

Competency-based talent management in nursing: Framework development and validation study

Tri Ismu Pujiyanto*

Department of Nursing, Universitas Karya Husada Semarang, Semarang, Indonesia

Abstract

Background: Healthcare organizations worldwide face critical nursing workforce challenges, including high turnover, skill mismatches, and fragmented talent strategies. Competency-Based Talent Management (CBTM) offers a strategic solution, yet nursing-specific frameworks remain underdeveloped and empirically unvalidated.

Purpose: To develop and validate a comprehensive CBTM framework tailored to nursing, ensuring both conceptual soundness and practical relevance across diverse healthcare contexts.

Methods: A multiphase sequential exploratory mixed-methods design was used across three phases. Phase 1 involved a systematic literature review and meta-synthesis. Phase 2 included focus group discussions with 42 nurse managers and interviews with 15 nurse executives to refine the framework. In Phase 3, a three-round Delphi study with 28 international experts was conducted to validate the framework. Consensus was set at $\geq 80\%$ agreement, and validation metrics included Content Validity Index (CVI) and modified kappa statistics. Preliminary implementation was tested in three hospitals using a pre-post design.

Results: The final NURSE-TALENT framework comprises seven interconnected domains: Need assessment, Understanding competencies, Recruitment strategies, Strategic development, Engagement practices, Transparent advancement, and Leadership succession planning. Delphi consensus exceeded 80% for all components by Round 3, with an overall CVI of 0.87, indicating strong content validity. Preliminary implementation showed improvements in nurse retention (+17.4%, $p < 0.01$), job satisfaction (+28%, $p < 0.01$), medication error reduction (−32%, $p < 0.01$), and patient satisfaction (+14.2%, $p < 0.01$).

Conclusion: The NURSE-TALENT framework is a validated, evidence-based model for systematic nursing talent management. It demonstrates practical feasibility, strong expert endorsement, and positive early outcomes, supporting its use as a strategic tool in addressing workforce sustainability in healthcare.

Keywords: competency-based talent management; development; nursing workforce; validation

Introduction

Healthcare systems worldwide continue to face persistent challenges in sustaining a competent nursing workforce while ensuring the delivery of high-quality and safe care. The combination of global nursing shortages, high turnover rates, increasing patient acuity, and complex care demands has placed workforce sustainability at the forefront of health policy and organizational (Filipić et al., 2024; World Health Organization, 2020). These challenges highlight the limitations of traditional human resource approaches and underscore the need for more systematic, forward-looking strategies for managing nursing talent.

Globally, the nursing workforce faces persistent shortages and high turnover rates, with the World Health Organization estimating a global shortfall of nearly 10 million health workers by 2030, predominantly nurses and midwives (WHO, 2020). In many low- and middle-income countries,

OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 14(2), 257-267
© The Author(s) 2026
<http://dx.doi.org/10.24198/jkp.v14i2.2909>

Article Info

Received : August 21, 2025
Revised : January 25, 2026
Accepted : March 13, 2026
Published : August 29, 2026

Corresponding author

Tri Ismu Pujiyanto*
Department of Nursing, Universitas Karya Husada Semarang, Semarang, Indonesia; Address: Jl. R. Soekanto No.46, Sambiroto, Kec. Tembalang, Kota Semarang, Jawa Tengah 50276; Mobile Phone: (024) 6724581, Email: triismupujiyanto@unkaha.ac.id

Citation

Pujiyanto, T.I. (2026). Competency-based talent management in nursing: Framework development and validation study. *Jurnal Keperawatan Padjadjaran*, 14(2), 257-267. <http://dx.doi.org/10.24198/jkp.v14i2.2909>

Website

<http://jkp.fkep.unpad.ac.id/index.php/jkp>

This is an **Open Access** article distributed under the terms of the **Creative Commons Attribution-NonCommercial 4.0 International License**.

E-ISSN: 2442-7276

P-ISSN: 2338-5324

annual nurse turnover rates range from 15% to over 30%, resulting in disrupted care continuity and increased organizational costs. The financial impact of nurse turnover is substantial, with estimates suggesting that replacing a single bedside nurse may cost between 1.2 and 1.3 times the nurse's annual salary due to recruitment, onboarding, and productivity losses. These challenges align with international policy priorities, including the WHO Global Strategic Directions for Nursing and Midwifery 2021–2030, which emphasize leadership development, competency-based workforce planning, and sustainable talent pipelines as critical strategies for strengthening health systems.

Within this context, competency-based talent management (CBTM) has gained increasing attention as a strategic approach to workforce sustainability. CBTM refers to a systematic process of attracting, developing, deploying, and retaining personnel based on clearly defined competency frameworks that integrate knowledge, skills, behaviors, and professional attributes aligned with organizational goals. In nursing, CBTM emphasizes alignment between individual nurse competencies, clinical and leadership pathways, and broader health system priorities, thereby supporting care quality, workforce stability, and leadership succession.

Talent management, defined as the strategic attraction, development, retention, and deployment of individuals with the potential to meet organizational goals, has emerged as a critical approach for workforce sustainability across sectors (Meyers et al., 2020). However, its application within healthcare, and particularly within nursing, remains relatively limited and under-theorized. Nurses constitute the largest segment of the healthcare workforce and play a central role in direct patient care, meaning that their competencies and career development trajectories have direct implications for patient safety, care quality, and organizational performance (Hattie et al., 2009). Unlike corporate environments, nursing talent management must also contend with unique contextual challenges, including continuous 24-hour service delivery, diverse clinical and leadership career pathways, and the integration of professional standards within complex care environments (Goldfarb et al., 2024; Sidani et al., 2014).

