

Governing Effective Rehabilitation Coverage: An Integrated Health-Service Accountability Model for BPJS-Funded Physiotherapy in Indonesia

Hernayati¹, Iwan Kusnawirawan², Dwi Ratna Sari Handayani³, Imam Waluyo^{4*}, Muhammad Arsyad Subu⁵

^{1,2} College of Litigation Law, Jakarta

³ Physiotherapy Study Program, Binawan University, Jakarta

⁴ Manual Manipulative Indonesia

⁵ Nursing Department, College of Health Sciences, University of Sharjah

Corresponding Author: Imam Waluyo scientist.com_antoniwa@mail.com

ARTICLE INFO

Keywords: Rehabilitation Governance, Physiotherapy, Proportional Accountability, Effective Access, Indonesia

Received : 20, February

Revised : 24, March

Accepted: 28, April

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ABSTRACT

Rehabilitation is an essential health-system function, yet financial entitlement under Indonesia's JKN scheme does not guarantee effective access to physiotherapy. This article develops an integrated governance framework for BPJS-funded physiotherapy rehabilitation, shifting from retrospective liability towards prospective risk governance. Adopting a normative legal and conceptual health-service management approach, it synthesises Indonesian legislation, WHO frameworks and peer-reviewed literature to map the rehabilitation pathway and identify institutional control points. The framework comprises five interconnected domains—effective access and coverage, service organisation, clinical quality, safety and continuity, and proportional accountability—operationalised through a quality and accountability dashboard. Responsibility is analysed through authority, risk exposure, control capacity, preventability and evidence of causal contribution, rather than institutional visibility or proximity to the patient. The article argues that accountability should be differentiated across professional, institutional, financing and system-level responsibilities, while remaining proportionate and evidence-based.

INTRODUCTION

Rehabilitation is increasingly recognised as an essential component of contemporary health systems. Population ageing and the growing burden of non-communicable diseases, injuries, neurological conditions and long-term disability have increased the need for services that improve functioning and participation. Globally, approximately 2.4 billion people live with a health condition that may benefit from rehabilitation, with the greatest unmet needs occurring in low- and middle-income countries (Cieza et al., 2020; World Health Organization [WHO], 2019). Rehabilitation is therefore no longer appropriately viewed as a secondary service following acute treatment, but as an integral health-system function requiring effective governance, financing, workforce capacity, service delivery and information systems (WHO, 2019).

Integrating rehabilitation into universal health coverage (UHC) creates an additional governance obligation. Financial entitlement does not necessarily translate into effective coverage. Meaningful access requires services to be available, geographically and administratively accessible, timely, clinically appropriate, safe and capable of producing relevant functional outcomes. The 2023 World Health Assembly resolution on strengthening rehabilitation in health systems further emphasises the integration of rehabilitation into health planning and the development of indicators for effective rehabilitation coverage (WHO, 2023a).

Physiotherapy is central to rehabilitation delivery, encompassing the prevention and management of movement limitations, musculoskeletal and neurological conditions, injuries, post-operative dysfunction and chronic disability (World Physiotherapy, 2019; WHO, 2019). Its effectiveness, however, depends not only on professional competence but also on referral systems, provider availability, workforce capacity, equipment, continuity of care and organisational arrangements.

These issues are particularly relevant in Indonesia, where rehabilitation services are delivered within the Jaminan Kesehatan Nasional (JKN) system administered by BPJS Kesehatan. The system operates within a legal and regulatory framework established by Law No. 40 of 2004 on the National Social Security System, Law No. 24 of 2011 on Social Security Administering Bodies, Law No. 17 of 2023 on Health, and subsequent implementing regulations (Government of Indonesia, 2004, 2011, 2023, 2024a). Minister of Health Regulation No. 65 of 2015 establishes standards for physiotherapy services (Ministry of Health of the Republic of Indonesia, 2015). However, formal entitlement and regulation do not necessarily resolve practical barriers involving referral, geographical access, waiting times, provider capacity, staffing, equipment, administrative procedures or continuity of care.

These challenges also raise questions of accountability. Rehabilitation outcomes may be influenced by interacting clinical, organisational and system-level factors. An undesirable outcome should therefore, not automatically be equated with professional negligence; conversely, a systems-based perspective should not exclude scrutiny of professional decisions or institutional responsibilities. Accountability requires differentiation between responsibilities

arising from clinical practice, organisational governance, financing arrangements and system-level controls. Such differentiation is consistent with health-service quality and patient-safety approaches that distinguish structural, process and outcome dimensions of care (Donabedian, 1988; Reason, 2000; WHO, 2021).

