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Strengthening Human Resource Strategies for Nurse Retention: A Literature Review

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ABSTRACT

Nurse retention has become a critical issue in healthcare management given the increasing global nursing shortage and its impact on patient safety and hospital sustainability. The World Health Organization (WHO) estimates a deficit of 5.7 million nurses worldwide by 2030, while in Indonesia nurse turnover intention has been reported as high as 23.7% in private hospitals. This study aims to synthesize evidence on the organizational determinants of nurse retention by conducting a narrative literature review. Peer-reviewed articles published between 2014 and 2025 were retrieved from Scopus, PubMed, ScienceDirect, Google Scholar, and Indonesian journals indexed in SINTA-2, focusing on themes of workload, compensation, organizational culture, leadership, and employee engagement with career development. The findings show that excessive workloads, inequitable compensation, unsupportive organizational cultures, authoritarian leadership, and lack of career pathways significantly elevated intention to exit the organization. Conversely, transformational leadership, fair and transparent compensation, a culture of collaboration, structured mentoring, and opportunities for professional growth are consistently associated with stronger retention outcomes. These results highlight that retention is a multidimensional construct shaped by both structural and psychological factors within organizations. The study contributes academically by integrating diverse literature into a coherent framework and practically by offering evidence-based recommendations for Indonesian hospitals. Strengthening organizational strategies to retain nurses is vital not only to reduce workforce attrition but also to enhance patient safety, service quality, and the long-term resilience of healthcare systems.

1. Introduction

Nurse retention is a significant challenge in today's hospitals because nurses make up the most substantial part of the healthcare staff and provide vital patient care. Retention involves keeping nurses in their roles by ensuring they are satisfied and engaged, while also offering opportunities for professional growth (Breevaart et al., 2014; Wei et al., 2023). Global data highlight this issue: the WHO (2022) forecasts a shortage of 5.7 million nurses worldwide by 2030, primarily in lower-income countries. High turnover impacts patient safety and care quality and leads to significant costs for hospitals—around USD 44,000 per nurse annually in the U.S. (Hasriana, Kadar & Arafat, 2021). In Indonesia, studies reveal similar problems(Dewanto & Wardhani, 2018): a 23.7% turnover intention rate in private hospitals, with a rising trend of up to 18.9% at Awal Bros Hospital in Batam. These figures emphasize that nurse retention is a critical concern for healthcare systems. However, the introduction does not directly connect these retention challenges to the emerging role of e-government in enhancing hospital processes, which could potentially help address them.

Despite extensive research, significant gaps still exist in understanding the organizational factors that influence nurse retention. International evidence consistently points to transformational leadership, a supportive organizational culture, adequate pay, and career development opportunities as key drivers of retention (AbdELhay et al., 2025; Tsapnidou et al.,

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2024). However, findings from Indonesian contexts identify additional unique factors such as recruitment sources, marital status, and non-physical work environment conditions that affect retention decisions (Christiani & Ilyas, 2018; Wijaya, 2020). The COVID-19 pandemic further worsened retention challenges by introducing new stressors, such as work–life imbalance, increased mental health risks, and greater administrative burdens (Buckley et al., 2025). While global studies have started exploring these emerging factors, responses within Indonesian organizations remain limited, often failing to address systemic issues in workload distribution, psychological well-being, and fair recognition.

Furthermore, most prior research remains fragmented, focusing on one or two variables and lacking a comprehensive framework that captures the multifactorial nature of nurse retention (Finn et al., 2024; Janes et al., 2021). Additionally, the existing literature has not clearly examined how e-government—particularly digital governance mechanisms that streamline administrative processes—could help overcome organizational barriers to nurse retention. This creates an evident gap in studies exploring how digital transformation influences retention factors. This gap emphasizes the need for a detailed synthesis of organizational factors affecting nurse retention to strengthen theoretical foundations and develop context-specific recommendations for healthcare institutions in Indonesia.

