

Determinants of Nursing Decision-Making: A Systematic Literature Review

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Abstract: *Nursing decision-making is a dynamic clinical process in which nurses identify salient cues, interpret incomplete or uncertain information, select a course of action, and evaluate its consequences. This systematic literature review synthesized primary empirical evidence on determinants of nursing decision-making published during the prespecified eleven-year eligibility period. A PRISMA-informed search of MEDLINE via PubMed, Europe PMC, OpenAlex, and the Directory of Open Access Journals, supplemented by backward and forward citation tracing, identified 118 records. After 18 duplicates were removed, 100 records were screened, 76 full-text reports were assessed, and 47 studies met the eligibility criteria. Methodological quality was appraised with the Mixed Methods Appraisal Tool, and findings were coded across thirteen inductively consolidated determinants. Experience was examined in 40 studies (85.1%), knowledge in 37 (78.7%), work environment in 32 (68.1%), and team support in 28 (59.6%). By contrast, evidence and technology were examined in only eight studies (17.0%). Narrative thematic synthesis indicated that effective decisions arise from interactions among experiential pattern recognition, analytical reasoning, accessible knowledge, psychological readiness, collaborative support, professional autonomy, workload conditions, and patient-specific ethical complexity. Individual capability was often insufficient when information systems, staffing, hierarchy, or communication constrained action. The evidence supports a multilevel account of nursing decision-making but remains limited by heterogeneous constructs, predominantly cross-sectional and self-report designs, single-reviewer screening, and weak linkage to patient outcomes. Future research should prioritize longitudinal, multilevel, intervention, and measurement studies and should evaluate digital decision support in ways that preserve accountable professional judgment.*

Keywords: nursing decision-making; clinical judgment; clinical reasoning; determinants; critical thinking; work environment; systematic literature review.

1. Introduction

Nursing decision-making is the process through which nurses convert clinical cues, patient narratives, professional knowledge, and contextual information into judgments and actions. It includes recognizing a problem, interpreting its significance, comparing plausible alternatives, selecting and implementing a response, and evaluating the outcome. Because clinical information changes over time, nursing decisions are iterative rather than isolated events. Decision-making is closely related to clinical reasoning and clinical judgment, but it places particular emphasis on committing to and acting on a selected course of care. Johansen and O'Brien (2016) describe the concept as a dynamic process

shaped by knowledge, experience, intuition, context, and reflection. The quality of these decisions has direct implications for deterioration recognition, medication administration, pain management, escalation of care, restraint, end-of-life practice, handover, and the use of digital decision support. Visible physiological abnormalities do not necessarily produce timely action because organizational rules, hierarchy, workload, anticipated responses, and access to assistance influence whether a nurse can escalate concern. Braaten (2015) showed that barriers to rapid-response activation were distributed across the work system rather than located solely in individual competence. Dresser et al. (2023) similarly found that knowledge of the patient, clinical experience, teamwork, workload, and system reliability shaped nurses' noticing, interpretation, and response to deterioration. Nursing decision-making must therefore be examined as both a cognitive process and a context-dependent professional practice.

The evidence base is conceptually fragmented. Some studies assess decision-making style or self-reported ability, whereas others examine clinical judgment in a specific task, observe decisions in practice, evaluate educational interventions, or test decision-support technologies. Critical thinking is frequently treated as an antecedent, yet it is not synonymous with decision-making: a nurse may analyze a situation accurately but remain unable to act when authority, time, staffing, or communication is constrained. Zainal et al. (2025) identified substantial heterogeneity in the instruments and predictors used across studies of registered nurses. This heterogeneity limits defensible quantitative pooling, but it also creates a strong rationale for an integrative framework that distinguishes constructs while examining how they interact. Four complementary perspectives inform the synthesis. Benner's novice-to-expert account explains how repeated clinical encounters can develop pattern recognition and practical knowledge (Benner, 1984). Tanner's clinical judgment model organizes practice as noticing, interpreting, responding, and reflecting (Tanner, 2006). Naturalistic decision-making explains how experienced practitioners recognize familiar configurations under time pressure, whereas dual-process accounts distinguish rapid, intuitive processing from slower, analytical reasoning. Taken together, these perspectives suggest that intuition is most defensible when it reflects experience-based recognition that is subsequently checked against evidence, patient-specific information, and the consequences of action. They also emphasize that decisions are produced within teams, technologies, routines, and structures of authority rather than by isolated individuals.

