpatient	Rp 2.2 trillion	1.7%	Primary level

Source: DJSN Monthly Report, December 2024. RITL = inpatient referral; RJTL = outpatient referral; RJTP = primary outpatient care.

Barrier 1: Medical Education-System Mismatch

Indonesia's 117 medical schools produce approximately 13,000 graduates annually,[12] yet curriculum analysis reveals a fundamental mismatch: students are educated predominantly in hospital settings (8 months hospital versus 4 months primary care in internship). Competencies central to effective primary care — population health management and longitudinal patient relationships — are absent from the national curriculum.[17] The February 2024 UKMPPD results show a 31% failure rate,[12] confirming that quantitative expansion has occurred without commensurate quality assurance. This mismatch is reinforced by Barrier 2 (income disincentives), creating a cycle in which hospital-oriented training naturally feeds specialty career aspirations.

Barrier 2: Extreme Income Disincentives

General practitioners earn IDR 4–8 million monthly in government puskesmas versus IDR 30–180 million for specialists — an 8–16-fold gap that dwarfs international comparators (Table 3). Countries with strong primary care systems maintain ratios below 2.5:1.[14] The current flat-rate capitation eliminates financial reward for quality investment. Mathauer and Wittenbecher[18] identify quality differentiation in capitation design as the key mechanism through which capitation can incentivise primary care quality rather than volume.

Table 3. International Comparison: Primary Care Physician and Specialist Income Gap

Country	Income Gap	PC System	Key Characteristics
Indonesia	**8–16×**	Weak	Specialist-oriented; undervalued capitation; weak gatekeeper
United Kingdom	1–2×	Strong	GP highly valued; equitable NHS funding; strong gatekeeper
Netherlands	1–1.8×	Strong	Integrated system; GP effective gatekeeper; competitive income
Canada	1.5–2.5×	Moderate	Mixed system; GP fair compensation; primary care career valued

Source: OECD Health at a Glance 2023[14]; author's analysis based on OECD physician remuneration data.

Barrier 3: Geographic Maldistribution

Data from Konsil Kedokteran Indonesia (October 2024) indicate substantial geographic disparities in physician distribution between Western and Eastern Indonesia (Table 2).[12] At the facility level, 423 puskesmas operate without any physician.[19] Evidence from Japan and Australia confirms that physician supply expansion alone does not resolve maldistribution without sustained financial incentives.[20] Indonesia's capitation lacks geographic adjustment coefficients making rural practice financially comparable to urban equivalents.

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Table 2. Geographic Maldistribution of Physicians in Indonesia, KKI October 2024

Region	General Physicians	Specialists	Total	Per 100k Pop.
Western Indonesia*	~148,000	24,508	~172,500	~86
Eastern Indonesia**	~4,125	475	~4,600	~6
Ratio (W:E)	**36:1**	**52:1**	**38:1**	**14:1**

*Source: KKI October 2024 registry. *Western Indonesia: Java, Sumatra, West Kalimantan, Bali, NTB. **Eastern Indonesia: Papua, Maluku, NTT, all Sulawesi provinces.*

Barrier 4: Capacity-Demand Misalignment

Data from BPJS Kesehatan indicate that primary care facilities (puskesmas) often serve very large enrolled populations, resulting in high physician-to-member ratios that constrain the provision of continuous and relationship-based care. High patient loads are associated with shorter consultation times; global evidence shows that in many low- and middle-income settings, primary care consultations frequently last less than five minutes, limiting the ability to deliver comprehensive care.[10] Short consultation duration is linked to reduced care quality and increased likelihood of referral to higher levels of care, contributing to inefficiencies in service delivery.[21] As highlighted by Margaret E. Kruk et al., poor-quality primary care can generate avoidable demand for specialist services, creating a reinforcing feedback loop that undermines health system efficiency in low- and middle-income countries. Importantly, this capacity pressure is not solely driven by physician shortages but is structurally amplified by the JKN membership allocation system (open-panel), which disproportionately concentrates members in public primary care facilities. This imbalance limits the role of private primary care providers and reinforces service overload in puskesmas, strengthening the rationale for Intervention 4 (private primary care development) as a mechanism to redistribute service demand more equitably.

Barrier 5: Reactive and Piecemeal Governance

Policy responses to health system challenges in Indonesia have largely focused on expanding inputs—such as increasing medical education capacity, adding primary care facilities, and implementing physician deployment programs—without fundamentally addressing underlying incentive structures.[5,6] Evidence from health systems governance literature suggests that fragmented or piecemeal reforms tend to produce only temporary improvements when not accompanied by structural changes in institutional arrangements and incentives. As noted by Thomas Bossert and Andrew Mitchell, decentralised and partial policy interventions may lead to limited and reversible gains in system performance.[22] The persistence of the dual-mandate puskesmas contradiction for over 20 years without structural correction exemplifies institutional inertia.