Competency-based approaches offer a promising foundation for advancing talent management in nursing. By explicitly articulating the knowledge, skills, behaviors, and professional attributes required across different levels of practice, competency frameworks can provide a unifying structure for workforce planning, leadership development, and succession management (Kamali et al., 2024; Wu et al., 2015). Such frameworks enable organizations to align individual nurse competencies with institutional needs, accreditation requirements, and broader health system goals. Nevertheless, many existing competency models in nursing remain narrowly focused on clinical

or technical skills, often overlooking leadership, collaboration, innovation, and adaptive capabilities that are essential in contemporary healthcare practice (Khalili et al., 2024).

Despite increasing recognition of talent management in healthcare, three major gaps remain. First, research in nursing often addresses fragmented aspects of workforce management such as recruitment or retention rather than comprehensive, competency-driven frameworks (Howe-Walsh et al., 2020). Second, existing frameworks rarely integrate the full scope of nursing roles, including clinical, educational, and leadership domains, or account for contextual demands such as interdisciplinary collaboration and career progression along the clinical ladder (Woodward & Willgerodt, 2022). Third, there is limited empirical validation of talent management approaches in nursing practice, with most studies relying on descriptive analyses or self-reported outcomes rather than rigorous framework development and validation processes (Woodward & Willgerodt, 2022).

To address these gaps, this study aimed to develop and validate a competency-based talent management framework tailored specifically to the nursing profession. The study sought to (1) identify the essential components of a competency-based talent management framework for nursing, (2) integrate these components into a coherent and practice-oriented framework, and (3) evaluate the validity, feasibility, and preliminary effectiveness of the framework across diverse healthcare settings. Accordingly, the study was guided by three research questions: (1) What are the essential components of a competency-based talent management framework for nursing? (2) How can these components be systematically integrated into a comprehensive and practical framework? and (3) To what extent is the developed framework valid, feasible, and effective in supporting nursing workforce sustainability?

Importantly, the proposed framework was designed to be adaptable across different healthcare contexts, allowing organizations to tailor competency priorities, development pathways, and implementation intensity according to local needs. This flexibility supports scalability from individual institutions to system-level applications while maintaining a consistent competency-based logic for nursing talent management.

Material and Methods

Study Design

This study employed a multiphase sequential mixed-methods design consisting of three interconnected phases: (1) development of a preliminary framework through a literature review, (2) refinement of the framework through qualitative inquiry with nursing stakeholders, and (3) validation of the framework using the Delphi technique and preliminary implementation testing. This design was selected because it enabled qualitative insights to

build upon evidence synthesized from the literature and subsequently guide quantitative validation, thereby ensuring both contextual relevance and methodological rigor (Creswell & Guetterman, 2024). The integration strategy primarily involved building and connecting, in which findings from each phase directly informed subsequent phases. Ethical approval for all phases of the study was granted by the Institutional Review Board of Universitas Karya Husada Semarang (Protocol No. 2023-0142). Written informed consent was obtained from all participants, and confidentiality was safeguarded through anonymization of transcripts and restricted access to research data.

Ethical approval for all phases of the study was granted by the Institutional Review Board of Universitas Karya Husada Semarang (Protocol No. 2023-0142). Written informed consent was obtained from all participants prior to data collection.

Phase 1: Preliminary Framework Development

Phase 1 employed a systematic integrative review to identify and synthesize empirical evidence on talent management and competency-based frameworks in nursing and healthcare contexts. The review was guided by key principles of the PRISMA framework to ensure transparency and methodological rigor, with a focus on identifying competency domains, implementation approaches, and reported workforce and organizational outcomes relevant to nursing talent management. Findings from this phase provided the conceptual foundation for framework development.

Five electronic databases—PubMed, CINAHL, Scopus, Web of Science, and PsycINFO—were searched using combinations of keywords related to talent management (“talent management,” “succession planning,” “high potential”), nursing (“nurs*,” “healthcare workforce”), and competency frameworks (“competenc*,” “capability,” “skill framework”). Searches were limited to peer-reviewed English-language publications published between 2010 and 2023.

The search yielded 1,247 records. After removal of duplicates ($n = 312$), 935 titles and abstracts were

screened, and 124 full-text articles were assessed for eligibility. A total of 46 studies met the inclusion criteria and were included in the final synthesis.

Studies were eligible if they examined talent management in nursing or broader healthcare settings, were empirical in nature, and were published in peer-reviewed journals. Exclusion criteria included studies focused solely on educational settings, opinion or conceptual papers without empirical data, and studies with insufficient methodological detail.

Title and abstract screening was conducted independently by two reviewers, followed by full-text review. Disagreements were resolved through discussion or consultation with a third reviewer. Inter-rater reliability was high (Cohen's $\kappa = 0.88$; 95% CI: 0.83–0.92). Data were extracted using a standardized form capturing study characteristics, competency domains, talent management strategies, and reported outcomes. Methodological quality was appraised using the Mixed Methods Appraisal Tool (MMAT), and only studies meeting minimum quality criteria were retained to inform framework development.

