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Reimagining Nursing Competency Evaluation: Clinical Assessors' Readiness and Adaptation to Digital Assessment Systems in a Provincial Hospital Setting

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Abstract

Background: Clinical competency assessment is a core component of nursing governance and professional development. In many Indonesian hospitals, competency evaluations remain predominantly paper-based, resulting in administrative inefficiencies and limited data traceability. The implementation of the SICAKEP (Sistem Informasi dan Pencatatan Keperawatan) digital application at RSUD Welas Asih, West Java, represents an important step toward modernizing assessment processes; however, assessors' experiences during this transition have not been fully explored.

Objective: This study aimed to explore the lived experiences of clinical nurse assessors in conducting manual and digital (SICAKEP-based) competency assessments in a provincial teaching hospital in West Java, Indonesia.

Methods: A qualitative descriptive phenomenological design grounded in a constructivist paradigm was employed. Four certified clinical nurse assessors with experience in both manual and digital assessments were recruited using purposive and snowball sampling. Data were collected through in-depth semi-structured interviews, brief observations, and document reviews between March and May 2025. Data analysis followed Colaizzi's seven-step method, supported by reflexive journaling and member checking to enhance credibility.

Results: Five themes emerged: adaptation to new assessment roles, multidimensional implementation barriers, constraints related to time and readiness, competency assessment as a driver of professionalism and quality, and transformation from manual to digital systems. Digital assessment improved efficiency and transparency but required stronger digital literacy and infrastructure support.

Conclusion: Digital competency assessment represents a meaningful advancement in nursing governance, though sustained institutional support is essential to optimize its implementation.

Keywords: nursing competency, assessor experience, digital assessment, phenomenology, clinical governance, SICAKEP

INTRODUCTION

Clinical competency assessment serves as a cornerstone of nursing governance and professional career advancement, ensuring that nurses possess the required capabilities to deliver safe, ethical, and evidence-based care. In Indonesia, the nursing career ladder system mandated by the Ministry of Health requires structured competency evaluations as part of credentialing and clinical performance development (1). These evaluations typically combine observation, written examinations, oral assessments, and portfolio reviews to comprehensively assess nurses' technical skills, communication, clinical reasoning, and professional behavior (2).

Maintaining competency is fundamental to sustaining high-quality nursing care and supporting patient safety outcomes. Recent studies emphasize that competency assessment is not only an administrative function but also a strategic mechanism in quality management, professional accountability, and human resource enhancement within hospitals (3,4). Nurse leaders and certified assessors therefore play pivotal roles in implementing assessment processes aligned with standards of continuous professional development.

However, in many healthcare settings—including RSUD Welas Asih, West Java—competency assessments remain predominantly manual. The use of paper-based forms for scheduling, documentation, and approval processes requires considerable time and workforce resources. Internal records indicate that competency assessments can take up to two to three weeks, with practical evaluations alone requiring three to five days. Accumulation of paper documents in the Nursing Committee office has also resulted in administrative inefficiencies, increased error risk, and difficulty retrieving historical data for audit or decision-making purposes.

In addition, nurse assessors frequently face coordination challenges caused by scheduling conflicts with clinical obligations and administrative duties. While limited digital tools such as Google Forms have been introduced for written tests, workflow fragmentation persists, contributing to inconsistent data management and reduced assessment transparency. Preliminary interviews with assessors revealed strong expectations for a fully integrated digital system that could streamline evaluation

processes, ensure data accuracy, and enhance accessibility—especially in relation to monitoring credential expiration, performance trends, and professional development pathways.

To address these barriers, RSUD Welas Asih initiated the development of the Sistem Informasi dan Pencatatan Keperawatan (SICAKEP) in late 2023. Initially functioning as an electronic personnel database, SICAKEP evolved in 2024 to include a digital clinical competency assessment module, enabling assessors to evaluate nurses electronically and automate credentialing notifications such as STR and SIP renewal reminders. This transformation aligns with Indonesia's policy directions, including Presidential Regulation No. 95/2018 on the Electronic-Based Government System (SPBE) and Law No. 17/2023 on Health, both emphasizing digitalization to improve accountability, governance, and service quality in public institutions.