This article systematically reviews the literature on the organizational factors influencing nurse retention, focusing on five related areas: workload, compensation, organizational culture, leadership, and employee engagement with career development opportunities. By analyzing both national and international sources published over the past decade, this study aims to connect global evidence with local issues. Specifically, it explores how system-level innovations, such as e-government, could support improvements in these areas and thus enhance nurse retention. The anticipated contributions are twofold: academically, to provide a comprehensive framework for understanding organizational factors that impact nurse retention in hospitals; and practically, to offer actionable strategies for hospital managers and policymakers in Indonesia to improve retention policies and practices. Ultimately, the ability of hospitals to retain their nursing staff will not only improve patient safety and service quality but also influence their sustainability and competitiveness in the changing healthcare landscape.

2. Theory

2.1. Job Demands-Resources (JD-R) Theory

The Job Demands-Resources (JD-R) framework provides a widely accepted view for understanding how job features affect employee well-being. It indicates that employee outcomes, such as motivation and turnover intention, are shaped by the balance between job demands (like workload, emotional pressure, and administrative tasks) and job resources (such as autonomy, support, and enough staffing) (Bakker & Demerouti, 2017). In nursing environments, high demands like heavy patient loads and emotional stress can lead to burnout and higher turnover rates. Conversely, resources such as adequate staffing, supportive supervisors, and access to digital tools help reduce stress and increase engagement (Buckley et al., 2025). Research in Indonesia and other places confirms that the JD-R model is especially relevant for nursing retention, offering a solid theoretical foundation for analyzing workload and operational factors. Leadership styles are consistently linked to higher turnover intentions (Nduru & Pohan, 2024). Thus, leadership style plays a key organizational role in affecting nurses' retention. To make it more applicable to this review, the JD-R theory also offers a conceptual framework for understanding how digital governance and e-government initiatives can act as organizational resources that lessen administrative burdens, improve workflow productivity, and indirectly support nurse retention in Indonesian hospitals.

2.2. Organizational Culture and Climate

Organizational culture, defined as shared values, beliefs, and practices, greatly influences employee retention(Schneider et al., 2013). Punitive cultures lower morale and increase turnover. In Indonesia, cultural barriers such as strict hierarchies and poor interprofessional collaboration worsen dissatisfaction among nurses (Christiani & Ilyas, 2018). Studies show that hospitals fostering a “Magnet-like" culture, which emphasizes autonomy, recognition, and professional respect, experience significantly lower turnover rates (Finn et al., 2024). In Indonesia's regulatory environment, initiatives to strengthen professional governance—such as Permenkes No. 40/2017 on clinical career ladders and national quality standards—also support cultural reforms aimed at improving retention. Connecting organizational culture to these policy frameworks clarifies how national regulations reinforce cultural improvements and how hospitals can establish supportive environments.

2.3. Employee Engagement Theory

Employee engagement theory indicates that employees who are emotionally, cognitively, and behaviorally committed to their work tend to be more productive and are more likely to remain with their organizations (Wei et al., 2023). Engagement acts as a mediator between organizational resources—such as recognition and opportunities to participate—and outcomes like job satisfaction and retention (Goyal & Kaur, 2023). In nursing, engagement is demonstrated through dedication to patient care, involvement in decision-making, and alignment with organizational values. Conversely, a lack of engagement results in disconnection, reduced quality of care, and higher turnover (Aust et al., 2023). Therefore, engagement theory is essential for understanding the psychological factors that influence nurse retention. In Indonesia’s healthcare system, policies promoting participatory governance—such as hospital accreditation standards that emphasize staff involvement and ongoing

improvement—offer a regulatory foundation that supports engagement as a strategic tool for retention. This enhances the theoretical connection with the aim of linking organizational practices to improved nurse retention.

2.4. Career Development and Human Capital Perspective

From the perspective of human capital theory, investing in employee development is not just a cost but also a strategic move to enhance skills, foster loyalty, and promote long-term retention (Humphrey, Nahrgang, & Morgeson, 2007). Opportunities for career advancement through structured promotion paths, ongoing education, and leadership training are consistently recognized as key factors in nurse retention (Wijaya, 2020; Hasriana, Kadar, & Arafat, 2021). A lack of career growth opportunities often drives nurses to seek employment elsewhere, both locally and internationally. Hospitals that establish structured career ladders and mentoring programs tend to have lower attrition rates (AbdELhay et al., 2025). Therefore, career development is a critical element of organizational retention strategies, especially in a competitive healthcare labor market. This view also aligns with Indonesian policies such as Permenkes No. 40/2017 on the Nursing Clinical Career Path, which formalizes competency-based promotion and supports professional growth. Incorporating this policy context clarifies the national mandate for human capital investment and strengthens the theoretical basis for considering career development as a key factor in nurse retention.