This article therefore develops an integrated governance framework for BPJS-funded physiotherapy rehabilitation in Indonesia. It examines how authority, risk, control capacity, preventability and evidence can be used to support proportional and evidence-based accountability across the rehabilitation pathway. The study addresses three questions:

1. How are access, quality, patient safety and responsibility distributed among the principal actors involved in BPJS-funded physiotherapy rehabilitation in Indonesia?
2. What governance gaps emerge when financing, organisational, clinical and patient-safety risks are considered as interconnected components of a single rehabilitation pathway?
3. How can an integrated governance model support proportional and evidence-based accountability across that pathway?

The article is conceptual rather than empirical. It does not measure current BPJS performance, estimate adverse-event prevalence or determine the liability of specific institutions. Instead, it proposes a governance framework intended to inform subsequent empirical research, policy development and quality improvement. Its central proposition is that rehabilitation quality depends on both the clinical encounter and the health-system conditions that enable it; consequently, accountability should operate not only retrospectively after harm occurs, but also prospectively through risk identification, prevention, monitoring, incident learning and continuous improvement.

LITERATURE REVIEW

Rehabilitation, Universal Health Coverage and Health-System Governance

Rehabilitation is increasingly recognised as an essential health service that should be available across the life course and levels of care. The WHO's *Rehabilitation in Health Systems: Guide for Action* frames rehabilitation-system strengthening through situation assessment, strategic planning, implementation, monitoring and evaluation (WHO, 2019). This positions rehabilitation within health-system governance rather than as a set of isolated clinical interventions.

Health systems comprise interconnected functions, including governance, financing, service delivery, workforce, health information and access to essential technologies (WHO, 2007). Rehabilitation depends on these functions because physiotherapy quality cannot be assured without adequate personnel, equipment, referral pathways, information systems and outcome monitoring. Accordingly, universal health coverage (UHC) requires more than formal inclusion within an insurance package; it requires effective access to appropriate, timely and sufficiently high-quality services without unreasonable financial, geographical, administrative or organisational barriers (Ng et al., 2014; WHO, 2023a).

For JKN-funded physiotherapy, financial eligibility does not necessarily ensure provider availability, completed referral, timely appointments or continuity of treatment. The relevant governance analysis must therefore consider the complete pathway through which financial entitlement becomes clinical care. Rehabilitation quality is consequently a property not only of the treatment encounter but also of the financing, organisational, referral and governance systems that enable it (Frontera et al., 2023).

Effective Access: From Financial Entitlement to Rehabilitation Outcomes

Formal coverage and effective access are related but distinct concepts. Coverage concerns inclusion within a financing arrangement, whereas effective access concerns whether people can actually obtain appropriate and timely services of sufficient quality. Each stage of the rehabilitation pathway may introduce different risks, including financing and administrative arrangements, referral processes, staffing, scheduling, equipment, infrastructure, clinical assessment and treatment, communication, information transfer and follow-up.

A patient may therefore have insurance coverage without obtaining physiotherapy within a clinically meaningful timeframe. Effective rehabilitation access should consequently be understood as a system-level outcome rather than merely an institutional entitlement (Ng et al., 2014; WHO, 2019).

This distinction also informs accountability. BPJS Kesehatan should not automatically be attributed responsibility for clinical decisions made by physiotherapists; however, its role as a financing and administrative institution means that risks arising within processes under its authority require examination. Responsibility should therefore be analysed according to the relevant decision, risk, control capacity and available evidence.

Quality Management in Physiotherapy

Donabedian's structure–process–outcome framework provides a useful foundation for analysing healthcare quality (Donabedian, 1988). In physiotherapy, structural dimensions include staffing, qualifications, equipment, infrastructure, supervision, information systems and governance. Process dimensions include assessment, clinical reasoning, goal setting, treatment planning, intervention, documentation, communication, referral and follow-up. Outcomes include functional improvement, patient-reported outcomes, safety, continuity and completion of an appropriate rehabilitation pathway.

An integrated quality framework must connect these dimensions. Measuring only clinical procedures may overlook access and organisational capacity, whereas measuring only utilisation or waiting times cannot establish clinical appropriateness. Consistent with WHO's emphasis on effective, integrated, people-centred and safe rehabilitation services (WHO, 2023a), quality assessment should encompass five complementary dimensions:

1. **Accessibility** – the patient's ability to reach and use rehabilitation services;
2. **Organisational readiness** – availability of personnel, equipment and systems;
3. **Clinical quality** – appropriateness of assessment and intervention;
4. **Safety and continuity** – identification, communication and management of risks across the care pathway; and

5. **Outcomes** – meaningful functional and patient-centred improvement.