Evidence from national and international studies demonstrates that digital platforms enhance the timeliness, accuracy, and auditability of competency assessments (5–7). Digital transformation in clinical governance is increasingly recognized as imperative within global Smart Healthcare Systems that integrate automation, analytics, and continuous quality improvement (8). However, the success of digital initiatives is highly dependent on users' readiness, acceptance, and perceived value—particularly among assessors who serve as frontline evaluators and change drivers (9).

Despite growing digital adoption in clinical assessment systems, research investigating nursing clinical assessors' experiences and adaptive processes during transitions from manual to digital competency evaluations remains limited. Prior studies largely focus on software development, validity testing, or technical usability. Few have examined the human factors, workflow impacts, or organizational supports that influence successful and sustainable implementation in real-world practice(10).

Given that RSUD Welas Asih has recently implemented SICAKEP as an integrated digital competency assessment system, understanding the perceptions and experiences of clinical assessors is crucial. Their insights can clarify practical challenges, reveal facilitators of digital acceptance, and identify opportunities to

optimize assessment quality and professional development outcomes.

Therefore, this study aims to explore the lived experiences of nursing clinical assessors in conducting clinical competency assessments using both manual and digital systems at RSUD Welas Asih, West Java. The findings are anticipated to inform improvements in digital competency assessment models that align with governance standards, enhance efficiency, and support excellence in nursing practice.

METHODS

Study Design

This study employed a qualitative approach situated within a constructivist paradigm, which acknowledges that realities are co-constructed through social interaction and subjective interpretation. A descriptive phenomenology method was used to explore the lived experiences of nursing clinical assessors as they transitioned from manual to digital competency assessments. Bracketing practices were consistently applied throughout the research process to minimize potential researcher bias. Reflexive notes were initiated during the study design phase and continued throughout recruitment, data collection, and analysis to ensure ongoing self-awareness and transparency.

The research was conducted at RSUD Welas Asih, a type-B teaching and referral hospital in West Java, Indonesia. Data collection activities, including recruitment, interviews, observation, and participant validation, took place from March to May 2025.

Sample

Purposive sampling was used to recruit information-rich participants with the breadth of experience necessary to address the study aim. Eligible participants included certified clinical assessors (asesor) with a minimum qualification of Ners and prior involvement in both paper-based competency assessments and digital evaluations using the SICAKEP system. A snowball approach supported recruitment due to the limited number of assessors experienced with digital assessment. Four assessors who met the eligibility criteria were enrolled in the study. Saturation was confirmed when the final interview produced no new insights, confirming sufficiency of the sample.

Data Collection Procedures

Recruitment began with a senior assessor directly involved in SICAKEP development, who served as the initial contact point. The researcher provided prospective participants with an explanation of the study purpose, expectations, voluntary participation, and confidentiality provisions. Written informed consent was obtained before interviews commenced. Additional assessors were contacted based on referrals, continuing until data redundancy was observed.

Data were collected through in-depth, face-to-face interviews guided by a semi-structured protocol that enabled flexibility in follow-up probing. Interviews were conducted in a private area within the nursing division to ensure comfort and privacy. Each session began with rapport building, reconfirmation of consent, and permission to record. Interviews explored participants' experiences with manual versus digital assessments, workflow adaptation, perceived challenges, organizational support, and anticipated improvement in SICAKEP utilization. Interviews lasted between 45 and 75 minutes and were audio-recorded using a digital device, with a secondary backup recording on Zoom. Verbatim transcription took place promptly after each interview, followed by member checking to validate accuracy and allow participants to provide clarifications. Short observations and document reviews were also conducted to contextualize interview findings.