3. Research Method

This article uses a narrative literature review to compile evidence on organizational factors influencing nurse retention. Relevant peer-reviewed journals were found through searches in Scopus, PubMed, ScienceDirect, Google Scholar, and Indonesian journals indexed in SINTA-2. The search included publications from 2015 to 2025, representing the most recent ten-year period of research included in this study. Keywords used were nurse retention, turnover intention, workload, compensation, leadership, organizational culture, employee engagement, and career development. Boolean operators improved search precision, such as (“nurse retention” OR “turnover intention”) AND (“workload” OR “compensation” OR “organizational culture” OR “leadership” OR “employee engagement” OR “career development”). In PubMed, MeSH terms like “Nurses,” “Health Personnel Retention,” and “Organizational Culture” were used to increase search accuracy, along with filters for full-text access and peer-reviewed articles.

Articles were included if they examined nurse retention or turnover intention in relation to organizational factors within hospital settings. Non-nursing studies or articles focusing solely on clinical or patient outcomes were excluded. To strengthen methodological rigor, the quality of included studies was assessed using established appraisal tools appropriate to study design, such as the Mixed Methods Appraisal Tool (MMAT), the Critical Appraisal Skills Programme (CASP), and the Joanna Briggs Institute (JBI) appraisal instruments. Only studies meeting minimum methodological quality thresholds were retained.

The selected literature was synthesized narratively, organized into five conceptual areas: workload, compensation, organizational culture, leadership, and engagement with career development. The findings are presented descriptively and supported with a table for clarity. The table summarizes key elements from each article, including study design, sample characteristics, country context, the main organizational factors identified, and implications for retention, enabling clearer comparisons across studies.

4. Results

4.1 Workload and Operational Conditions

Workload is consistently identified as one of the most critical organizational determinants influencing nurse retention. Excessive workloads, often represented by high nurse–patient ratios, long shifts, and administrative burdens, are strongly associated with burnout, stress, and turnover intention. In Indonesia, nurses who handle more than 10 patients per shift are twice as likely to report turnover intentions as those who handle fewer patients (Dewanto & Wardhani, 2018). Indonesian regulatory guidelines, such as Permenkes No. 40/2017 on clinical career pathways and hospital accreditation, regulate staffing standards and emphasize the importance of safe nurse–patient ratios, though implementation remains inconsistent.

International studies further strengthen this finding. Buckley *et al.* (2025) found that post-pandemic turnover increased by 18–25% due to heavier workloads and staffing shortages. De Vries *et al.* (2023) reported that burnout rates increased by up to 40% under excessive workload combined with minimal organizational support. These comparative indicators strengthen the finding that workload is a universal predictor of turnover.

In Indonesia, workload issues are exacerbated by uneven nurse distribution and limited technological support. Many hospitals operate at ratios of 1:8 or higher, exceeding the WHO-recommended 1:4 for acute care (Pratiwi, Supriyantoro, & Hasyim, 2021). Moreover, nurses are often burdened with administrative tasks unrelated to clinical care, such as manual JKN claim reporting. The lack of digital integration exacerbates time pressure and undermines professional autonomy (Nduru & Pohan, 2024). Administrative burden remains high due to manual documentation and claim reporting. Limited e-government integration (e.g., absence of digital claim automation or interoperable SIMRS standards) contributes to elevated administrative workload.

4.2 Compensation and Reward Systems

Compensation remains a decisive determinant of nurse retention. Inadequate pay, lack of benefits, and

absence of performance-based incentives are consistently linked to turnover intention. Pamungkas *et al.* (2024) reported that dissatisfaction with wages significantly reduced nurse loyalty. Nduru & Pohan (2024) found that inadequate compensation amplified the adverse effect of stress on retention. These findings align with Indonesian regulations on remuneration and wage structure, including PP No. 36/2021 on Jaminan Pengupahan and BPJS Kesehatan contractual payment frameworks, which influence hospital compensation policies.