These dimensions should be assessed together because effective rehabilitation depends on their interaction.

Patient Safety and the Attribution of Harm

Patient safety in rehabilitation is shaped by clinical decisions as well as organisational and technological conditions. Repeated patient-practitioner interactions, therapeutic equipment, physical interventions and coordination across services create multiple potential sources of risk.

A key analytical distinction is that an undesirable outcome is not necessarily an adverse event; an adverse event is not necessarily preventable; and a preventable event does not automatically establish individual negligence. This sequence provides a governance approach for avoiding premature attribution (Reason, 2000). Incident analysis should consider professional conduct alongside staffing, workload, equipment, supervision, documentation, communication, referral and follow-up.

A systems approach does not remove individual accountability. Where a professional departure from an applicable standard contributes to preventable harm, professional responsibility may arise. Conversely, where risk is substantially associated with inadequate staffing, procurement or institutional governance, organisational responsibility should also be examined. Effective patient-safety governance therefore requires both individual and institutional accountability.

Professional Accountability and Institutional Responsibility

Professional accountability arises from duties relating to competence, clinical judgement and applicable standards. Under Indonesia's physiotherapy regulatory framework, including Minister of Health Regulation No. 65 of 2015, professional responsibilities include appropriate assessment, risk identification, treatment planning, documentation, competent intervention, monitoring, evaluation, communication, referral and record keeping (Ministry of Health of the Republic of Indonesia, 2015).

These duties must be interpreted in context, including the information available to the practitioner, the patient's condition, urgency, available resources and actual professional control. Institutional responsibility is interconnected but distinct. Healthcare facilities influence staffing, scheduling, equipment procurement, supervision, clinical governance, incident reporting, documentation and referral coordination. Consequently, an organisational failure may contribute to clinical risk even where the final intervention is performed by an individual professional.

For example, where essential equipment is unavailable because of procurement failure, analysis should first establish the facility's responsibility, knowledge of the risk, capacity to mitigate it and evidence of contribution. This avoids shifting organisational failures onto the most visible individual at the point of care.

Financing Institutions and Shared Governance

BPJS Kesehatan occupies a distinct position within the rehabilitation pathway as an institution responsible for financing and administering JKN rather

than providing direct physiotherapy. Its relevant governance functions may include financing arrangements, contractual relationships, administrative processes and mechanisms affecting access to covered services. The precise scope of responsibility must, however, be determined from applicable legislation, regulations, contractual arrangements and the facts of each case.

The proposed framework therefore does not attribute every rehabilitation failure to BPJS Kesehatan. Instead, it examines whether a specific risk arose from a decision or process within an institution's authority and whether that institution had realistic capacity to prevent or mitigate it. The same principle applies to healthcare facilities and professionals. Accountability should consequently be differentiated according to the risk pathway, authority, control capacity, preventability and evidence, rather than institutional visibility alone.

METHODOLOGY

Research Design and Sources

This article adopts a normative legal and conceptual health-service management approach to develop a governance and accountability framework for BPJS-funded physiotherapy rehabilitation in Indonesia. It does not use primary patient data, interviews, claims analysis, or systematic review methods. The analysis draws on four sources: (1) Indonesian legislation and regulations governing social security, health insurance, health services and physiotherapy; (2) WHO frameworks and policy documents on rehabilitation, health-system strengthening and effective coverage; (3) peer-reviewed literature on rehabilitation systems, quality, patient safety and professional accountability; and (4) conceptual synthesis of these materials.

Analytical Strategy

The analysis proceeds through four stages: identifying principal actors and their functions; mapping the rehabilitation pathway from financing to outcomes; identifying risks and institutional control points; and developing a proportional accountability framework. Five dimensions guide the analysis: **authority**, identifying who had formal or functional control; **risk exposure**, identifying who generated or materially contributed to the relevant risk; **risk-control capacity**, assessing the realistic capacity to prevent or mitigate it; **preventability**, considering whether harm could reasonably have been avoided; and **evidence**, assessing clinical, documentary, organisational or technological evidence of contribution.

These dimensions are analytical rather than substitutes for legal tests of negligence, statutory liability or professional misconduct.