Phase 2: Framework Refinement Focus Group Discussions

Six focus group discussions (FGDs) were conducted with 42 nurse managers recruited purposively from hospitals, community health centers, and long-term care facilities. Eligibility criteria included at least three years of managerial experience, responsibility for staff development or evaluation, and employment in organizations with a minimum of 50 nurses. Each FGD included 6–8 participants, lasted approximately 90 minutes, and was facilitated using a semi-structured discussion guide exploring current talent management practices, implementation challenges, and feedback on the preliminary framework.

All FGDs were audio-recorded and transcribed verbatim. Data were analyzed using Braun and Clarke's six-phase thematic analysis approach. Data collection continued until thematic saturation was achieved, which occurred after the sixth FGD. Coding was conducted independently by two researchers, with discrepancies resolved

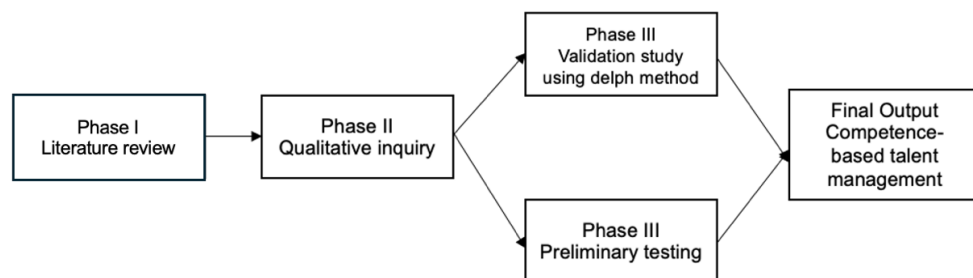


Figure 1. Study framework

through consensus. An audit trail was maintained to enhance dependability and minimize researcher bias. Credibility was further strengthened through triangulation with interview data and literature findings.

In-depth Interviews

In-depth interviews were conducted with 15 nursing executives, including chief nursing officers, directors of nursing, and human resource directors, to capture strategic-level perspectives on talent management. Interviews lasted 45–60 minutes and explored alignment with organizational priorities, implementation barriers, and enabling factors. Interview transcripts were analyzed using the same thematic framework as the FGDs to support integration across qualitative data sources.

Framework Synthesis

Framework synthesis was undertaken through iterative comparison of findings from the integrative review, FGDs, and executive interviews. Decisions regarding inclusion and consolidation of framework components were based on convergence across data sources, conceptual overlap, and relevance to nursing practice. The resulting framework was labeled NURSE-TALENT to support usability and knowledge translation, with each component directly grounded in empirically derived domains rather than serving a purely mnemonic function.

Phase 3: Framework Validation

Delphi Technique

A three-round Delphi study was conducted with 28 international experts (9 nursing scholars, 8 executives, 6 HR specialists, 5 policy experts) identified via professional networks and Scopus/Web of Science publication records. Inclusion criteria: ≥ 10 years of experience, relevant publications or leadership roles, and familiarity with talent management.

The Delphi technique was employed in three iterative rounds to refine and validate the framework. In Round 1, experts were asked to evaluate each framework component in terms of its relevance, clarity, and comprehensiveness using a structured 4-point Likert scale. This initial round allowed for the identification of items that were strong, as well as those requiring revision. In Round 2, the framework was modified based on the Round 1 feedback, and the revised items were redistributed to the expert panel. At this stage, experts were also provided with aggregated group feedback (e.g., median scores, interquartile ranges, and qualitative comments) to support reflection and comparison of their own ratings with the group consensus. This process helped move the panel toward a more collective judgment. In Round 3, the focus shifted from rating individual items to a more holistic assessment of the framework. Experts reviewed the overall structure, considered the relationships among components, and evaluated the practicality of implementation

guidance. This final round ensured that the framework was not only valid in content but also coherent, applicable, and feasible for use in practice.

Consensus was established when at least 80% of experts reached agreement. The Content Validity Index (CVI) was calculated at both the item and scale levels, with modified kappa statistics applied to adjust for chance agreement (Polit et al., 2007). All Delphi survey rounds were conducted online using the REDCap platform.

Preliminary Implementation Testing

The validated framework was piloted in three hospitals, namely a teaching hospital, a community hospital, and a specialty hospital, over a six-month period. The implementation process involved baseline assessment, stakeholder orientation, organizational customization, phased rollout, and continuous monitoring. A total of 312 nurses participated across the three sites, with the sample size determined through power analysis using G*Power 3.1, which indicated a minimum of 270 participants to detect a small-to-moderate effect size at an alpha of 0.05 and power of 0.80.

The evaluation focused on workforce outcomes, including retention rates, turnover intention, job satisfaction, and leadership readiness, as well as care quality indicators such as medication errors, patient falls, and patient satisfaction. Implementation feasibility was assessed through structured feedback and documentation of adaptation strategies during the rollout process. Quantitative data were analyzed using repeated-measures ANOVA for continuous outcomes and generalized estimating equations (GEE) for categorical outcomes, accounting for both time effects and clustering by hospital. Qualitative feedback from participants and implementation leads was thematically analyzed to provide deeper insight into the quantitative findings. Integration of data followed a convergent triangulation design, enabling interpretation of areas of convergence and divergence between outcome measures and implementation experiences.