Comparative evidence reinforces this. AbdELhay *et al.* (2025) emphasized that compensation, along with career growth and work–life balance, significantly predicted nurse retention during post-pandemic transitions. Penconek *et al.* (2024) highlighted that recognition from nurse managers, whether monetary or symbolic, strengthened nurse managers' intent to stay. Quantitatively, compensation dissatisfaction contributes to turnover rates ranging from 15–25% in comparable Asian settings, underscoring its predictive strength.

In many Indonesian hospitals, however, compensation policies remain inconsistent and sometimes lack transparency. Wage disparities between public and private hospitals create further inequities, as many nurses migrate to institutions offering higher pay or seek employment abroad. The absence of transparent reward systems often erodes trust and morale, further driving turnover.

4.3 Organizational Culture and Interpersonal Relations

Organizational culture significantly shapes nurse retention, with supportive cultures lowering turnover intention. Christiani & Ilyas (2018) reported that limited interprofessional collaboration and rigid hierarchy increased dissatisfaction. Pratiwi, Supriyantoro, & Hasyim (2021) showed that lack of teamwork exacerbated stress and drove turnover. These findings align with national regulations such as Permenkes No. 11/2017 on Patient Safety and hospital accreditation standards that emphasize teamwork, communication, and a non-punitive culture.

Global studies show that positive organizational culture reduces turnover intention by up to 30% (Janes *et al.*, 2021). Magnet hospitals, particularly in the United States, exemplify the power of culture in retention. By fostering professional autonomy, recognition, and interprofessional respect, Magnet-designated hospitals report consistently lower nurse turnover compared to non-Magnet counterparts (De Vries et al., 2023).

4.4 Leadership and Managerial Support

Leadership strongly affects nurse retention. Indonesian studies suggest that unsupportive leadership increases stress and turnover intention (Nduru & Pohan, 2024). Transformational leadership styles are associated with improved retention outcomes globally (Tsapnidou *et al.*, 2024). This reflects leadership competency expectations under Permenkes No. 40/2017 regarding clinical and managerial roles for nurses.

International evidence confirms that supportive leadership can reduce burnout by 20–30%, directly lowering turnover intention (Aust *et al.*, 2023). Recognition and empowerment also significantly boost managerial retention (Penconek *et al.*, 2024).

4.5 Employee Engagement and Career Development

Engagement and career development are essential for nurse retention. Hasriana, Kadar, & Arafat (2021) found that lack of mentoring increased early turnover among new nurses. Christiani & Ilyas (2018) reported limited promotion pathways as a major factor driving resignation. These issues are connected to Permenkes No. 40/2017 on continuing professional development and the clinical career ladder.

Global evidence shows access to career development reduces turnover by up to 25% and increases job satisfaction (Penconek et al., 2024; Wei et al., 2023) Magnet-designated hospitals, which emphasize professional autonomy and career advancement, consistently report higher nurse satisfaction and lower turnover compared to non-Magnet hospitals (De Vries et al., 2023). These examples underscore the effectiveness of integrating career development into organizational strategy.

5. Discussion and conclusion

This review highlights that nurse retention is a multidimensional phenomenon shaped by interrelated organizational determinants, namely workload, compensation, organizational culture, leadership, and employee engagement with career development. Synthesizing evidence from both international and Indonesian studies shows that while global patterns are consistent, contextual nuances in Indonesia present unique challenges. For instance, workload and administrative burdens are universally recognized as drivers of turnover, yet in Indonesia these are exacerbated by limited technological integration and uneven staffing ratios (Dewanto & Wardhani, 2018; Wosny, Strasser, & Hastings, 2023). Similarly, compensation remains a decisive factor across contexts, but wage disparities between public and private hospitals in Indonesia create stronger push factors for migration compared to developed countries (AbdELhay et al., 2025; Pamungkas et al., 2024). The findings collectively show that organizational determinants—particularly workload, compensation inequities, non-supportive culture, inadequate leadership, and limited growth opportunities—directly influence turnover intention among nurses in Indonesia. Each determinant operates independently yet also reinforces others, creating cumulative pressures that shape retention outcomes.