Instruments

A semi-structured interview guide developed from the research purpose and contemporary literature ensured coverage of key domains while allowing for participant-driven insights. Digital audio recorders and Zoom software supported accurate capture of conversations. Reflexive field notes and observational records were used to document contextual information such as workspace layout, internet accessibility, and ease of navigating SICAKEP. Relevant administrative documents related to assessor training and digital system implementation were also reviewed to support data triangulation.

Data Analysis

Data analysis followed Colaizzi's phenomenological approach, beginning with repeated reading of each transcript to achieve immersion. Significant statements were identified and interpreted to derive meanings

grounded in participant experience. Meanings were then organized into thematic clusters and integrated into a rich narrative description that reflected the essence of the phenomenon. The fundamental structure of the experience was refined through ongoing reflection and supervisory consultation. Participants were provided with a summary of preliminary themes to confirm credibility and ensure interpretations resonated with their experiences. Coding and interpretation occurred concurrently with data collection, enabling iterative comparisons across interviews and progression toward data saturation.

Trustworthiness

The rigor of the study was reinforced through adherence to credibility, dependability, confirmability, and transferability criteria. Credibility was enhanced through method triangulation, member checking, and prolonged engagement with the data. Dependability was addressed through a detailed audit trail documenting all methodological decisions and analytic reflections. Confirmability was supported by consistent reflexive practices and peer-debriefing discussions to minimize subjective influence. Transferability was enabled through comprehensive descriptions of the research context, participant roles, assessment workflows, and the organizational environment in which digital transformation occurred.

Ethical Considerations

Ethical approval was granted by the Health Research Ethics Committee of Universitas Jenderal Achmad Yani, Cimahi (Approval No. 01/KEPK/FITKes-Unjani/XII/2024). Ethical principles of respect, beneficence, non-maleficence, and justice guided the conduct of the study. Participants were ensured anonymity

through alphanumeric identifiers and informed of their right to withdraw at any time without consequence. Audio recordings and transcripts were stored in password-protected devices with restricted access to preserve confidentiality.

RESULTS

Table 1 provides an overview of participants involved in this qualitative study. All four participants were female clinical assessors at RSUD Welas Asih, West Java. Their ages ranged from 46 to 52 years, reflecting senior professionals with extensive clinical backgrounds. Three assessors held a professional nursing degree (Ners), and one held a Master of Nursing qualification, indicating strong academic credentials. Their experience as assessors ranged from 5 to 10 years, contributing to deep familiarity with competency evaluation processes. Their current roles spanned both clinical and managerial capacities, which supported comprehensive insights into assessment practices, system adoption, and organizational implementation dynamics.

Table 2 synthesizes five core themes reflecting the assessors’ lived experiences throughout the transition from paper-based to digital competency assessments. The findings reveal a progression from initial uncertainty toward greater adoption and internalized professional responsibility. Organizational constraints and personal workload challenges were evident, yet competency assessments were widely perceived as mechanisms to strengthen nursing professionalism and service quality. The digital transformation via SICAKEP was welcomed for streamlining processes, although it requires sustained capacity-building and infrastructure support to ensure long-term success.

Table 1. Characteristics of Participants

Code	Age (years)	Gender	Education	Years as Assessor	Position/Unit
P1	47	Female	Master of Nursing (M.Kep.)	10	Manager on Duty
P2	47	Female	Professional Nurse (Ners)	5	Secretary, Hospital Quality Committee
P3	52	Female	Professional Nurse (Ners)	6	Clinical Nurse, Cardiology Unit
P4	46	Female	Professional Nurse (Ners)	9	Clinical Nurse, Perinatology Unit