Accordingly, this review addressed four questions: Which individual, educational, affective, informational, organizational, relational, technological, and patient-related determinants of nursing decision-making were examined during the eligibility period? How consistently were these determinants represented across settings and research designs? How can their interactions be organized within a coherent explanatory framework? Which methodological and practical gaps should guide future research? The review aimed to identify, classify, compare, and synthesize determinants of nursing decision-making while explicitly avoiding the assumption that frequency of study is equivalent to causal importance.

2. Methods

This systematic literature review used narrative thematic synthesis and followed a PRISMA-informed reporting approach. The review documented record identification, deduplication, title and abstract screening, full-text eligibility assessment, exclusion reasons, and final inclusion. It was not prospectively registered, and screening was not conducted independently by two reviewers; these features are reported as review-level limitations rather than obscured. Meta-analysis was not undertaken because the included evidence comprised cross-sectional surveys, qualitative studies, observational research, psychometric investigations, and interventions that used non-equivalent

constructs, populations, settings, and measures. The updated PRISMA reporting guideline guided transparent reporting of the selection pathway (Page et al., 2021). The eligibility window covered the eleven complete calendar years preceding the final search update, which was completed on 20 July during manuscript finalization.

The documented search covered MEDLINE via PubMed, Europe PMC, OpenAlex, and the Directory of Open Access Journals. Crossref records and publisher webpages were used to verify metadata and digital object identifiers but were not counted as primary database sources. The core search combined population, outcome, and determinant concepts: (nurs* OR "registered nurse*" OR "nurse practitioner*") AND ("clinical decision making" OR "clinical decision-making" OR "clinical judgment" OR "clinical judgement" OR "clinical reasoning") AND (determinant* OR factor* OR predictor* OR influence* OR barrier* OR facilitator* OR correlat*). Syntax and searchable fields were adapted to each interface. Targeted supplementary searches paired decision terms with deterioration, escalation, medication, pain, restraint, end-of-life care, handover, informatics, evidence-based practice, and emergency nursing. Backward reference screening and forward citation tracing were used to identify additional eligible studies.

Eligible studies included licensed nurses, registered nurses, nurse practitioners, or newly graduated nurses practicing in clinical services. Each study had to analyze at least one determinant of clinical decision-making, clinical judgment, clinical reasoning, or a directly related cognitive capability, such as critical thinking, when the report explicitly connected that capability to clinical decisions. Quantitative, qualitative, mixed-methods, observational, psychometric, and intervention designs were eligible. Studies were excluded when they fell outside the date window; included only pre-licensure students; did not report separable nursing findings; addressed organizational participation rather than clinical care decisions; mentioned determinants only in the background; were reviews, protocols, editorials, conference abstracts, or commentaries; lacked sufficiently accessible methods or results; or duplicated a dataset without providing distinct findings. Only English-language, peer-reviewed primary research was retained.

A single reviewer screened titles and abstracts and then assessed full texts using a structured spreadsheet. The identification ledger contained 118 records: 81 from the four databases and indexes and 37 from citation-tracing and verification pathways. Removal of 18 duplicates left 100 unique records for title and abstract screening. Twenty-four records were excluded at that stage, and 76 reports proceeded to full-text assessment. A further 29 reports were excluded because they involved student-only samples ($n = 6$), were reviews or other non-empirical publications ($n = 8$), lacked substantive determinant analysis ($n = 5$), examined an outcome outside clinical decision-making or clinical judgment ($n = 4$), did not provide separable nursing findings ($n = 3$), or provided insufficiently accessible methods or results ($n = 3$). The remaining 47 studies constituted the final evidence base.

