

Aspects of Fraud Prevention in The National Health Insurance Program in Bengkulu Province, Indonesia: A Realist Evaluation

Susilo Wulan^{1*}, Dirhan¹, Dini Syavani¹, Ayu Laili Rahmiyati²

*Correspondence Author: wulan_susilo@yahoo.com

¹ Department of Public Health, STIKES Tri Mandiri Sakti Bengkulu, Indonesia

² Department of Public Health, Universitas Jenderal Ahmad Yani, Indonesia

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ABSTRACT

Fraud in Indonesia's National Health Insurance (JKN) program threatens the integrity and sustainability of the national health system. Although there have been anti-fraud regulations, their implementation varies across institutional levels. This study aims to identify and evaluate the mechanisms and contextual factors influencing the implementation of anti-fraud policies at healthcare facilities in Bengkulu Province. Conducted between 2018 and 2019, this realist evaluation involved purposively selected hospitals and primary health centers with experience in fraud prevention. Data were collected through in-depth semi-structured interviews with twelve key informants, including hospital directors, provincial and district health officials, members of anti-fraud teams, and representatives of BPJS Health, supported by policy document reviews. Thematic analysis using the Context-Mechanism-Outcome (CMO) framework identified three key challenges. At the provincial level, anti-fraud teams were not established due to perceived overlap with clinical governance roles. At the district/city level, teams functioned administratively with limited authority and technical capacity. At the hospital level, internal audit initiatives improved claim verification but faced obstacles in coordination, training, and communication constraints with BPJS Health. Additional vulnerabilities included limited access of specialists, strict referral pathways, and frequent claim code mismatches, all of which increased fraud risk. The findings highlight the importance of clearer role differentiation for anti-fraud actors, stronger audit systems, and improved collaboration and communication between health facilities and BPJS Health. Continuous technical education and context-adapted policies are considered vital for effective fraud prevention. The study provides practical guidance for enhancing the design and implementation of anti-fraud policies in the JKN program and a short time frame. Future research should broaden the geographic scope and extend the duration, while exploring digital and innovative approaches for anti-fraud measures.

Kata kunci:

Pencegahan fraud;
Realis evaluasi;
Konteks;
Mekanisme;
Outcome

Fraud dalam program Jaminan Kesehatan Nasional (JKN) mengancam integritas dan keberlanjutan sistem kesehatan nasional. Meskipun regulasi anti-fraud telah tersedia, implementasinya masih bervariasi di berbagai tingkat kelembagaan. Penelitian ini bertujuan untuk mengidentifikasi, menganalisis, dan mengevaluasi secara kritis mekanisme serta faktor kontekstual yang memengaruhi implementasi kebijakan anti-fraud di fasilitas pelayanan kesehatan di Provinsi Bengkulu. Studi ini dilakukan pada periode 2018-2019 dengan pendekatan realist evaluation pada rumah sakit dan puskesmas yang dipilih secara purposive dan memiliki pengalaman dalam pencegahan fraud. Data dikumpulkan melalui wawancara mendalam semi-terstruktur dengan dua belas informan kunci, meliputi direktur rumah sakit, pejabat dinas kesehatan provinsi dan kabupaten/kota, anggota tim anti-fraud, serta perwakilan BPJS Kesehatan, yang dilengkapi dengan telaah dokumen kebijakan. Analisis tematik menggunakan kerangka Context-Mechanism-Outcome (CMO) mengidentifikasi tiga tantangan utama. Di tingkat provinsi, tim anti-fraud tidak terbentuk karena dianggap tumpang tindih dengan peran tata kelola klinis. Di tingkat kabupaten/kota, tim hanya berfungsi administratif dengan kewenangan dan kapasitas teknis terbatas. Di tingkat rumah sakit, inisiatif audit internal meningkatkan verifikasi klaim namun masih terkendala koordinasi, pelatihan, dan komunikasi dengan BPJS Kesehatan. Kerentanan lain mencakup keterbatasan dokter spesialis, sistem rujukan yang kaku, dan ketidaksesuaian kode klaim. Temuan ini menegaskan pentingnya diferensiasi peran, penguatan sistem audit, peningkatan kolaborasi lintas institusi, serta pengembangan kapasitas berkelanjutan yang kontekstual.

INTRODUCTION

Healthcare fraud and abuse have been significant global challenges that account for an estimated 3-15% of total healthcare expenditures annually. These practices undermine the quality of care and the financial sustainability of health systems worldwide (Najar et al., 2025). Globally, the World Health Organization and OECD have highlighted that healthcare fraud not only drains financial resources but also undermines universal health coverage efforts by reducing efficiency and equity. Recent global analysis shows that anti-fraud initiatives such as data-driven surveillance, whistleblowing mechanisms, and interagency coordination, remain unevenly implemented, particularly in low and middle-income countries. While machine learning and forensic auditing are increasingly utilized in developed countries to detect anomalous claims, implementation barriers persist in terms of data quality, governance, and inter-institutional collaborations (Ardigo & Chene, 2017; du Preez et al., 2025; World Health Organization (WHO), 2023).

Against the backdrop of these global challenges, Indonesia has taken strategic steps to tackle fraud in the health sector. The National Health Insurance Program, which was implemented as of January 1, 2014, with BPJS Health as the organizer, is mandated to develop an effective and efficient service system through efforts to prevent fraud in health services. Reformation of the payment system from a fee-for-service to a casemix (Ina CBGs) is one of the main complaints and justifications for potential fraud. The increase in the number of participants as well as the number of providers has raised suspicions of fraud (Sadikin & Adisasmito, 2016). Financial discrepancies between actual treatment costs and Ina-CBGs reimbursement rates frequently drive unethical practices, such as up-coding, double-billing, and self-referrals (Ardini et al., 2020; Fathurrohman & Dewi, 2018; Khoiri et al., 2020). Principles of Good Corporate Governance and compliance with MOH Regulation No. 16/2019 have been recommended; however, implementation remains hampered by resource constraints and inconsistent policy enforcement.