Table 2. Summary of Qualitative Findings

Theme	Brief Description	Key Categories	Illustrative Evidence	Practical Implications
Transition and Internalization of the Assessor's Role	Initial uncertainty and tension gradually shifted toward confidence and professional identity formation.	Role introduction; capacity strengthening; ongoing adaptation	Participants described anxiety and reliance on peer mentoring and training to master the role.	Establish structured mentoring and reflective learning programs for novice assessors.
Multidimensional Barriers in Assessment Implementation	Time, case availability, and variation in assessee readiness shaped assessment effectiveness.	Competing service demands; assessor- assessee ratio; case suitability; assessor motivation	Difficulty balancing clinical duties with evaluation tasks was commonly reported.	Organize dedicated assessment scheduling and expand simulation-based competency options.
Constraints of Time, Readiness, and Organizational Support	Implementation challenges were tied to staffing patterns and inconsistent logistical support.	Time management; personal readiness; availability of tools; intra-organizational coordination	Limited centralized SOPs and competing responsibilities burdened assessors.	Standardize digital instruments, reinforce coordination, and enhance resource provision.
Competency Assessment as a Driver of Professionalism and Quality	Assessment helped monitor compliance and drove ongoing skill development for quality improvement.	Adherence to standards; supervision and evaluation; increased competency	Assessments helped identify learning needs and improved service performance.	Embed assessment outcomes in HRD, performance evaluation, and clinical governance systems.
Transformation from Manual to Digital Assessment (SICAKEP)	Digitalization enhanced efficiency and access to records while introducing technological adaptation needs.	Manual vs. digital experience; learning curves; data management	Digital tools enabled faster reporting and eased documentation burdens.	Strengthen digital literacy, secure data governance, and ensure instrument validation.

Table 3 highlights distinctions between manual and digital assessment modalities. While manual evaluations offer procedural familiarity, they impose administrative burdens and delays that may hinder timely competency monitoring. The SICAKEP system enhances efficiency, accuracy, and data accessibility, presenting clear advantages for governance and quality assurance. However, the transition requires strengthening digital competencies, securing technical infrastructure, and ensuring continuous evaluation of digital instruments to maintain reliability and patient safety standards.

Table 3. Comparison of Manual and Digital (SICAKEP) Competency Assessment

Aspect	Manual (Paper-based)	Digital (SICAKEP)
Process Duration	Prolonged due to manual scoring and compilation	Faster through automated scoring and data consolidation
Administration	Paper-intensive; high risk of archival loss	Paperless; centralized storage for efficient retrieval
Practical Observation	Familiar and straightforward in practice	Requires adaptation; digital templates increase usability
Accuracy and Feedback	Susceptible to calculation errors; delayed feedback	More accurate with real-time scoring and transparent feedback
Data Availability	Scattered records cause traceability issues	Accessible dashboard enabling continuous monitoring
Main Challenges	Administrative burden; limited traceability	Digital literacy gaps; data security and system reliability
Follow-up Needs	Manual documentation standardization	Ongoing training, IT strengthening, validation of digital tools

DISCUSSION

This study explored the lived experiences of clinical nurse assessors in implementing manual and digital (SICAKEP-based) competency assessments at a teaching hospital in West Java. Five interconnected themes were identified, reflecting a complex transition shaped by professional adaptation, contextual constraints, and digital transformation in clinical governance

Participants experienced an initial phase of uncertainty and emotional stress as they assumed the assessor role, consistent with transition-related anxiety reported in earlier studies (11). Through repeated exposure, peer support, and training, assessors gradually strengthened their capabilities and integrated the assessor role into their professional identity. This adaptive process aligns with Roy’s Adaptation Model, which positions anxiety as a cognator stimulus prompting behavioral adjustments through learning and social support (12). Bengner’s Novice-to-Expert Theory similarly underscores that expertise develops progressively through situated learning and reflective practice (13). The findings suggest that mentorship mechanisms and peer dialogue are critical resources enabling internalization of new professional responsibilities.

The coexistence of clinical workload and assessment obligations, high assessor–assessee ratios, and limited availability of appropriate clinical cases posed practical challenges. Comparable barriers have been documented internationally, where time pressure and workload were cited as significant impediments to reliable assessment (14,15).