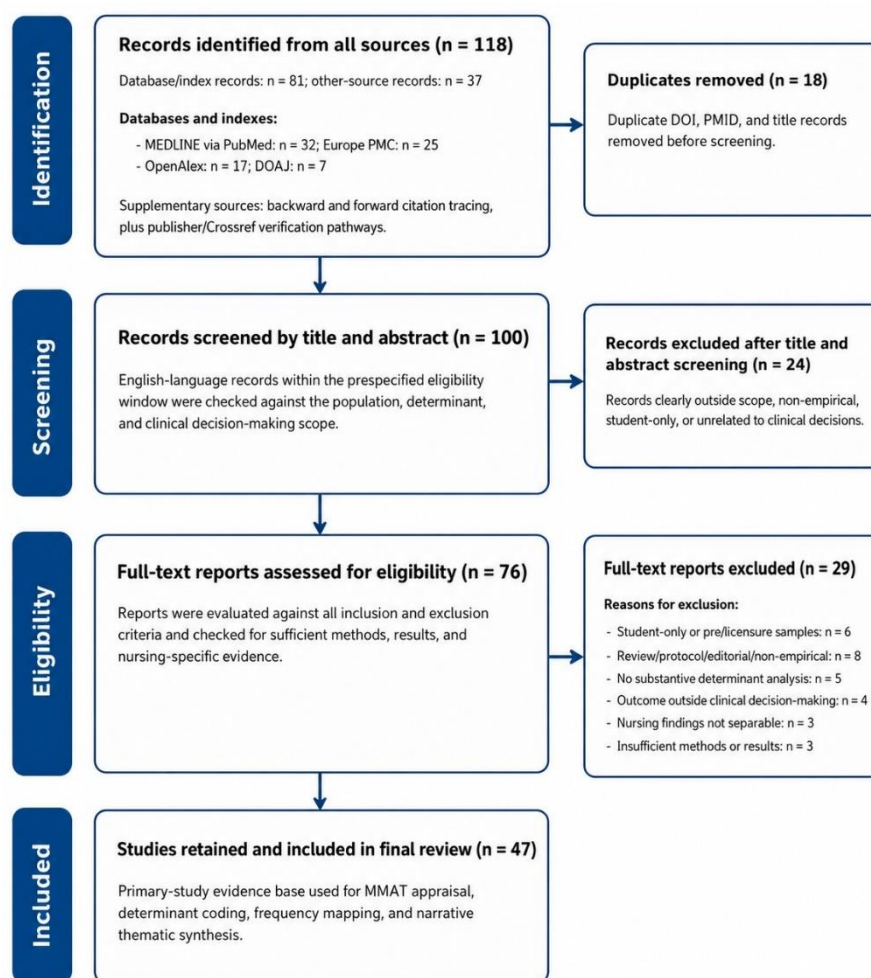


Figure 1. Study Selection Process

Figure 1 summarizes the study-selection pathway. The search and supplementary tracing procedures produced 118 records, and removal of 18 duplicates left 100 unique records for title and abstract screening. Twenty-four records were excluded at this stage because they did not meet the population, outcome, determinant, date, language, or publication-type criteria. Seventy-six reports were therefore assessed in full, of which 29 were excluded for student-only samples, non-empirical design, absence of substantive determinant analysis, an outcome outside clinical decision-making or clinical judgment, non-separable nursing findings, or insufficiently accessible methods and results. The final synthesis included 47 studies. This progression demonstrates a transparent and internally consistent selection process while showing that the review prioritized evidence directly relevant to practicing nurses. Because the included studies differed substantially in design, setting, construct definition, and measurement, narrative thematic synthesis was more appropriate than statistical pooling. The figure also makes the arithmetic between screening, exclusion, and inclusion directly auditable.