HSBB Cross-Domain Synthesis and Policy Recommendations

Table 4 maps the five barriers across the six HSBB domains. All six domains contain structural contributors that interact to sustain the financing paradox, indicating that no single-domain intervention will be sufficient. The five barriers constitute a self-reinforcing cycle: education produces hospital-centric physicians who pursue specialisation given income differentials, concentrating in cities, leaving primary care understaffed and overloaded, driving avoidable referrals that inflate the paradox. While OECD systems (United Kingdom, Netherlands, Canada) provide useful structural benchmarks for primary care performance, caution is required in direct policy transfer to Indonesia. These countries operate within fundamentally different political economy contexts, including higher fiscal capacity, lower population density, and smaller informal sectors. In contrast, Indonesia's large informal workforce, high population density, and decentralized governance structure introduce implementation constraints not present in OECD settings. Consequently, the relevance of OECD comparison lies not in institutional replication but in identifying underlying structural principles—such as income parity, gatekeeping strength, and quality-linked financing—which must be adapted to Indonesia's fiscal space and administrative capacity.

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Table 4. Five Structural Barriers Mapped Across the WHO Health System Building Blocks

HSBB Domain	Structural Barrier	Evidence Indicator
Service Delivery	80% JKN members at puskesmas; open-panel overload; private sector suppressed	Puskesmas with 122,414 members; 3–4 min consultation; 87.1% expenditure at referral level
Health Workforce	Hospital-centric graduates; 31% UKMPPD failure; 8–16× income gap; 51:1 geographic ratio	117 medical schools; ~13,000 graduates/year; GP IDR 4–12M vs specialist IDR 30–180M/month; 423 physicianless puskesmas
Health Information	No outcome-linked panel monitoring; flat capitation without quality differentiation	No PHM dashboard; SATUSEHAT integration incomplete; no performance-adjusted capitation
Medical Products	Chronic disease inadequately managed at FKTP; formulary misalignment	High RITL for diabetes and hypertension — preventable at primary care level
Financing	Inverted expenditure pyramid; flat capitation without quality differentiation	DJSN Dec 2024: 87.1% referral vs 11.2% primary; no performance-adjusted mechanism
Leadership & Governance	Puskesmas dual mandate (UKM + UKP); reactive piecemeal policy cycle	SKN 2004 design vs 80% JKN allocation to puskesmas; 20+ years without structural correction

Source: Authors' analysis. HSBB = Health System Building Blocks (WHO, 2007). FKTP = Fasilitas Kesehatan Tingkat Pertama.

Based on cross-domain barrier analysis, five priority interventions are recommended:
Intervention 1 — **Curriculum reform:** mandate 50% primary care internship; integrate PHM and VBHC into SKDI; elevate family medicine as prestige specialty track.
Intervention 2 — **Differential capitation redesign:** restructure capitation for quality-linked adjustments (HbA1c, BP control, avoidable referral rates) and geographic coefficients.[23]
Intervention 3 — **Governance separation:** enact legislative separation of UKM (DAK-funded) and UKP (JKN-funded) puskesmas functions.
Intervention 4 — **Private primary care development:** revise JKN member allocation across accredited public and private FKTP providers.
Intervention 5 — **Performance monitoring:** incorporate preventive service rates, chronic disease outcomes, and avoidable referral rates into SPM Bidang Kesehatan.

The feasibility of these interventions varies across regulatory and political domains. Some measures—such as capitation redesign and performance monitoring—can be initiated through Ministerial Regulations (Peraturan Menteri Kesehatan) and BPJS administrative adjustments. More structural reforms, including governance separation of UKM and UKP functions, would likely require legislative revision and inter-ministerial coordination involving the Ministry of Finance and National Development Planning Agency (Bappenas). A phased implementation strategy is therefore recommended, beginning with fiscally neutral incentive adjustments before progressing toward structural governance reforms. This staged approach increases political feasibility while maintaining alignment with long-term system reorientation goals.

CONCLUSION

This policy analysis identifies and interprets the structural determinants of Indonesia's JKN primary care financing paradox through the WHO HSBB framework, contributing the first cross-domain mapping of these barriers in the JKN literature. Five interlocking structural barriers operate across all six HSBB domains, forming a self-reinforcing cycle that resists incremental reform.

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Genuine primary care reorientation requires simultaneous cross-domain structural intervention. International evidence consistently indicates that countries with strong primary care systems share three structural preconditions — organisational prestige, income parity, and quality-linked financing — none of which currently exists in Indonesia's health system design. While causation cannot be established from comparative descriptive analysis, the cross-national pattern is consistent with the structural barriers identified.

Future research priorities include: primary data collection from health workers and policymakers to test the structural barrier framework qualitatively; subnational analysis of JKN financing patterns; and prospective evaluation of cross-domain intervention packages. The 278 million JKN enrollees have nominal primary care access; transforming that into functional primary care that delivers the health, equity, and efficiency benefits primary care theory predicts is the system's most urgent unrealised priority.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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