Despite multiple regulatory and operational changes at the national level, practical and structural obstacles to fraud prevention persist, indicating ongoing system vulnerability. Detecting and preventing healthcare fraud within JKN is complicated by persistent structural vulnerabilities. Studies highlighted weaknesses in post-claim auditing, including frequent pending claims and claim rejections, primarily due to Ina-CBG tariff mismatches and operational cost disparities (Ivana et al., 2025). Surveys conducted in Malaysia emphasize the value of operational audits, audit committees, and whistleblower hotlines, however similar frameworks in Indonesia remain underdeveloped (Othman et al., 2015). Regulatory, governance, and resource challenges exacerbate these issues, amplifying systemic risk and hindering the efficient control of fraud and compliance with policy.

These national-level risks often manifest more sharply at the regional level in Indonesia, such as in Bengkulu Province. Empirical studies have revealed that financial discrepancies between actual treatment costs and Ina-CBGs reimbursement rates frequently drive unethical practices such as up-coding, double-billing, and self-referrals (Ardini et al., 2020). Studies on the of hospital fraud in the NHI Indonesia highlight how underpaid tariffs and a complex claim system create a structural incentive for manipulation and falsification of service codes, particularly in secondary care (Khoiri et al., 2020). Similarly, potential fraud in primary healthcare as (Fathurrohman & Dewi, 2018) documented, highlights frequent issues within

capitation systems, including the misuse of residual funds, inadequate claim verification processes, and limited internal control mechanisms at first-level health facilities (FKTP). These findings align with Fatimah et al. (2021) who mapped major forms of fraud in the JKN systems. Up-coding (increasing service claim codes to obtain higher reimbursement), mishandling of capitation funds, double-billing, and weak internal supervision are the most frequent issues. Principles of Good Corporate Governance and compliance with regulations, such as the Ministry of Health Regulation No. 16/2011, along with robust internal control systems and an active whistleblowing policy, are recommended as fundamental solutions. However, implementation remains challenging as facilities struggle with limited resources and inconsistent policy enforcement.

Studies on fraud detection in Indonesia's National Health Insurance (JKN) system have also highlighted persistent structural vulnerabilities within the BPJS-hospital relationship (Ardini et al., 2020). Financial discrepancies between actual treatment costs and Ina-CBGs reimbursement rates frequently drive unethical practices such as up-coding, double-billing, and self-referrals. These behaviors reflect systemic weakness in post-claim auditing and moral hazards generated by prospective payment mechanisms. Comparatively, the Malaysian public sector has shown the positive impact of operational audits, audit committees, whistleblower hotlines, regular staff rotation, and fraud detection training as proactive measures (Othman et al., 2015). However, surveys indicate that whistleblowing and forensic accounting are still underutilized, and cultural barriers to reporting persist.

Recent reports Ivana et al. (2025) have also indicated a significant rise in pending claims and claim rejections in BPJS Health, especially among hospitals in smaller provinces, underscoring mismatches between Ina-CBGs tariffs and operational costs. These bottlenecks have contributed to delayed payments, liquidity pressures, and a higher likelihood of informal adjustments or manipulation during claims submission. Lessons from Malaysia demonstrate that proactive governance mechanisms, such as operational audits, audit committees, whistleblower hotlines, and fraud detection training, significantly enhance compliance (Othman et al., 2015); Yet, similar frameworks in Indonesia remain underdeveloped.

Globally, healthcare fraud is recognized as a critical challenge that has a profound negative impact on the sustainability of health insurance programs, service quality, and the efficiency of health care financing (Mackey et al., 2020; Najjar et al., 2025; Tashin Azad & Paul William, 2024). Healthcare fraud can be defined as an action taken to get counterfeit representations of money or other property belonging to a healthcare benefit program or to commit fraud against a healthcare program. This type of fraud negatively affects individuals, organizations, or other parties, involving deception or false assertions (Faizah et al., 2021). International systematic reviews highlight that the complexity of universal health financing schemes makes them particularly vulnerable to fraud, including false claims and data manipulation, and service mark-ups (Michaela et al., 2021; Thaifur et al., 2021).

In the healthcare industry, fraud has been recognized as a significant issue on a global scale. Given the enormous burden on healthcare organizations and health insurance systems in industrialized nations, medical identity theft is one of the fastest-growing crime trends resulting from patient identity theft. Numerous incidents that have been documented indicate this, and the Health Insurance Scheme contains information on various types of medical fraud. Fraud in health insurance claims has become a significant problem, with rampant growth that

has significantly, affected the global delivery of healthcare services. In addition to financial losses incurred, patients who genuinely need medical care suffer because service providers are not paid on time due to delays in the manual vetting of their claims and are therefore unwilling to continue offering their services. Health insurance claims fraud is committed through service providers, insurance subscribers, and insurance companies (Sowah et al., 2019).

Detecting health insurance fraud is a major challenge (Shi et al., 2016). Failure to detect fraud has serious consequences for the organization (Coffin, 2003). The potential for fraud in health services is expanding due to pressure from reform of the financing system, opportunities resulting from inadequate supervision, and the justification for committing fraud. This potential will likely result in financial losses of the state (Agiwahyunto et al., 2016). The threat of fraud must be addressed through an organized program, such as an anti-fraud initiative. In this context, the implementation of JKN is supported by a legal framework for anti-fraud policies issued by the health minister concerning fraud detection.