Scope and Limitations

The framework focuses specifically on BPJS-funded physiotherapy rehabilitation in Indonesia. It is conceptual and does not establish current institutional failure, adverse-event prevalence or legal liability. Its application requires empirical validation using patient experiences, utilisation and claims data, referral records, facility information, clinical indicators, incident reports and relevant legal cases.

RESEARCH RESULT

The Rehabilitation Pathway as an Integrated Governance System

The analysis indicates that BPJS-funded physiotherapy rehabilitation should be understood as an interconnected governance pathway rather than an isolated patient-physiotherapist transaction.

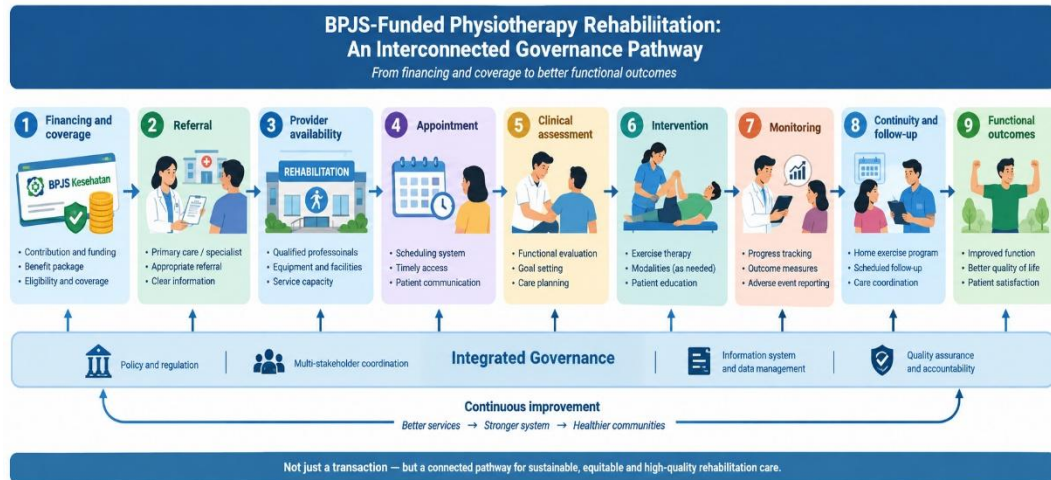


Figure 1. The BPJS-funded physiotherapy rehabilitation interconnected governance pathway

Each stage involves distinct responsibilities. BPJS Kesehatan influences financing and access arrangements; referral institutions influence pathway decisions; healthcare facilities control organisational conditions; and physiotherapists exercise clinical responsibilities. Patients and carers contribute through communication and participation, but this should not be used to transfer institutional or professional responsibility inappropriately.

The principal governance challenge is that patients experience one continuous pathway while responsibility is distributed across organisations. Referral delays, inadequate staffing, equipment shortages, poor communication or inadequate follow-up may therefore interact across organisational boundaries. Effective governance requires differentiated responsibilities while maintaining coordination, information sharing, monitoring and escalation mechanisms.

Institutional Domains and Risk Allocation The principal domains can be summarised as follows:

Actor	Governance function	Principal risk	Accountability
BPJS Kesehatan	Financing and access administration	Coverage and administrative access	Within statutory/contractual authority
Referral institutions	Referral and clinical pathway	Inappropriate or delayed referral	Professional/institutional, as applicable
Healthcare facilities	Service organisation	Staffing, equipment, scheduling and safety	Institutional

Actor	Governance function	Principal risk	Accountability
Physiotherapists	Clinical assessment and intervention	Clinical decision and treatment risks	Professional
Technology providers	Digital infrastructure	Technical failure and reliability	Contractual/institutional, as applicable
Patients/carers	Participation and communication	Individual circumstances affecting care	Contextual, not automatic liability

This allocation identifies governance functions rather than determining legal liability. Responsibility must ultimately be established according to applicable law, contractual arrangements, professional standards and evidence.

BPJS Kesehatan: Financing and Access Governance

BPJS Kesehatan's role should be distinguished from that of direct clinical providers. The relevant question is whether a financing or administrative process within its authority affects effective access to rehabilitation. Potential issues include administrative procedures, contractual arrangements, access mechanisms and service availability.

Two analytical errors should be avoided: **over-attribution**, in which financing responsibility is equated with clinical responsibility, and **under-attribution**, in which the financing institution is considered irrelevant to access. The appropriate analysis identifies the specific decision, risk, authority, control capacity and evidence of contribution.