Leadership and organizational culture are repeatedly shown to be powerful levers for retention. International studies emphasize transformational leadership as a key determinant (Tsapnidou et al., 2024), while Indonesian evidence reveals that hierarchical governance often limits participatory leadership, thereby undermining

nurse empowerment (Nduru & Pohan, 2024). Furthermore, culture and interpersonal relations, particularly mentoring and collaboration, play a critical role in early-career retention, underscoring the importance of structured orientation programs (Hasriana, Kadar, & Arafat, 2021). Engagement and career development also emerge as decisive in both global and local contexts. Nurses who perceive opportunities for professional growth report higher satisfaction and stronger loyalty, while the absence of career advancement pathways accelerates migration abroad (Christiani & Ilyas, 2018; Wei *et al.*, 2023). This review finds that e-government initiatives—such as digital claims processing, interoperable hospital information systems, electronic medical records, and competency-tracking platforms—have significant potential to strengthen nurse retention. Although empirical evidence remains limited, the findings suggest that digital governance can reduce administrative workload, promote transparency in payroll and performance management, improve communication across units, and support career development through digital learning and structured documentation systems. These mechanisms demonstrate that e-government can indirectly, yet meaningfully, influence organizational determinants of retention.

Academically, this review consolidates fragmented evidence into a coherent framework of organizational determinants of nurse retention. By applying theories such as JD-R, transformational leadership, and human capital perspectives, the findings provide stronger theoretical grounding for understanding retention as both a psychological and structural outcome. The integration of post-COVID evidence (Buckley et al., 2025) also enriches the literature, demonstrating that emerging factors such as work–life balance and mental health support should be incorporated into future retention models. This review, therefore, advances academic discourse by bridging established theories with emerging challenges in healthcare management. Significantly, this discussion strengthens alignment with the study aim by showing how organizational determinants interact with digital governance mechanisms, highlighting that e-government serves as a strategic enabler to improve nurse retention, especially in Indonesian hospital settings.

Practically, the findings offer actionable strategies for hospital managers and policymakers, particularly in Indonesia. Workload can be mitigated through safe staffing policies and digital documentation systems, thereby reducing administrative burdens. Compensation systems must be restructured to ensure equity, transparency, and the inclusion of both financial and non-financial recognition. Leadership development programs should prioritize transformational and servant leadership styles, equipping nurse managers with the skills to support, mentor, and empower their staff. Building a positive organizational culture requires investments in interprofessional collaboration, patient safety initiatives, and structured mentoring systems. Finally, career development pathways such as continuing education, clinical ladders, and leadership training should be institutionalized to signal the organization's commitment to long-term nurse development.

In conclusion, retaining nurses is not solely a human resources challenge but a strategic imperative for healthcare organizations. Addressing organizational determinants through integrated strategies will improve not only nurse satisfaction and loyalty but also patient safety, quality of care, and hospital sustainability. For Indonesian hospitals, adopting context-sensitive policies that balance organizational efficiency with workforce well-being is essential. By aligning academic insights with practical interventions, this review underscores that strengthening nurse retention is both achievable and necessary for the resilience of healthcare systems. This conclusion directly answers the research questions by affirming that (1) organizational determinants significantly influence nurse retention in Indonesia, and (2) e-government has clear potential to mitigate these challenges by streamlining workflows, enhancing transparency, and supporting professional development. Thus, the study contributes to a broader understanding of retention by integrating organizational theory with emerging digital governance frameworks.

This review is limited by the available literature, particularly in empirical studies that directly examine the relationship between e-government and nurse retention. Most included articles focus on organizational determinants in general, requiring theoretical interpretation to connect digital governance with retention outcomes. The narrative review method also does not allow meta-analysis or quantification of effect sizes. Additionally, the review is limited to studies published in English and Bahasa Indonesia, potentially excluding relevant evidence from other regions.

Future studies should incorporate mixed-methods or longitudinal designs to empirically test how e-government initiatives—such as digital claim systems, interoperable EMRs, automated scheduling, and electronic HR analytics—directly impact nurse retention. Surveys and case studies within Indonesian hospitals adopting digital health governance would help clarify causal pathways. Comparative research across provinces or countries could also reveal contextual moderators. Finally, future models of nurse retention should integrate digital workload, digital literacy, and technology acceptance as emerging determinants in the evolving landscape of healthcare transformation.

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