One context which exemplifies these persistent challenges is Bengkulu Province, where contextual, regulatory, and resource barriers exacerbate the risk and impact of fraud. In Bengkulu Province, distinct regulatory, governance, and resource dynamics create unique contextual challenges. Local studies have shown that claim verification procedures are inconsistent, anti-fraud teams face unclear role delineation, and communication with BPJS Health, Health Offices, and health facilities is fragmented (Khoiri et al., 2020). The mismatch between Ina-CBGs tariffs and real hospital expenditure, as well as the growing backlog of pending claims, exacerbates these vulnerabilities. Despite its significance, research evaluating the implementation and effectiveness of anti-fraud policies, particularly through realist evaluation frameworks, there remains a significant knowledge gap regarding the effective implementation of anti-fraud policies, particularly in less-studied regions such as Bengkulu, utilizing realist evaluation design. Therefore, this study aims to identify and critically evaluate the mechanisms and contextual factors influencing the implementation of anti-fraud regulations and policies at first-level and secondary health facilities in Bengkulu Province, Indonesia, using a realist approach. By focusing on recent and locally relevant issues such as Ina-CBGs tariff mismatches and increasing pending claims, while drawing lessons from international anti-fraud practice, this research provides evidence-based input for strengthening anti-fraud policy within JKN at both the local and national levels.

RESEARCH METHOD

The research employed a Realist Evaluation (RE) approach. The RE framework emphasizes understanding *what works, for whom, in what circumstances, and how* by uncovering the interaction within the context-mechanism-outcome (CMO) configuration. This framework is subsequently tested and refined during the evaluation stage. It is then tested and refined at the evaluation stage. The RE approach provides an explanation of why, how, under what circumstances, and for whom the program or policy being evaluated succeeds or fails (Pawson & Tilley, 1997).

The research was conducted through three main stages. The first stage, theory elicitation, was conducted to identify the underlying assumptions or program theories that explain how anti-fraud policies were expected to function within the JKN system. These initial theories were developed from a review of relevant policy documents, such as the Ministry of Health

Regulation No. 16/2019 and BPJS Health guidelines, and previous empirical studies on healthcare fraud in Indonesia. In *the second stage*, data collection and testing were undertaken through qualitative inquiry in selected facilities and among key informants to explore how anti-fraud mechanisms actually functioned within their specific institutional contexts. Finally, in *the third stage*, the collected data were synthesized and analyzed to refine the initial theories into empirically grounded Context-Mechanism-Outcome (CMO) configurations, producing an explanatory model that demonstrates how and under what conditions the anti-fraud policy operates effectively or fails in practice.

Setting and sample

This research was conducted in Bengkulu Province from 2018 to 2019. The research setting was selected due to the province's unique institutional characteristics, including a moderate health system capacity, increasing JKN enrollment, and persistent issues with claims verification. The sampling frame includes primary and secondary healthcare facilities known for their active involvement in fraud prevention efforts. Not all healthcare facilities were included: purposive sampling was employed to select facilities and informants most relevant to the research objectives, based on their roles and responsibilities in health service provision and anti-fraud program management. In total, the study analyzed data from 10 healthcare facilities, representing a mix of hospitals and primary health centers, chosen for their diverse institutional backgrounds and documented experience with anti-fraud practices.

A total of 12 informants were interviewed, comprising 2 hospital directors, 1 member of the Quality and Cost Control Committee, 2 heads of health services at the provincial health office, 3 representatives from district/city health offices, 2 heads of primary health centers, and 2 representatives from BPJS Health Offices (see Table 1). The inclusion criteria for informants were: individuals in strategic decision-making or implementation positions regarding fraud prevention at their respective institutions, with a minimum of one year of experience, and those unable or unwilling to provide informed consent.

Table 1. Composition of Informants

| No. | Position/Role | Institutional Type | Gender | Years in Positions | Relevance to anti-fraud implementation |
|-----|--|------------------------------------|--------|--------------------|--|
| 1 | Hospital Director | Secondary (Hospital)/City | F | 6 | Policy and financial decision-making |
| 2 | Hospital Director | Secondary (Hospital)/Regency | M | 4 | Policy and financial decision-making |
| 3 | Head of Quality and Cost Control Committee | Quality and Cost Control Committee | F | 3 | Ensuring that health services are provided under the JKN program |
| 4 | Head of Health Office | Provincial Health Office | M | 5 | Oversight and coordination |
| 5 | Head of Health Services Division | Provincial Health Office | M | 7 | Verification and supervision |
| 6 | Head of Health Service Division | City Health Office | M | 4 | Verification and supervision |
| 7 | Head of Health Service Section | Anti-Fraud Team | F | 6 | Verification and supervision |
| 8 | Head of Health Services Division | District Health Office | F | 5 | Verification and supervision |

Table 1. Composition of Informants (cont')

| No. | Position/Role | Institutional Type | Gender | Years in Positions | Relevance to anti-fraud implementation |
|-----|--|---------------------------------|--------|--------------------|---|
| 9 | Primary Center | Health Primary (Puskesmas)/City | F | 4 | Capitation and reporting |
| 10 | Anti-Fraud Team | Primary (Puskesmas)/Regency | M | 3 | Capitation and reporting |
| 11 | Head of BPJS Branch Office | Health BPJS Branch Office | M | 3 | Strategic leadership in the JKN program |
| 12 | Health Management Division BPJS Health | Service BPJS Branch Office | M | 6 | Quality and cost control oversight |

Procedures and Instruments

Data were collected through in-depth semi-structured interviews and document review, guided by a protocol constructed from the Realist Evaluation (RE) Framework. The interview guide includes key questions such as: “How is anti-fraud policy implemented in your institution?” “Can you describe the processes for claim verification and reporting?” and “What motivates or challenges anti-fraud teams at your facility?” These questions were designed to elicit how contextual factors (organizational structure, resources, supervision), mechanisms (motivation, trust, accountability, incentives), and outcomes (fraud prevention, behaviors, reporting, verification practices) interact in practice. To enhance credibility and support findings, document triangulation was conducted using Ministry of Health Policy Briefs, BPJS Health audit reports, and institutional anti-fraud team records. This process enabled cross validation between informants' self-reported practices and institutional documentation, strengthening the validity of identified themes and mechanisms.