Healthcare Facilities as Risk-Control Nodes

Healthcare facilities translate financing arrangements and professional standards into actual service delivery. Key risk-control areas include workforce adequacy, scheduling, equipment procurement and maintenance, infrastructure, supervision, clinical governance, documentation, incident reporting, information systems, referral coordination and follow-up.

A facility may therefore constitute a critical risk-control node. Where an organisational risk is known or reasonably foreseeable, within the facility's control, and insufficiently mitigated, institutional responsibility may require examination. This does not itself establish negligence; the applicable legal standard and evidence remain determinative.

Physiotherapists and Clinical Accountability

Professional accountability concerns assessment, risk identification, treatment planning, intervention, monitoring, evaluation, documentation, communication and referral. An undesirable outcome, however, does not by itself establish professional failure. Analysis should determine: (1) the applicable professional standard; (2) information available to the practitioner; (3) conduct undertaken; (4) any departure from the standard; (5) foreseeability and control of the risk; (6) causal contribution; and (7) reasonable preventability.

Organisational conditions that constrain clinical performance should also be considered. Such conditions do not automatically remove professional

responsibility, but they may clarify the respective contributions of professionals and institutions to the outcome.

DISCUSSION

From Retrospective Liability to Prospective Risk Governance

The article's principal theoretical contribution is a shift from a narrowly retrospective approach to liability towards a broader model of prospective risk governance.



Figure 2: From Retrospective liability to prospective Risk Governance

This distinction is not merely procedural. A retrospective model tends to identify the person associated with an adverse outcome, whereas a prospective model asks how the risk arose, who was able to control it, and what organisational changes might prevent recurrence. Such an approach is consistent with systems-based patient-safety scholarship, which recognises that adverse events may emerge from interactions among human, technical and organisational factors (Reason, 2000). It also aligns with rehabilitation-system research emphasising the interdependence of financing, service delivery, workforce, governance and outcomes (Frontera et al., 2023). The framework does not reject legal accountability; rather, it situates accountability within a wider cycle of prevention, monitoring, investigation and improvement.

The Proportional Accountability Framework

The framework proposed here is intended to prevent responsibility from being inferred merely from institutional visibility or proximity to the patient. It poses five questions. First, **authority**: who possessed authority over the relevant decision? Formal authority may arise from legislation, regulation, organisational structure or contract; functional authority may arise from actual control over a

process. Second, **risk exposure**: what risk materialised – financing, referral, organisational, clinical, technological, or a combination? Third, **control capacity**: which actor had realistic capacity to prevent or mitigate the risk? Authority without practical control may be insufficient to establish meaningful responsibility. Fourth, **preventability**: could the event or harm reasonably have been prevented in the circumstances, given available information, resources, timing and relevant professional or organisational standards? Fifth, **evidence**: this may include clinical and referral records, appointment and equipment-maintenance records, staffing information, incident reports, communication records, contracts and expert opinions.

Only after examining these dimensions should responsibility be allocated. The guiding principle is that responsibility should follow demonstrable contribution and relevant control capacity, rather than mere visibility at the point of care. This is particularly relevant to rehabilitation, where care is often repeated over time and involves several levels of the health system.

Integrating Quality, Safety and Accountability

Quality management and legal accountability are often treated as separate fields: the former focuses on service performance, the latter on duties, breaches, causation and consequences. The proposed model argues that they connect through risk governance. Quality indicators can identify whether structural and process conditions are functioning appropriately, but the model does not suggest that every quality deficiency constitutes a legal breach. A quality indicator may reveal a problem requiring managerial improvement without establishing negligence; conversely, an isolated incident may require legal investigation even where overall indicators appear satisfactory. The value of integration lies in ensuring that managerial information and legal analysis are not entirely disconnected.

Effective Access and Equity

The model places effective access at the beginning of the governance pathway, reflecting the principle that a service cannot achieve its health-system purpose if those who need it cannot obtain it. Access should be assessed across several interacting dimensions: geographical (distance, transport, distribution of providers); administrative (eligibility procedures, referral requirements, appointment systems); temporal (waiting time and continuity); organisational (provider capacity, staffing, equipment); clinical (availability of appropriate assessment and intervention); and financial (coverage and potential out-of-pocket costs). A patient may be financially covered yet unable to attend because of distance, or may reach a facility but face long waits; a facility may have physiotherapists but lack the equipment for a particular intervention. Effective coverage should therefore not be reduced to a single financial indicator. A broader dashboard is needed to evaluate whether the rehabilitation pathway functions from the patient's perspective.