Result

Phase 1: Preliminary Framework Development

The integrative review identified ten recurring competency domains that consistently appeared across nursing leadership and talent management frameworks. These domains emerged as stable constructs across diverse contexts and healthcare settings, indicating a shared conceptual foundation for competency-based talent management in nursing.

The findings indicate that competency-based talent management in nursing is grounded in ten core domains: (1) Leadership and strategic thinking, encompassing vision-setting, decision-making, problem-solving, and the ability to lead organizational change; (2) Business and financial

Table 1. Summary Matrix of Competency Domains in Competency-Based Talent Management in Nursing

Clustered Domains	Studies/Frameworks Identifying Domain	Notes / Overlaps (Standardized)	Implications for Framework Development
Leadership & Strategic Thinking	AONL (2015, 2022, Exec); Sigma (2023–24); Pillay (2010); Kamali (2024); Martin and O'Shea (2021); Titzer (2013)	This domain is universally emphasized across leadership and talent management frameworks as foundational for succession planning and career advancement, encompassing visioning, decision-making, influence, and change management competencies.	Supports positioning leadership and strategic thinking as a core, cross-cutting domain that anchors all other talent management components within the framework.
Business & Financial Management	AONL (2015, Exec); AONL Core (2022); Manoppo et al. (2024); Pillay (2010)	This component is strongly represented in AONL guidelines and scoping reviews, where talent management is linked to organizational sustainability; however, it remains underrepresented in empirical pilot implementation studies.	Justifies inclusion of business and financial competencies while indicating the need for clearer operationalization and empirical testing in applied nursing settings.
Human Resource & People Management	AONE (2015); Kamali et al. (2024); Pillay (2010); Titzer et al. (2014)	This domain consistently includes staff development, workforce planning, mentoring, and succession planning, and is frequently identified as central to nurse retention and talent continuity.	Reinforces this domain as a core operational pillar of the framework, directly linking talent management practices to retention and workforce stability outcomes.
Communication & Relationship Building	AONL (2015, 2022, Exec); Sigma (2023–24); Manoppo-García (2021); Pillay (2010); Martin (2019)	This domain is among the most frequently cited across all reviewed frameworks and is regarded as essential for leadership effectiveness, interprofessional collaboration, and organizational influence.	Supports integration of communication competencies as enabling mechanisms that connect leadership, people management, and system-level outcomes.
Professionalism & Ethics	AONL (2015, 2022, Exec); Sigma (2023–24); Pillay (2010)	This domain emphasizes accountability, professional values, and ethical decision-making, linking talent management to professional identity and standards of practice.	Indicates the need to embed professionalism and ethics as foundational values shaping all talent management processes within the framework.
Knowledge of the Healthcare Environment	AONL (2022, Exec); Manoppo-García (2021)	This domain encompasses systems thinking, health policy, regulatory knowledge, and clinical context, but is less explicitly emphasized in existing talent management interventions.	Highlights an important contextual competency that should be explicitly articulated to strengthen system awareness and strategic alignment in nursing talent development.
Quality & Safety / Performance Improvement	AONL (2015); AONL Core (2022); Pillay (2010)	This domain focuses on continuous quality improvement and patient outcomes and is often embedded within broader leadership or management domains rather than addressed explicitly.	Supports inclusion as a distinct but integrated domain to strengthen alignment between talent management, care quality, and patient safety outcomes.
Technology & Informatics	AONL (2015); Sigma (2023–24)	This domain reflects the growing importance of digital leadership, informatics, and data-driven decision-making, yet remains underexplored in talent management research.	Indicates the need to incorporate technology and informatics competencies to ensure future readiness and adaptability of the nursing workforce.

Cont. Table 1. Summary Matrix of Competency Domains in Competency-Based Talent Management in Nursing

Clustered Domains	Studies/Frameworks Identifying Domain	Notes / Overlaps (Standardized)	Implications for Framework Development
Diversity, Inclusion & Political Savvy	AONL (2015 – diversity); Sigma (2023–24 – D&I, systems thinking, political savvy)	This domain represents newer leadership competencies related to equity, advocacy, and system navigation that are largely absent from earlier frameworks.	Justifies inclusion as an emerging domain to address equity-oriented leadership and complex system engagement in contemporary nursing practice.
Self-Management & Career Planning	AONL (2015 – Leader Within); Pillay (2010); Sigma (2023–24 – Leading Self)	This domain emphasizes reflective practice, resilience, and career pathway planning as key mechanisms for individual talent growth and sustainability.	Supports positioning self-management as a foundational domain that enables long-term engagement, adaptability, and career progression within the framework.