Data analysis

All interview recordings were transcribed verbatim and analyzed qualitatively using a thematic content analysis. Open coding identified emergent concepts line-by-line, followed by axial coding to group codes into C-M-O categories, and selective coding to map these categories into explanatory models. The identified sample mechanisms included trust, motivation, accountability, capacity, and leadership. Supporting quotes for the identification of these mechanisms include: “We verify all claims, but limited staff means sometimes verification is only administrative, not clinical” (Hospital director); “Doctors often perceive anti-fraud efforts as additional workload without incentives” (Health service division). C-M-O mapping facilitated the identification of consistent causal pathways across cases. A cross-case comparison was conducted, and analytic rigor was enhanced through peer debriefing, document comparison, and the maintenance of an audit trail.

Trustworthiness

To enhance the trustworthiness of the findings, methodological triangulation was employed, combining interview, document, and report data. Member checking was conducted by returning preliminary results to key informants for verification and feedback. Additionally, the research team maintained reflexive memos to monitor potential biases during the coding and interpretation process.

Ethical Considerations

Ethical approval for the study was obtained from the Ethical Research committee in Medical Health, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University (Approval KE/FK/1393/EC/ 31 December 2018). Participant was voluntary, and all informants signed written informed consent after receiving an explanation of the study's objectives and assurances of confidentiality. No personal identifiers were used in transcripts or reports. All data were stored securely with restricted access to the research team.

Relevance

While the data collection was conducted in 2018-2019, the findings remain highly relevant given the persistence and evolving patterns of health insurance fraud in Indonesia. International literature underscores that anti-fraud strategies and systemic vulnerabilities remain topical and urgent (Najar et al., 2025; Mackey et al., 2020). This study contributes empirical evidence and C-M-O-based analysis, which can inform the ongoing refinement of anti-fraud policies in the JKN program and support policy learning at both national and local levels.

RESULTS AND DISCUSSION

The study identified key challenges and progress in the implementation of fraud prevention mechanisms within the National Health Insurance (JKN) scheme in Bengkulu Province using a realist evaluation approach. Ten key informants were interviewed, including officials from provincial and district/city health offices, hospital directors, members of the anti-fraud team, and representatives from BPJS Health. The findings are organized into three main context-mechanism-outcome (CMO) configurations.

CMO 1: Lack of Anti-Fraud Team at Provincial Level

Context : The Ministry of Health conducted a socialization initiative in December 2019, urging each Provincial Health Office to establish an anti-fraud team involving the inspectorate.

Mechanism : The Bengkulu Provincial Health Office believed that the existing Clinical Consideration Team, established by governor's decree, adequately addressed fraud-related reviews. Consequently, officials assume that creating an additional team would lead to functional duplication and increase administrative burdens. As a result, they deprioritized the formation of the mandated anti-fraud team.

“At the provincial health office, we haven't formed an anti-fraud team because we already have a clinical review team appointed by the governor. Creating another team might lead to overlapping responsibilities.”_Provincial Health Office.

Outcome : No provincial anti-fraud team was officially established or operationalized, as evidenced by the absence of a provincial decree (SK) and activity reports. Consequently, coordination for fraud prevention remained fragmented, and medical audit oversight at the provincial level was not conducted.

This realist evaluation revealed fragmented and uneven implementation of anti-fraud mechanisms within the JKN scheme in Bengkulu Province. The main obstacles in fraud prevention include the absence of an optimal anti-fraud team and weak internal supervision at

both provincial and district levels. At the Provincial level, institutional inertia and confusion regarding the functional differences between mandated anti-fraud team and clinical review teams led to a failure to establish dedicated anti-fraud teams, resulting in fragmented coordination and a lack of medical audit oversight (Fatimah et al., 2021; Mackey et al., 2020; OECD, 2017). The literature consistently emphasizes that establishing well-structured anti-fraud teams with clear institutional roles and systematic education programs is critical for the effective prevention of fraud in national health insurance programs (Nascimento & Kimura, 2024; Tito et al., 2024).

District-level anti-fraud teams, established under Regulation No. 36/2015, primarily function as verification units without enforcement authority. Their capacity is limited due to the lack of audit training and technical guidance (du Preez et al., 2025; Najar et al., 2025; Othman et al., 2015; Sparrow, 2003). International guidelines advocate for the separation of verification and audit functions to prevent conflict of interest and reinforce accountability within healthcare organizations. At the hospital level, internal anti-fraud teams under the SPI have improved claim documentation and reduced pending claims; however, persistent coding inconsistencies and weak coordination with BPJS Health continue to pose risks (Mitriza & Akbar, 2019; Luis et al., 2024; Mackey et al., 2020). Furthermore, limited clinical specialist capacity, ongoing trust deficit, and system barriers such as claim rejections and rigid referral pathways exacerbate inefficiencies and discourage proactive fraud detection (Centers for Medicare & Medicaid Services, 2023; Thaifur et al., 2021; Palutturi et al., 2019; Rowe & Long, 2009).

Despite data collection conducted between 2018-2019, the findings remain relevant in 2025 as foundational issues such as Ina-CBGs tariff mismatches, insufficient audit infrastructure, incomplete role separation, and fragile communication between hospital and BPJS Health persist within Indonesia's JKN system. These issues continue to shape provider incentives and institutional behaviors (Faizah et al., 2021; Luis et al., 2024; Mackey et al., 2020). The literature confirms the need for clarified mandates, capacity building, standardized audit indicators, integrated digital claim management, and trust-based inter-organizational collaboration as essential strategies for strengthening anti-fraud policy effectiveness under universal health coverage (ACCA, 2024; Centers for Medicare & Medicaid Services, 2023; Tashin Azad & Paul William, 2024).