Continuity of Care as a Governance Outcome

Continuity is particularly important in physiotherapy because rehabilitation often involves repeated treatment sessions, reassessment, progressive goals and coordination among professionals. It requires more than repeated appointments: appropriate information transfer, consistent clinical

planning, follow-up, communication and mechanisms for responding to changes in the patient's condition are also essential. Breakdowns may occur when referral information is incomplete, clinical records are unavailable, treatment plans are not communicated, follow-up is uncoordinated, appointments are repeatedly cancelled, or responsibility for the next stage of care is unclear. The model therefore treats continuity as a governance outcome rather than solely an administrative matter, connecting it to quality, safety and accountability because failures in information transfer or follow-up may create risks that cross institutional boundaries.

The Integrated Physiotherapy Rehabilitation Governance Model

The model consists of five interconnected domains.

1. **Coverage and Effective Access.** This domain examines whether formal JKN entitlement is translated into actual rehabilitation access. Core indicators include eligibility and administrative access, service availability, referral completion, waiting time, geographical accessibility, appointment availability, cancellation rates and continuity of authorised care. The governing principle is to evaluate financial coverage in relation to effective access, not as a substitute for it. Monitoring should draw on both administrative data and patient experience, since claims data may show whether services were financed but not fully reveal delays, unsuccessful referrals, geographical barriers or discontinuity.
2. **Service Organisation.** This domain concerns the conditions under which physiotherapy is delivered. Core indicators include workforce adequacy, professional qualifications, appointment capacity, equipment availability and maintenance, infrastructure, supervision, documentation systems, clinical governance and referral coordination. It matters because organisational conditions may influence clinical quality and patient safety, and because it provides a basis for identifying risks within institutional control.
3. **Clinical Quality.** This domain concerns the quality of physiotherapy practice. Core indicators include completeness of assessment, appropriateness of clinical reasoning, goal setting, treatment planning, intervention appropriateness, monitoring, evaluation, documentation, patient communication, and referral and follow-up. These should be adapted to the relevant clinical context, since not every patient requires the same intervention, frequency or outcome measure. A quality system must therefore combine standardisation with appropriate clinical judgement.
4. **Patient Safety and Continuity.** This domain links individual treatment sessions into a coherent and safe pathway. Core indicators include risk identification, adverse-event reporting, incident escalation, communication, information transfer, follow-up completion, continuity of treatment and monitoring of preventable complications. The guiding principle is that a safe rehabilitation service is not merely one in which an individual session is safe, but one in which the entire pathway can identify, communicate and control relevant risks. This domain should support learning rather than function exclusively as a disciplinary mechanism.

5. **Proportional Accountability.** The final domain connects governance performance with legal and professional responsibility. Core indicators include identification of the relevant decision-maker, formal and functional authority, risk exposure, control capacity, preventability, evidence of contribution, compliance with professional standards, institutional compliance and proportionality of response. It should not be used to assign liability automatically, but to provide a structured basis for further investigation and decision-making.

Governance Cycle and Operationalisation

The five domains can be integrated into a cycle beginning with JKN/BPJS financing and coverage. The feedback loop is central: an incident should not end with identifying an individual or institution, but should generate questions about whether the relevant risk remains present, whether controls are adequate, and whether changes are required. The cycle may be operationalised through a rehabilitation quality and accountability dashboard.

Table 2: Governance domains and examples of measurable indicators

Governance domain	Examples of measurable indicators
Access	Waiting time, referral completion, service availability
Organisation	Staffing, equipment readiness, supervision
Clinical quality	Assessment, treatment planning, evaluation
Safety and continuity	Incidents, escalation, follow-up, information transfer
Accountability	Authority, control capacity, preventability, evidence

The dashboard must be designed carefully. Indicators require clear definitions, identifiable data sources, reporting responsibilities and appropriate review intervals. Data should be disaggregated where possible to identify inequities across geographical areas, population groups, facility types and clinical conditions. The dashboard should not become a punitive scorecard that encourages under-reporting; its purpose is to support transparency, learning and service improvement.

Digital Rehabilitation and Emerging Accountability

Digital rehabilitation can improve access for patients facing geographical, mobility or scheduling barriers. Tele-rehabilitation may facilitate remote assessment, exercise instruction, monitoring and communication for selected clinical conditions (WHO, 2021; Cottrell et al., 2017; Turolla et al., 2020). However, digital delivery introduces additional governance questions: reliability of platforms; patient identification; appropriateness of remote assessment; privacy and data protection; cybersecurity; documentation; emergency

escalation; technology failure; communication limitations; digital exclusion; and responsibility for technology-assisted decisions.