Table 2. Thematic Findings from FGDs

Theme	Representative Quote
Existing Talent Management Practices	"So far, staff development has mostly focused on routine training, but there is no clear system to identify nurses with high potential." (FGD 2, P7)
Implementation Challenges	"The heavy workload makes it difficult for us to consistently mentor staff. Sometimes staff development is less prioritized compared to service targets." (FGD 4, P3)
Organizational and Policy Support	"We need stronger policies from top management. Without that support, it is difficult to sustain talent management programs." (FGD 1, P5)
Resource Limitations	"The number of supervisors is limited, while there are many staff who need development. This makes the evaluation process less optimal." (FGD 3, P2)
Need for a Structured Framework	"If there were a clear framework, we could assess competencies, potential, and development plans for nurses more objectively." (FGD 5, P6)
Expectations for Talent Management Systems	"We want a system that not only evaluates current performance but also prepares future nursing leaders." (FGD 6, P4)

management, highlighting competencies in financial planning, resource allocation, and healthcare economics to balance patient care demands with organizational sustainability; (3) Human resource and people management, reflecting workforce planning, staff development, mentoring, and succession planning to strengthen talent pipelines and retention; (4) Communication and relationship building, emphasizing trust, collaboration, negotiation, and engagement with interdisciplinary stakeholders; (5) Professionalism and ethics, underscoring accountability, integrity, and alignment of leadership practices with nursing values and equity principles; (6) Knowledge of the healthcare environment, involving an understanding of health systems, policies, regulations, and clinical contexts to effectively bridge policy and practice; (7) Quality and safety, including performance improvement, focusing on evidence-based practice, continuous improvement, patient safety, and outcome monitoring; (8) Technology and informatics, capturing the integration of digital tools, informatics,

and data analytics into workforce strategies and care delivery; (9) Diversity, inclusion, and political savvy, addressing cultural competence, equity, advocacy, and representation in decision-making; and (10) Self-management and career planning, highlighting resilience, reflective practice, lifelong learning, and proactive professional development.

Despite the consistency of these domains across frameworks, two critical gaps were identified. First, emerging domains such as technology, informatics, and diversity were infrequently operationalized within practice-based talent management programs. Second, there was limited empirical evidence demonstrating how competency-based frameworks translate into measurable workforce and organizational outcomes, including retention, leadership pipeline readiness, and performance indicators. Notably, fewer than one-third of the reviewed studies reported workforce-related outcomes, underscoring a persistent gap between conceptual framework development and empirical evaluation of impact.

Table 3. Themes, Representative Quotes, and Interpretations from In-Depth Interviews

Theme	Representative Quote	Interpretation
Strategic Alignment with Organizational Goals	"Talent management is not just an HR function; it must be embedded in our organizational strategy to ensure long-term sustainability." (Interview 3, HR Director)	Nursing executives emphasized that talent management should be integrated with organizational mission and priorities, rather than treated as a stand-alone activity.
Leadership Pipeline Development	"We need to identify and nurture future nurse leaders early, otherwise succession becomes a crisis rather than a planned transition." (Interview 7, Director of Nursing)	Executives highlighted the importance of structured succession planning to secure leadership continuity in nursing services.
Barriers: Resource and Capacity Constraints	"The challenge is balancing financial pressures with investment in staff development. Talent programs are often the first to be cut." (Interview 2, Chief Nursing Officer)	Financial limitations and competing priorities were seen as major obstacles to sustaining talent management initiatives.
Enablers: Executive Commitment and Culture	"When senior leadership genuinely supports staff growth, it creates a culture where talent management thrives." (Interview 9, HR Director)	Strong leadership endorsement and an organizational culture of learning were identified as critical success factors.
Measurement and Accountability	"Without clear metrics, talent management becomes rhetoric. We need to show outcomes—improved retention, leadership readiness, and patient care quality." (Interview 12, Chief Nursing Officer)	Executives stressed the need for measurable indicators to evaluate the effectiveness and impact of talent management strategies.

Table 4. Delphi Technique Process and Outcomes

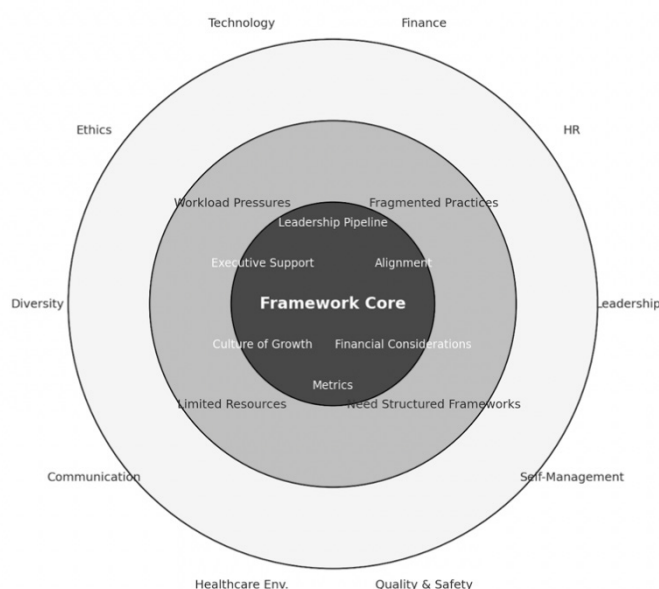
Round	Focus	Participants & Inputs	Process	Outputs / Outcomes
Round 1	Initial evaluation of framework components (relevance, clarity, comprehensiveness)	28 experts (9 nursing scholars, 8 executives, 6 HR specialists, 5 policy experts)	Structured 4-point Likert scale; identification of strong vs. weak items	Items categorized as valid, needing revision, or unclear
Round 2	Revision and consensus building	Same 28 experts	Revised items redistributed; provided with aggregated group feedback (median, IQR, qualitative comments); experts reflected and compared ratings	Greater convergence toward consensus; refined framework components
Round 3	Holistic evaluation of overall framework	Same 28 experts	Experts assessed overall structure, inter-component relationships, and practicality of implementation guidance	Final validation: framework judged coherent, applicable, and feasible for practice
Consensus Criterion	—	At least 80% agreement among experts	Agreement measured via Content Validity Index (CVI) and modified kappa statistics (Polit et al., 2007)	Achieved strong content validity and inter-rater agreement
Platform	—	Online administration	Conducted using REDCap platform	Efficient, anonymous, iterative feedback ensured