CMO 2: Existence of District-Level Anti-Fraud Teams

- Context** : Regulation of the Minister of Health No.36 of 2015 requires each district and city health office to establish an anti-fraud team responsible for claim verification and fraud detection. However, the regulation does not specify clear authority for imposing sanctions or provide operational guidance or resources for team formation and training.
- Mechanism** : District officials interpreted their role as primarily administrative, focusing on document verification rather than investigation. They lacked both the legal authority and technical capacity to enforce sanctions, which led them to limit their activities to routine claim checking. This reflects a defensive compliance mindset rather than a proactive approach to fraud control.

“We do have an internal anti-fraud team, but so far, no fraud cases have been followed up with sanctions. We only verify and audit.”_ District Health Office Bengkulu Selatan

“We haven’t had any formal training on fraud detection or coding. We rely on internal experience.”_Anti-fraud team member, District Office.

Outcome : As a result, anti-fraud teams were formally established in all districts however, they primarily functioned as verification units, with no recorded enforcement actions or formal sanction reports and limited audit reports. This weak operationalization undermined fraud deterrence and reduced staff motivation to pursue case findings.

District and city health offices complied with Regulation No. 36/2015 by establishing anti-fraud teams. However, these teams generally function as verification units lacking enforcement authority. Informants cited insufficient audit training and the lacking enforcement authority. Informants cited insufficient audit training and the absence an operational mandate, a phenomenon noted in the literature, as a barrier to effective fraud deterrence (Dean et al., 2013; Najar et al., 2025; Sparrow, 2003). Dean emphasized that the challenge in controlling fraud lies in the lack of knowledge among various stakeholders regarding healthcare fraud. In fact, leaders of health facilities often have minimal understanding of fraud control strategies (Grant, 2017). Comparable challenges have been observed in advanced healthcare systems, such as that of the United States. Despite robust legal instruments like the False Claims Act and the Health Care Fraud and Abuse Control Program, studies indicate that only a small proportion of healthcare fraud losses are recovered due to fragmented oversight and limited analytical capacity (Rudman et al., 2008).

The limited enforcement capability at the district level is partly stems from the absence of structured training on audit procedures, coding standards, and fraud investigation techniques (Dean et al., 2013; Laursen, 2013). Continuous capacity building would strengthen both technical competence and ethical awareness, thereby increasing the operational effectiveness of district anti-fraud teams (AHIMA foundation, 2010; Najar et al., 2025). International experiences underscore that robust enforcement and technical capacity are prerequisites for impactful fraud control (Agrawal et al., 2013). While anti-fraud teams have been established in accordance with JKN program directives, their performance remains suboptimal due to insufficient knowledge about fraud prevention measures, presenting a substantial challenge for both district health offices and hospitals.

Anti-fraud activities at the district and city levels primarily focus on administrative verification rather than comprehensive investigation and enforcement. Review findings strongly recommend prioritizing multidisciplinary audit teams, comprising medical, coding, and forensic accounting specialists, for more effective fraud detection and response. Continuous audit training, strict SOP enforcement of standard operating procedures (SOPs), and adherence to professional ethics are identified as core pillars for building effective and sustainable anti-fraud teams, as confirmed by comparative research and systematic reviews (Nascimento & Kimura, 2024; Tito et al., 2024).

CMO 3: Hospital-Level Anti-Fraud Implementation

Context : Hospitals in Bengkulu frequently faced encounter pending claims from BPJS health due to inconsistent clinical coding and incomplete documentation. These claim rejections delay reimbursement, disrupted

hospital cash flow, and create managerial pressure to strengthen internal verification systems.

“Pending claims disturb our hospital's cash flow. So, we have to double-check all coding to avoid rejections.”_Finance Officer, Hospital SPI Unit

Mechanism : Hospital leaders, perceiving that financial instability was caused by weak claim verification and a lack of coordination among departments, were motivated to establish anti-fraud teams under the Internal Audit Unit (SPI). These teams collaborated with coders and clinicians to review claims prior to submission, ensuring alignment with BPJS Health Standards.

“We formed an internal anti-fraud team under the SPI to check claims before submission. We also have a coding team and medical officer to ensure all is aligned with BPJS Health Rules.”_Director Hospital

These localized adaptations reflect preventive mechanisms commonly observed in other low-and middle-income country (LMIC) contexts. However, the absence of data-driven fraud detection infrastructure, limited Ina-CBGs training, and inconsistent coding interpretation continue to constrain effectiveness. Recent empirical studies utilizing cost-control analytics within the JKN framework further validate this finding, demonstrating that claim irregularities and tariff mismatches can be systematically identified through expenditure variance analysis (Wibowo et al., 2019). Studies confirm that healthcare fraud in Indonesia is not merely a result of individual misconduct but rather a systemic issue stemming from financial misalignment and weak monitoring (Mitriza & Akbar, 2019). Strengthening internal audit systems, developing multidisciplinary claim review teams, and enhancing the capacity of BPJS verifiers remain critical priorities

Outcome : As a result, hospitals reported fewer pending claims were eventually settled, although often after significant delays that affected hospital liquidity and staff payments. Additionally, the quality of claim documentation improve. These operational vulnerabilities highlight that the root causes are not merely administrative errors but systemic misalignments between tariff structures and actual service costs, which create opportunities for and rationalizations of improper coding.

“Sometimes BPJS Health changes the claim code without confirming with us. That creates a payment gap of Rp 250,000-300,000 per patient.”_Hospital Administrator.