Evidence on digital rehabilitation must be interpreted carefully. Findings from specific clinical populations or platforms cannot automatically be generalised to all physiotherapy services; appropriateness depends on the patient's condition, risk profile, available technology, clinical objectives and the capacity to respond when problems arise. A risk-based approach may distinguish technology risk (platform malfunction, unreliable connectivity, inadequate safeguards); organisational risk (insufficient training, inadequate protocols, weak supervision); clinical risk (inappropriate patient selection or assessment, inappropriate clinical judgement); and financing and access risk (arrangements creating barriers to appropriate use). Responsibility should be assessed according to relevant authority and control capacity: a technology provider may be responsible for technical failure within its contractual or legal obligations, a facility for inadequate governance or implementation, and a physiotherapist for clinical decisions within professional control. Digital services therefore strengthen, rather than diminish, the need for integrated governance.

Policy and Legal Implications

1. **Strengthening Effective Rehabilitation Coverage.** JKN policy should distinguish financial coverage from effective rehabilitation coverage, requiring indicators that measure whether patients can obtain appropriate physiotherapy in a timely and continuous manner. Possible measures include referral completion, waiting times, provider availability, treatment continuity, geographical accessibility, appointment cancellation, completion of authorised rehabilitation episodes and patient-reported experience. These should align with WHO's emphasis on effective rehabilitation coverage and integrated health-system planning (WHO, 2019, 2023a).
2. **Strengthening Facility-Level Governance.** Facilities should integrate physiotherapy into broader clinical governance and patient-safety systems. This may require explicit rehabilitation governance structures, workforce planning, equipment maintenance, clinical supervision, quality indicators, incident-reporting systems, referral coordination, documentation standards and follow-up mechanisms. Such measures can clarify responsibility before an adverse event occurs and provide evidence for subsequent investigation.
3. **Professional Accountability Based on Evidence.** Professional accountability should be grounded in applicable standards, actual conduct, clinical circumstances and evidence of causal contribution. This distinction supports both patient protection and fair professional regulation.
4. **Patient Safety as a Bridge Between Management and Law.** Patient-safety systems can help identify risks before they become recurrent failures or legal disputes. Although the legal and quality-management systems have different purposes, and confidentiality, disclosure and evidentiary requirements must be addressed according to applicable law, both benefit from accurate documentation, transparent procedures and reliable evidence.
5. **Implications for Indonesian Health Law.** The legal significance of the model lies in its differentiation of responsibilities. It recognises that BPJS Kesehatan

operates within financing and access governance; healthcare facilities within organisational and service-delivery governance; physiotherapists within professional clinical governance; and technology providers may have relevant responsibilities where digital systems are involved. This is an analytical differentiation, not a conclusion that all actors are legally liable whenever an incident occurs. Indonesian health law must be interpreted through applicable statutes, regulations, professional standards, contractual arrangements and relevant judicial or administrative decisions. The framework can assist legal analysis by directing attention to authority, duty, risk, control capacity, evidence and causal contribution. Where several actors contribute, responsibility should not be presumed equal, nor assigned solely to the actor delivering the final intervention; allocation must follow applicable legal rules and the evidence established in the particular case.

Theoretical Contribution

The article contributes to rehabilitation governance in three principal ways. First, it integrates health-service management and health law, placing financing, access, quality, patient safety and legal accountability within one governance architecture. Second, it distinguishes formal coverage from effective access, treating insurance entitlement as an institutional input rather than proof that appropriate rehabilitation has been received. Third, it shifts analytical focus from the visible actor to the risk pathway, asking which actors had relevant authority, exposure, control capacity and opportunity to prevent or mitigate the risk. The principal theoretical proposition is that risk should be attributed through an evidence-based analysis of authority, exposure, control capacity and preventability, rather than through the mere identity of the actor closest to the patient. This proposition bridges health-service governance and legal accountability and provides a basis for future empirical studies on access, quality, safety and responsibility in JKN-funded rehabilitation.

Research Agenda

The model should be tested empirically before adoption as a national governance instrument. Future research may examine BPJS claims and physiotherapy utilisation data; referral pathways and completion; waiting times; geographical distribution of providers; facility staffing and equipment; clinical quality indicators; adverse-event reports; patient-reported outcomes; patient experience and satisfaction; treatment continuity; professional accountability cases; and institutional governance arrangements. A mixed-methods study could combine quantitative analysis of access and outcomes with qualitative interviews involving patients, physiotherapists, facility managers, BPJS representatives and policymakers. Comparative case studies could examine differences between urban and rural facilities or those with differing organisational capacities, and a subsequent Delphi study could establish expert consensus on the proposed indicators. Such research should include representatives from rehabilitation practice, health-service management, health law, patient safety, health financing and patient advocacy. Empirical validation should examine whether the five-domain model is feasible, measurable, reliable and useful for decision-making, and whether it improves identification of organisational risks without encouraging under-reporting or inappropriate blame.