Variability in assessee motivation also shaped assessment quality. Self-Determination Theory explains that autonomy, competence support, and interpersonal connection influence learning motivation(16). When these psychological needs are unmet, engagement decreases—reflecting patterns observed in nurses across Indonesia and other LMICs (17). These findings emphasize the necessity of organizational strategies that ensure protected assessment time, optimized assessor assignments, and preparatory activities to enhance assessee readiness.

Dual responsibilities, uneven resource distribution, and incomplete managerial support affected the consistency and credibility of competency assessments. Similar reports show that heavy clinical workloads reduce focus on professional development activities and increase fatigue (18,19). Neuman’s Systems Model situates these challenges as external stressors influencing system stability, where organizational support serves as a buffer to maintain performance (20). Effective managerial involvement—including supervision, SOP socialization, and infrastructure support—is therefore essential to sustaining assessment quality.

Despite operational constraints, participants emphasized that competency assessments reinforce standards of practice, highlighting strengths and identifying areas for improvement. These observations reflect established evidence linking competency-based evaluation with improved patient outcomes, professional accountability, and job satisfaction (21–23). The findings reaffirm that competency assessment is

not merely a procedural requirement but a governance mechanism that strengthens a culture of continuous quality improvement, aligning with national and global mandates for safe nursing care.

The transition to digital assessment improved workflow efficiency, accuracy, and data traceability. These advantages are consistent with broader digital health transformation literature (24). and reflect Lewin's Change Theory, where digital adoption represents a "moving stage" requiring reinforcement to sustain (25). However, digital literacy gaps, fragmented SOP availability, and data security considerations were reported as emerging concerns—echoing global findings on health technology adoption (Li et al., 2023; Kwan et al., 2023). Continuous training and robust IT governance must therefore accompany digital implementation to ensure sustainable improvement in assessment quality and accountability.

Limitations

This study's qualitative design provides rich insights but limits generalizability. The small number of participants, although sufficient for phenomenology, may not capture all assessor experiences. Manual data analysis without qualitative software may have reduced analytic efficiency, though methodological rigor was maintained. Additionally, the digital SICAKEP assessment tools have not undergone full psychometric validation, indicating the need for further evaluation of data quality and scoring reliability.

Implications for Practice

First, structured capacity-building is required to enhance assessors' digital competence, reflective skills, and role confidence. Second, hospital managers should ensure protected assessment time, sufficient assessor staffing, standardized SOPs, and responsive IT support. Third, the study extends theoretical understanding of adaptation and digital transformation within clinical nursing governance in Indonesia. Finally, findings provide practical guidance for developing integrated, efficient digital credentialing systems that support continuous professional development and patient safety.

CONCLUSION

This study provides new insight into how clinical nurse assessors navigate the shift from paper-

based to digital competency assessment in a teaching hospital setting. The transition involves emotional adaptation, operational challenges, and evolving perceptions of professional responsibility. Digital assessment through SICAKEP offers tangible benefits in efficiency and data management but requires sustained organizational readiness, capacity-building, and psychometric assurance to achieve optimal outcomes. Overall, competency assessment is affirmed as a strategic tool for maintaining professional standards and fostering continuous improvement in nursing care. Future studies should incorporate broader stakeholder perspectives, validate digital tools, and examine the measurable impacts of assessment digitalization on competence outcomes, workforce performance, and patient care quality.

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Author Contributions

AA: Conceptualization, study design, data collection, qualitative data analysis, manuscript drafting.

AS: Methodological consultation, data analysis validation, critical review of the manuscript.

Setiawati Setiawati: Participant recruitment support, data interpretation, manuscript editing.

BD: Theoretical framework development, qualitative rigor assessment, manuscript review.

GI: Study supervision, ethical compliance oversight, final manuscript approval.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest associated with this study. All procedures, analyses, and interpretations were

conducted independently without financial or personal influence from any individuals or institutions.

Data Availability

The qualitative datasets generated and analyzed during the current study are not publicly available due to ethical restrictions and confidentiality agreements with participants. However, de-identified data excerpts supporting the findings are available from the corresponding author upon reasonable request, subject to institutional and ethical approval

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