“There's always a disconnect between doctors, coders, and BPJS Health. Each interprets diagnoses differently.”_Hospital Coding Officer.

Table 2 summarizes the CMO findings that illustrate the fragmented and uneven implementation of fraud prevention policies across institutional levels in Bengkulu Province.

Table 2. CMO Results of Health Care Fraud Prevention Regulations

| CMO Configuration (Empirical Finding) | Recent Literature (< 10 years) | Policy Lesson/Design Implication for JKN |
|---|---|--|
| <p>C: There was a socialization from the Ministry of Health in December 2019 that the Provincial Health Office must have a Fraud Team, with one of the conditions being the involvement of the inspectorate team.</p> <p>M: The Provincial Health Office is aware of its duties to form an anti-fraud team, but the Bengkulu Provincial Health Office feels that there is already a team that has the same function as the anti-fraud team at the provincial Health Office, namely a clinical consideration team that is decreed by the Governor, fearing that there will be overlapping tasks.</p> <p>O: The anti-fraud team at the Bengkulu Provincial Health Office has not yet been formed.</p> | (Fatimah et al., 2021; OECD 2017) | Clarify institutional mandates and role boundaries between anti-fraud and clinical-governance teams; issue a unified provincial decree to avoid task overlap and ensure accountability. |
| <p>C: There is a regulation in the form of Regulation of the Minister of Health number 36 of 2015.</p> <p>M: The Health Office is aware of the importance of an anti-fraud team.</p> <p>The anti-fraud team conducted a medical audit to verify potential fraud findings, but this has not been proven, so no action has been taken.</p> <p>O: There is an anti-fraud team at the district/city health office.</p> <p>Findings of potential fraud.</p> | (du Preez et al., 2024; Othman et al., 2015) | Build multidisciplinary audit teams (comprising clinicians and forensic accountants), provide continuous audit training, and establish clear escalation pathways for confirmed instances of fraud. |
| <p>C: There is a regulation in the form of Regulation of the Minister of Health number 36 of 2015.</p> <p>There are pending claims.</p> <p>M: Hospitals feel the need for an anti-fraud team to adjust claims that will be submitted to BPJS Health.</p> <p>O: There is an anti-fraud team in the hospital formed under the auspices of SPI.</p> | (The World Bank Group, 2021; Mackey et al., 2020) | Translate national regulation into actionable local SOPs, allocate dedicated budget lines, and monitor compliance through provincial inspectorate audits. |

Pending claims are claims files returned by BPJS Health due to incompleteness or inappropriateness, necessitating revision by the case-mix officer. These recurring claim revisions are often associated with coding inconsistencies and incomplete documentation. Although settlements are eventually processed in accordance with statutory provisions, the delays adversely affect hospital liquidity and disrupt the timely payment of staff and operational costs. These operational vulnerabilities indicate that the root causes are not solely administrative errors but also systemic misalignments between tariff structures and actual service costs, which create opportunities and rationalizations of improper coding.

Such localized managerial adaptations, establishing internal anti-fraud units or pre-verification systems, mirror preventive efforts observed in other LMIC contexts, although they generally lack data-driven fraud detection infrastructure. Integrating electronic health records (EHRs) and predictive analytics could significantly strengthen these mechanisms by enabling

earlier anomaly detection and reducing dependence on manual claim review. The international literature supports this perspective, emphasizing that algorithmic systems must be complemented by proper data governance, human adjudication, and robust accountability frameworks to prevent new forms of error or bias (Luis et al., 2024). The hospital-level responses in Bengkulu reflect international evidence that effective and sustainable quality improvement relies on integrating regulatory compliance with professional self-regulation. The UK's National Clinical Audit model demonstrates that clinician participation in data-driven audit cycles enhances both accountability and care quality (Stewart et al., 2016).

The phenomenological evidence of fraud in Indonesian hospitals indicates that it is not merely a result of individual misconduct but rather a systemic issue stemming from financial misalignment, weak monitoring, and poor ethical culture (Luis et al., 2024). Strengthening internal audit systems, case-mix teams, and BPJS verifier can help reduce moral hazard and financial losses. These findings align with the broader global framework, emphasizing that effective fraud prevention requires both ethical governance and technological innovation. In this context,, hospitals in Bengkulu demonstrate how contextual financial pressures (C) and active managerial mechanisms (M) that lead to partial but meaningful improvements in claim integrity (O), while also revealing persistent structural and communication gaps that must be addressed through capacity building and systemic reform.

Despite these internal adaptations, the effectiveness of hospital-level fraud control is limited by inconsistent technical knowledge among staff. As highlighted in international literature, capacity building through structured education and periodic refresher training on claim auditing, Ina-CBGs coding, and ethical compliance is crucial for reducing error-induced fraud (Price & Norris, 2009; NHCAA, 2007). Educational programs should not only focus on financial protection but also aim to foster a culture of transparency and accountability across institutional levels (Luis et al., 2024; Centers for Medicare & Medicaid Services, 2023).

CMO 4: Limited Specialist Capacity Weakening Hospital-Level Fraud Detection

Context : Following the introduction of the JKN and Ina-CBGs payment system, hospitals in Bengkulu were required to strengthen claim accuracy and fraud prevention mechanisms. In response, some hospitals established internal anti-fraud teams under the Internal Audit Unit (SPI) to review claims before submission to BPJS Health. However, many facilities operated with limited availability of specialist availability for clinical review, and their Quality and Cost Control Teams lacked formal training in fraud detection and medical audit procedures.

“We formed an internal anti-fraud team under SPI to check claims before submission. We also have a coding team and a medical officer to ensure all is aligned with BPJS rules.”_Director of Kota Bengkulu Hospital.