CONCLUSIONS AND RECOMMENDATIONS

This article develops an integrated governance framework for BPJS-funded physiotherapy rehabilitation in Indonesia, situating quality, patient safety and accountability within a single coherent governance architecture. Its principal contribution is a shift from a narrowly retrospective model of liability towards a prospective model of risk governance encompassing authority, risk identification, control capacity, prevention, monitoring, incident analysis, evidence, proportional accountability and learning.

Conceptually, the article argues that the BPJS rehabilitation pathway constitutes an interconnected governance system – beginning with financing and coverage, and proceeding through referral, provider availability, appointment, clinical assessment, intervention, monitoring, continuity and follow-up, to functional outcomes. Each stage entails distinct responsibilities: BPJS Kesehatan within financing and access administration; referral institutions within pathway decisions; healthcare facilities within service organisation, workforce, equipment and safety; physiotherapists within clinical assessment and intervention; technology providers within digital infrastructure; and patients and carers through participation and communication, without automatic liability.

The analysis emphasises that financial coverage is not equivalent to effective access. Formal JKN entitlement does not guarantee provider availability, completed referral, timely appointments or continuity of treatment. Rehabilitation quality is therefore not merely a property of the clinical encounter, but also of the financing, organisational, referral and governance systems that enable it. The article proposes five governance domains – effective access and coverage, service organisation, clinical quality, safety and continuity, and proportional accountability – integrated within a governance cycle supported by a feedback loop that facilitates learning and continuous improvement.

In terms of accountability, the article rejects the attribution of responsibility based solely on institutional visibility or proximity to the patient. Instead, responsibility should be analysed through formal and functional authority, risk exposure, realistic control capacity, preventability and evidence of causal contribution. This approach avoids two analytical errors: over-attribution, which equates financing responsibility with clinical responsibility, and under-attribution, which disregards the financing institution's role in access. It also avoids shifting organisational failures onto the most visible individual at the point of care.

The article maintains that a systems-based approach does not eliminate individual accountability. Rather, it requires differentiation between professional, institutional, financing and system-level responsibilities. In addition, digital rehabilitation introduces new governance dimensions – platform reliability, data privacy, cybersecurity, patient identification, emergency escalation and digital exclusion – which reinforce, rather than diminish, the need for integrated governance.

The policy implications are that JKN should distinguish financial coverage from effective rehabilitation coverage, strengthen facility-level governance, and integrate physiotherapy into broader clinical governance and patient-safety

systems. Professional accountability should be grounded in applicable standards, actual conduct, clinical circumstances and evidence of causal contribution, while patient safety can serve as a bridge between management and law.

Finally, the article acknowledges that the proposed framework is conceptual rather than empirical. It does not establish current institutional failure, adverse-event prevalence or legal liability. Empirical validation is required through BPJS claims and utilisation data, referral records, facility information, clinical indicators, incident reports and relevant legal cases. The proposed research agenda encompasses mixed-methods studies, comparative case studies between urban and rural facilities, and a Delphi study to establish expert consensus on the proposed governance indicators. Through this approach, the article contributes to rehabilitation governance by integrating health-service management and health law, distinguishing formal coverage from effective access, and shifting analytical focus from the visible actor to the risk pathway.

Declaration of Figures

The conceptual framework, governance models, pathway schematics, and all substantive content presented in Figures 1 and 2 of these articles were conceived, designed, and developed entirely by the authors. These include the identification of governance domains, the mapping of the rehabilitation pathway, the analytical distinction between retrospective liability and prospective risk governance, the proportional accountability framework, and the integrated five-domain model.

Artificial intelligence was employed solely as a visualisation aid to assist in the graphical rendering and aesthetic presentation of the authors' original conceptual designs. AI tools were not used to generate, determine, or influence the intellectual content, theoretical structure, or analytical relationships depicted in the figures. The conceptualisation, selection of components, determination of relationships between elements, and the overall design logic remain the sole intellectual contribution of the authors.

The authors take full responsibility for the accuracy, originality, and integrity of the conceptual frameworks presented in all figures and confirm that these visual representations faithfully reflect the authors' own analytical work.

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