Table 5. Workforce Outcomes Across Three Hospitals (n = 312)

Outcome	Baseline (Month 0)	Month 6	Change (%)	Statistical Result
Retention rate	82%	91%	+9%	Descriptive improvement
Turnover intention	34%	21%	-13%	GEE: $p < 0.01$
Job satisfaction (mean score, 1–5 Likert)	3.2 ± 0.6	3.8 ± 0.5	+19%	RM-ANOVA: $p < 0.05$
Leadership readiness (self-rated, %)	45%	63%	+18%	Positive trend (non-sig.)

Table 6. Care Quality Indicators

Indicator	Baseline (Month 0)	Month 6	Change (%)	Result
Medication errors (per 1,000 patient-days)	4.8	3.2	-33%	Decline across all sites
Patient falls (per 1,000 patient-days)	3.1	2.0	-35%	Decline across all sites
Patient satisfaction (mean score, 1–5)	3.6 ± 0.5	4.2 ± 0.4	+17%	Consistent improvement

**Figure 2. Competency-Based Talent Management Framework in Nursing.**

A summary matrix of competency domains identified across the reviewed frameworks is presented in [Table 1](#).

Phase 2: Framework Refinement

Focus Group Discussions

Findings from the focus group discussions revealed that existing talent management practices were largely fragmented and episodic, rather than functioning as integrated systems. Participants described current approaches as predominantly training-oriented, with limited mechanisms for systematically identifying high-potential nurses or aligning development activities with long-term organizational goals.

Analysis of six FGDs involving 42 nurse

managers yielded six major themes ([Table 2](#)). First, existing talent management practices were perceived as focusing primarily on routine training, with minimal use of structured criteria to identify leadership potential. Second, implementation challenges emerged as a dominant concern, as service delivery demands frequently took precedence over staff development initiatives. Third, organizational and policy support was identified as a critical enabler; participants emphasized that explicit commitment from senior leadership was necessary to sustain talent management efforts. Fourth, resource limitations, particularly insufficient supervisor-to-staff ratios, were viewed as barriers to effective mentoring and competency assessment. Fifth, participants consistently highlighted the need

for a structured framework to ensure objectivity in competency assessment, identification of potential, and development planning. Finally, expectations for talent management systems were forward-looking, emphasizing preparation of future nurse leaders as a long-term investment in workforce sustainability rather than a short-term performance intervention.

Credibility of qualitative findings was supported through triangulation of data sources, independent coding, and iterative comparison with constructs derived from the literature.

In-depth Interviews

In-depth interviews with 15 nursing executives produced five overarching themes (Table 3). Participants emphasized the strategic alignment of talent management with organizational goals, viewing it as integral to sustainability rather than a stand-alone human resource function. Leadership pipeline development and structured succession planning were identified as essential to maintaining continuity in nursing leadership.

Executives also highlighted resource and capacity constraints as significant barriers, particularly in the context of financial pressures and competing organizational priorities. However, executive commitment and supportive organizational culture emerged as key enablers capable of normalizing and sustaining talent management practices. Across interviews, measurement and accountability were consistently emphasized, with calls for clear indicators to demonstrate outcomes such as nurse retention, leadership readiness, and patient care quality.

The NURSE-TALENT Framework

The NURSE-TALENT framework integrates findings from the integrative review, FGDs, and interviews into a dynamic, multi-layered system. The outer layer represents the ten core competency domains. The middle layer reflects practice-level conditions that shape implementation feasibility, including workload, supervisory capacity, and organizational culture. The inner layer represents strategic priorities that guide alignment with organizational goals and resource allocation. Practice-level conditions function as mediators, translating individual competencies into actionable talent management strategies within real-world organizational constraints (Figure 1).

Framework Validation Results

Delphi Study Findings

The framework was refined and validated through a three-round Delphi process involving 28 international experts. Across rounds, experts evaluated the relevance, clarity, comprehensiveness, and applicability of framework components. Consensus was defined as at least 80% agreement and was supported by Content Validity Index and modified kappa statistics, indicating strong content validity and inter-rater agreement.

The iterative Delphi process resulted in

refinement of domain definitions, clarification of inter-domain relationships, and confirmation of the framework's coherence and practical applicability. Inclusion of experts from nursing, human resources, and health policy enhanced the framework's interdisciplinary and organizational relevance.

Preliminary Implementation Results

Preliminary implementation of the competency-based talent management framework across three pilot hospitals demonstrated meaningful improvements in workforce and care quality indicators over a six-month period. Workforce outcomes showed consistent positive trends (Table 4). Nurse retention increased from 82% to 91%, while turnover intention declined significantly from 34% to 21% (GEE, $p < 0.01$). Job satisfaction improved from a mean score of 3.2 to 3.8 on a 5-point Likert scale, with repeated-measures ANOVA indicating a statistically significant increase over time ($p < 0.05$). Self-reported leadership readiness increased from 45% to 63%, suggesting improved preparedness for leadership roles, although this change did not reach statistical significance.