Mechanism : Due to the lack of qualified specialists and technical competencies among team members, they primarily relied on administrative checks rather than conducting clinical evaluations of diagnoses and procedures. The absence of structured training and audit guidelines resulted in a mechanism of partial compliance, where staff were motivated to adhere to policy but constrained by limited expertise and unclear standards. This situation

diminished the team's ability to identify undercoding, misclassification, or unnecessary procedures that could potentially constitute fraud.

"Sometimes we don't have the right specialist to review a case. So even if there's a mistake, we can't properly evaluate it." _Quality and Cost Control Team

Such gaps in expertise underscore the critical role of continuing education and professional certification. Regular workshops and inter-professional learning programs can enhance diagnostic accuracy, coding consistency, and overall fraud awareness. Leadership modeling and consistent communication of ethical standards are equally vital in fostering a culture of integrity within health facilities (Rowe & Long, 2009).

Outcome: As a result, the anti-fraud team functioned as a documentation verifier than a clinical auditor. Fraud-related red flags, such as inconsistent coding for over-servicing- were often undetected or unresolved, leading to ongoing risk of claim rejection and moral hazard. The hospital demonstrated policy compliance through the formation of the team but achieved only limited fraud detection capacity due to human resource constraints and knowledge gaps.

A major source of fraud risk in hospitals arises from an inconsistent understanding among doctors, coders, and claim verifiers regarding diagnostic coding and billing procedures. Actions that have the potential to lead to fraud include unnecessary diagnoses by doctors and upcoding, which refers to billing for more expensive services or procedures than those actually performed (Sadikin & Adisasmito, 2016). Up coding can occur due to administrative errors or malicious attempts to increase revenue. The most common types of fraud include payment for treatments that are more expensive than necessary (up-coding), forgery of diagnoses, reimbursement for services that have not been provided, and inaccurate statements regarding unnecessary procedures and payments (Thornton et al., 2015). In the JKN system, these practices are exacerbated by weak coding oversight and limited supervisory capacity, particularly in hospitals where fraud control remains dependent on manual claim verification.

Hospitals in Bengkulu have implemented various structural responses to mitigate these risks, including the establishment of anti-fraud teams, as directed by hospital leadership. However, as one quality and cost control team member acknowledged, this reflects a mechanism of partial compliance-where hospitals attempt to meet policy expectations but are constrained by limited human resources, weak clinical audit capacity, and unclear operational standards. Research indicates that such technical and organizational constraints hinder hospitals from effectively detecting or deterring fraudulent activities, despite the presence of formal compliance structure. To address these issues, hospitals have developed tailored anti-fraud strategies to mitigate losses from claim rejections. However, persistent challenges remain.

Limited training on Ina-CBGs, insufficient coordination among doctors, coders, and BPJS verifiers, and frequent disagreements in coding interpretations continue to hamper effective fraud prevention (Mitriza & Akbar, 2019). This aligns with econometric evidence from recent modeling approaches, showing that financial stress and tariff misalignment significantly influence providers' likelihood of engaging in opportunistic coding by bypassing behaviors (Yao, 2014). These interconnected organizational and technical barriers underscore the need for comprehensive interventions and ongoing professional development to enhance fraud control in health service claims. Addressing these challenges requires structured

education that encompasses ethical reasoning, regulatory frameworks, and real-case simulations of claim review (Rowe & Long, 2009; Rowe, 2010; ACCA, 2024). Educational initiatives and on going monitoring fosters a compliance-oriented mindset, reducing the moral hazard that arises when staff lack an understanding of fraud indicators and sanctions (Dean et al., 2013).

The persistence of upcoding and administrative errors demonstrates that fraud prevention cannot rely solely on structural formation: it must also include continuous capacity building and system integration. Evidence from the U.S centers for Medicare and Medicaid Services (Center for Medicare and Medicaid Services (CMS), 2015) and comparative studies in LMICs shows that healthcare fraud, waste, and abuse often manifest through predictable billing patterns such as up-coding, unbundling, billing for unread services, or identity misuse. These patterns emerge where claim processing systems remain fragmented, and supervision is weak. To strengthen fraud detection, CMS and similar agencies advocate for a multi-tiered strategy that combines standardized claim coding, automated audit systems, and whistleblower protection mechanisms. For Indonesia's JKN context, this means investing in structured medical audit training, embedding clinical specialists in anti-fraud teams, and developing standardized audit indicators that bridge the gap between coders, clinicians, and BPJS verifiers (Faizah et al., 2021; Palutturi et al., 2019; Sowah et al., 2019).

CMO 5: Trust Deficits, Coordination Problems, and Systemic Barriers in Bengkulu

Context: Hospitals in Bengkulu frequently encounter claim rejections and unilateral code changes by BPJS Health without prior consultation, which disrupts cash flow and undermines institutional trust. Additionally, Bengkulu's geographic and resource constraints, including limited access to specialists and rigid tiered referral pathways, further burden hospital operations.

"BPJS rarely visits us anymore. They change codes without discussing it, and we're the ones who bear the losses." _Director of Hospital Bengkulu Selatan.

"We're not allowed to refer directly to M.Yunus Hospital even when that's where the specialists are. This delays treatment by weeks." _Hospital Director, Bengkulu City.

Mechanism: Hospital administrations and medical staff perceive BPJS Health and the referral system as rigid and non-collaborative, leading to a sense of distrust and frustration. This weak inter-organizational coordination discourages open communication and fosters adaptive, yet potentially unethical, responses, such as adjusting coding or bypassing administrative barriers to secure reimbursement. Limited availability specialist and unclear referral policies exacerbate these tensions, reinforcing the perception hinders rather than supports patient care and financial sustainability.

Outcome: As a result, coordination between BPJS Health, hospitals, and referral centers weakens. Claim reconciliation becomes a procedural and reactive lacking mutual accountability. The credibility of fraud-prevention mechanisms is compromised, leading to their underutilization. In some cases, structural inefficiencies indirectly create incentives for fraudulent behavior, as providers seek faster claim settlements or ways to circumvent referral bottlenecks.

The combination of distrust and structural constraints in Bengkulu reflects broader systemic weakness common in developing health systems. Comparable analyses from mature stems such as those in the United States reveal that the persistence of fraud is often rooted in systemic incentive distortions and fragmented oversight, emphasizing the need for integrated governance and AI-assisted detection mechanisms (Dean et al., 2013). Cooperative studies highlight that institutional fragmentation, limited technical capacity, and opaque auditing foster fraud vulnerability (Mackey et al., 2020; Najar et al., 2025; Center for Medicare and Medicaid Services (CMS), 2015). In Indonesia, the predominance of manual and retrospective audits restricts proactive fraud detection. Integrating AI-based anomaly detection and automated risk scoring could enhance transparency and accountability in claim verification (Tashin Azad & Paul William, 2024).

Moreover, geographic and human resource disparities in Bengkulu mirror challenges observed in other LMICs, where rigid referral structures and uneven resource allocation lead to both inefficiency and ethical strain (Palutturi et al., 2019). When institutional processes hinder service delivery, providers may rationalize bending the rules to maintain operations or meet patient demands. Strengthening referral pathways, decentralizing specialist resources, and building a participatory audit mechanism are therefore critical to restoring trust, collaboration, and integrity within the JKN's anti-fraud framework (Faizah et al., 2021; Thaifur et al., 2021).

Restoring trust between BPJS Health and providers also depends on shared learning and joint capacity building. Collaborative education initiatives that bring BPJS verifiers, hospital coders, and health office staff can enhance mutual understanding of claim standards and verification logic. Research indicates that trust-based, knowledge-driven systems yield more sustainable anti-fraud outcomes than punitive or audit-heavy approaches (Centers for Medicare & Medicaid Services, 2023).

Although the data were collected in 2018-2019, the core structural drivers identified in this study remain highly relevant in 2025. The central findings of this study, Ina CBGs tariff shortfalls relative to actual hospital unit costs, limited internal audit capacity at health facilities, incomplete separation between verification and payment function, and fragile communication channels between hospital and BPJS Health, describe enduring features of Indonesia's JKN financing and governance architecture that continue to shape provider incentives. Recent studies and policy analyses in Indonesia report persistent mismatches between Ina-CBG tariffs and actual service costs, the accumulation of pending claims, liquidity pressures on hospitals, and ongoing vulnerabilities in coding and internal audit systems, indicating that these contextual mechanisms remain active in 2024-2025. These external findings are consistent with our CMO configurations, which demonstrate how tariff gaps, weak audit capacity, and blurred verification-payment functions interact with hospital-level managerial responses to produce both adaptive practices and fraud risks. Taken together, the earlier and more recent evidence justifies using the 2018-2019 CMO configurations as valid explanatory models for the current JKN context, while underscoring the need for updated data on cost, claims, and audit-capacity data in future evaluations.

CONCLUSION

The implication of anti-fraud mechanisms within Indonesia's National Health Insurance in Bengkulu Province continues to exhibit fragmentation and inconsistency across institutional

levels, despite the regulatory foundation provided by the Ministry of Health Regulation No. 36/2015. The context-mechanism-outcome (CMO) configurations indicated that structural, behavioral, and contextual factors significantly influence on the effectiveness of anti-fraud policy implementation. At the provincial level, institutional overlap and role confusion hinder the establishment of a dedicated anti-fraud team. In contrast, district-level verification units operate without enforcement authority due to limited technical capacity and audit training. Hospitals have initiated internal measures to manage claims and fraud, but face challenges such as inconsistent coding, weak coordination with BPJS Health, and limited technical expertise. Broader systemic issues, including inter-institutional distrust, geographical constraints, and rigid referral regulations, exacerbate these challenges. The absence of sustained training programs further restricts the development of a compliance culture and weakens institutional resilience against fraud risks. Although primary data were collected in 2018-2019, structural problems such as mismatches Ina-CBGs tariff and fragile hospital-BPJS coordination remain largely unresolved, continuing to affect financial governance and health service delivery. Therefore, comprehensive reforms integrating regulatory clarity, technological innovation, and human resource capacity development are essential to enhance oversight, transparency, and accountability within the JKN system.

To strengthen fraud prevention in Bengkulu's JKN system, this study recommends a set of concrete, context-sensitive reforms. Clear differentiation between clinical governance teams and anti-fraud teams at the provincial level is necessary, with the clinical consideration team (TPK) focusing on clinical governance and quality-cost control, while anti-fraud teams concentrate on fraud prevention, detection, and investigation of JKN claims. This includes the separation of verification and payment functions to eliminate authority ambiguities that reduce effectiveness. Provincial and district health offices should establish anti-fraud teams through formal decrees in accordance with JKN regulations and develop SOPs to regulate coordination between clinical and anti-fraud functions, thereby avoiding task overlap and ensuring accountability.

Capacity building for district-level teams in auditing and regulatory enforcement should be prioritized, supported by multidisciplinary audit and clinical review teams with adequate technical and human resources. Strengthened communication protocols between the hospital and BPJS Health, supported by transparent digital claim-reconciliation platforms, are necessary to improve verification efficiency and accuracy. Additionally, continuous education and technical training on fraud detection, Ina-CBGs coding, and medical audit procedures need to be embedded within ongoing professional development to reduce error-driven and opportunistic fraud. Context-sensitive policy revisions that acknowledge regional disparities, combined with an organizational culture grounded in trust, ethical leadership, and inter-agency collaboration, are essential to sustain transparency, accountability, and the integrity of JKN's financial protection for the community.

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