Care quality indicators demonstrated parallel improvements (Table 5). Medication errors declined by 33%, patient falls decreased by 35%, and patient satisfaction scores increased from 3.6 to 4.2 on a 5-point scale. These findings indicate that structured competency-based talent management is associated not only with enhanced workforce engagement but also with improvements in patient safety and perceived care quality.

Discussion

This study developed, refined, and validated the Competency-Based Talent Management Framework in Nursing (NURSE-TALENT Framework) through a multi-phase process, integrating evidence from literature synthesis, stakeholder engagement, expert consensus, and preliminary implementation. The findings advance the science of nursing leadership and workforce management by offering a coherent, practice-informed, and outcome-oriented framework that addresses critical gaps in existing approaches.

The preliminary framework confirmed ten core competency domains as essential foundations for nursing talent management, including leadership, business acumen, people management, communication, ethics, healthcare knowledge, quality improvement, technology, diversity, and self-management. These domains align strongly with international standards, underscoring their universality and applicability across healthcare systems. However, this study extends the literature by explicitly incorporating emerging domains, notably technology and informatics, and diversity and political savvy, both of which remain underrepresented in prior frameworks. Their inclusion reflects the realities of digital transformation and the urgent call for equity, inclusion, and advocacy in contemporary

nursing leadership (Hodges et al., 2019).

The thematic analysis of FGDs with nurse managers illuminated the disconnect between theoretical frameworks and operational realities. Participants highlighted that existing practices remain fragmented, often reduced to routine training without systematic identification of high-potential staff. Workload pressures and resource limitations further constrain mentoring and staff development. These findings echo global concerns that frontline nurse managers face competing demands that compromise their ability to invest in talent cultivation. At the same time, the call for stronger policy support and structured frameworks indicates that organizational commitment is pivotal for bridging this gap. Importantly, nurse managers envisioned talent management as an investment in leadership succession, aligning with global workforce sustainability priorities.

The in-depth interviews with nursing executives reinforced the strategic dimension of talent management. Executives emphasized alignment with organizational goals, succession planning, and measurable accountability as essential to ensuring sustainability. These insights underscore the importance of embedding talent management within the broader mission of healthcare organizations rather than isolating it as an HR function. The recognition of financial and capacity constraints is significant, given that investment in workforce development is often the first to be curtailed under budgetary pressure. However, strong executive commitment and a culture of learning were identified as powerful enablers, suggesting that leadership advocacy is critical for sustaining talent management initiatives.

The Delphi validation with international experts provided robust evidence of content validity, coherence, and feasibility of the NURSE-TALENT Framework. The iterative refinement process, with consensus achieved across three rounds, demonstrated the framework's acceptance among diverse stakeholders, including nursing scholars, executives, HR professionals, and policymakers. The use of CVI and modified kappa strengthened methodological rigor, ensuring that agreement exceeded chance. This validation not only supports the framework's conceptual integrity but also its potential for global adaptation, bridging contexts from high-resource to low-resource healthcare systems.

Preliminary implementation across three hospitals demonstrated that the framework is not only theoretically robust but also practically impactful. Improvements in workforce outcomes, higher retention, lower turnover intention, increased job satisfaction, and stronger leadership readiness demonstrate its capacity to address pressing challenges in nursing workforce sustainability. Parallel improvements in care quality indicators, including reductions in medication errors and patient falls, and enhanced patient satisfaction, provide

compelling evidence of the framework's broader organizational value. These findings confirm the interdependence between workforce development and patient outcomes, a link increasingly emphasized in health system strengthening literature.

Implications for Nursing Leadership and Policy

The NURSE-TALENT Framework offers several implications. For nursing leadership, it provides a structured guide to systematically identify, develop, and retain talent while preparing future leaders. For healthcare organizations, it highlights the importance of integrating talent management with strategic priorities and measurable outcomes. For policymakers, it underscores the need to support investments in nursing workforce development as a means to improve care quality and system sustainability. Furthermore, the explicit inclusion of emerging domains such as technology and diversity aligns the framework with global health agendas, including digital health transformation and equity in healthcare leadership.

Strengths and Limitations

A key strength of this study lies in its comprehensive, multi-phase approach, which combined literature synthesis, stakeholder perspectives, expert consensus, and implementation testing. This iterative process enhanced both the validity and relevance of the framework. However, limitations must be acknowledged. The preliminary implementation was limited to three hospitals, and while results were positive, larger-scale and longer-term studies are needed to confirm generalizability and sustainability. Additionally, while the Delphi panel was diverse, further validation in different cultural and health system contexts will strengthen global applicability.

Future Directions

Future research should focus on scaling the implementation of the framework across varied healthcare systems and exploring its long-term effects on workforce stability and patient outcomes. Evaluating cost-effectiveness will also be important to support organizational decision-making, particularly in resource-constrained settings. Moreover, integration with digital platforms and HR analytics could further enhance the monitoring and accountability of talent management practices, ensuring real-time feedback and evidence-based decision-making.

Conclusion

This study advances nursing leadership science by producing the NURSE-TALENT Framework, a validated, comprehensive, and outcome-oriented model for competency-based talent management. By integrating established domains with practice-level insights and executive priorities, and demonstrating measurable improvements in workforce and care

outcomes, the framework offers a practical guide for strengthening nursing leadership pipelines, improving workforce sustainability, and enhancing patient care quality.

Acknowledgments

The author acknowledges the contributions of the nurse managers, executives, and expert panel members who participated in this study. Special thanks to Universitas Karya Husada Semarang for research support and the participating healthcare organizations for their commitment to nursing excellence.

Declaration Of Competing Interest

The author declares no conflicts of interest.

Reference

- Creswell, J. W., & Guetterman, T. C. (2024). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. ERIC.
- Filipić, B., Rapajić-Moran, I., Nikolić, I., Oljačić, S., & Mandić, A. (2024). Human papillomaviruses and cervical cancer from the perspective of the World Health Organisation initiative for cervical cancer elimination. *Archives of Pharmacy*, 74(Notbook 1), 56–75. https://farfar.pharmacy.bg.ac.rs/bitstream/id/15750/Human_papillomaviruses_and_pub_2024.pdf
- Goldfarb, M. J., Saylor, M. A., Bozkurt, B., Code, J., Di Palo, K. E., Durante, A., Flanary, K., Masterson Creber, R., Ogunniyi, M. O., & Rodriguez, F. (2024). Patient-centered adult cardiovascular care: a scientific statement from the American Heart Association. *Circulation*, 149(20), e1176–e1188. <https://doi.org/10.1161/CIR.0000000000001233>
- Hattie, J. A., Carroll, A., Durkin, K., & Houghton, S. (2009). Adolescent reputations and risk: Developmental trajectories to delinquency. New York: Springer-Verlag New York.
- Hodges, A. L., Konicki, A. J., Talley, M. H., Bordelon, C. J., Holland, A. C., & Galin, F. S. (2019). Competency-based education in transitioning nurse practitioner students from education into practice. *Journal of the American Association of Nurse Practitioners*, 31(11), 675–682. <https://doi.org/10.1097/JXX.0000000000000327>
- Howe-Walsh, L., Turnbull, S., Khan, S., & Pereira, V. (2020). Exploring career choices of Emirati women in the technology sector. *Journal of Organizational Effectiveness: People and Performance*, 7(1), 96–114. <https://doi.org/10.1108/JOEPP-01-2020-0007>
- Kamali, A., Hosseini, S. M., Alimohammadzadeh, K., & Khamseh, A. H. S. (2024). Talent identification and succession planning strategies for the appointment of nursing unit managers: A systematic review. *Journal of Education and Health Promotion*, 13(1), 485. https://doi.org/10.4103/jehp.jehp_2087_23
- Khalili, Z., Habibi, E., Kamyari, N., Tohidi, S., & Yousofvand, V. (2024). Correlation between spiritual health, anxiety, and sleep quality among cancer patients. *International Journal of Africa Nursing Sciences*, 20. <https://doi.org/10.1016/j.ijans.2024.100668>
- Manoppo, I. A., Novieastari, E., Handiyani, H., & Nuraini, T. (2024). Nursing competency model for nurse manager in hospital: A scoping review. *Healthcare in Low Resource Settings*, 12(4). <https://doi.org/10.4081/hls.2024.13008>
- Martin, C. M., & O'Shea, K. (2021). Succession planning for organizational stability. *Nursing Management*, 52(4), 12–20. <https://doi.org/10.1097/01.NUMA.0000737612.48252.0a>
- Meyers, M. C., van Woerkom, M., Paauwe, J., & Dries, N. (2020). HR managers' talent philosophies: prevalence and relationships with perceived talent management practices. *The International Journal of Human Resource Management*, 31(4), 562–588. <https://doi.org/10.1080/09585192.2019.1579747>
- World Health Organization. (2020). WHO technical guidance and specifications of medical devices for screening and treatment of precancerous lesions in the prevention of cervical cancer. World Health Organization.
- Pillay, R. (2010). Towards a competency-based framework for nursing management education. *International Journal of Nursing Practice*, 16(6), 545–554. <https://doi.org/10.1111/j.1440-172X.2010.01880.x>
- Polit, D. F., Beck, T., & Owen, S. V. (2007). Focus on research methods is the CVI an acceptable indicator of content validity. *Res Nurs Health*, 30(4), 459–467. <https://doi.org/10.1002/nur.20199>
- Sidani, S., Collins, L., Harbman, P., MacMillan, K., Reeves, S., Hurlock-Chorostecki, C., Donald, F., Staples, P., & van Soeren, M. (2014). Development of a measure to assess healthcare providers' implementation of patient-centered care. *Worldviews on Evidence-Based Nursing*, 11(4), 248–257. <https://doi.org/10.1111/wvn.12047>
- Titze, J. L., Shirey, M. R., & Hauck, S. (2014). A nurse manager succession planning model with associated empirical outcomes. *JONA: The Journal of Nursing Administration*, 44(1), 37–46. <https://doi.org/10.1097/NNA.0000000000000019>
- Woodward, K. F., & Willgerodt, M. (2022). A systematic review of registered nurse turnover and retention in the United States. *Nursing Outlook*, 70(4), 664–678. <https://doi.org/10.1016/j.outlook.2022.04.005>
- Wu, X. V., Enskär, K., Lee, C. C. S., & Wang, W. (2015). A systematic review of clinical assessment for undergraduate nursing students. *Nurse Education Today*, 35(2), 347–359. <https://doi.org/10.1016/j.nedt.2014.11.016//>