Data extraction captured author and year, country or setting, research design, sample, decision construct, measurement approach, determinant terminology, direction of findings, contextual modifiers, and reported limitations. The Mixed Methods Appraisal Tool was applied across quantitative, qualitative, mixed-methods, and randomized designs, and appraisal judgments were used to temper interpretation rather than to exclude studies automatically (Hong et al., 2018). Original determinant terms were retained during extraction and consolidated only when their definitions and measures were conceptually equivalent. Thirteen standardized determinants were organized into four domains: cognitive-experiential capability, educational and informational resources, affective

readiness, and contextual-organizational-relational conditions. Binary coding in Table 1 indicates substantive examination of a determinant, not effect size, direction, or causal weight. Frequencies therefore map research attention, whereas the narrative synthesis evaluates consistency, mechanism, and contextual dependence. Because study-level appraisal results are not presented in the current manuscript, no unsupported overall quality grade is assigned to the evidence base.

3. Results: Integrated Determinant Framework for Nursing Decision-Making

The synthesis conceptualizes nursing decision-making as an enacted capability rather than a fixed personal trait. Decisions emerge when experiential knowledge and analytical reasoning are integrated with available evidence, patient-specific information, emotional regulation, and the authority and resources required to act. The thirteen determinants were organized into four connected domains. Cognitive-experiential capability comprised experience, knowledge, critical thinking, intuition, and self-efficacy. Educational and informational resources comprised training and evidence or technology. Affective readiness comprised emotion and stress. Contextual-organizational-relational conditions comprised workload and time, team support, autonomy, work environment, and patient or ethical context. This framework is compatible with Tanner's process model because each determinant can influence noticing, interpretation, response, or reflection (Tanner, 2006). Research attention was concentrated on experience, which was examined in 40 studies (85.1%), and knowledge, which appeared in 37 studies (78.7%). Work environment was examined in 32 studies (68.1%), and team support in 28 (59.6%). These were the only determinants represented in approximately three fifths or more of the evidence base. Their prominence indicates sustained scholarly attention to accumulated clinical encounters, access to relevant knowledge, unit-level constraints, and collaborative action. It does not, however, establish causal priority. Much of the literature on experience and work environment used cross-sectional or qualitative designs, and several studies operationalized decision-making through self-reported style, confidence, or perceived ability rather than observed accuracy or patient outcomes.

Autonomy was examined in 24 studies (51.1%), training in 23 (48.9%), critical thinking in 21 (44.7%), and self-efficacy in 20 (42.6%). These determinants link the development of capability with its enactment in practice. Education can strengthen analytical strategies and evidence use, but its practical value depends on whether nurses have sufficient discretion, confidence, and organizational support to apply what they know. Psychological empowerment was positively associated with clinical decision-making among staff nurses (Al-Shomrani et al., 2024). An evidence-based educational intervention also improved decision performance among dialysis nurses, providing stronger causal evidence than the predominantly correlational literature (Ghodsi Astan et al., 2022). Patient and ethical context was represented in 20 studies (42.6%), emotion or stress in 18 (38.3%), workload and time in 17 (36.2%), and intuition in 15 (31.9%). Evidence and technology was the least examined determinant, appearing in eight studies (17.0%). Its limited frequency should not be interpreted as limited importance, particularly as digital systems increasingly shape surveillance, documentation, risk assessment, and escalation. Khong et al. (2015) showed that adopting wound decision support was itself a clinical decision shaped by both system and user factors. Table 1 maps the determinant coverage of all 47 included studies. A checkmark indicates that a determinant was measured, tested, evaluated, or centrally analyzed in the reported results; a blank cell indicates that it was not substantively addressed.

Table 1. Determinant Coverage Matrix for Included Studies

No.	Author(s) and Year	Experience	Training	Critical Thinking	Knowledge	Self-Efficacy	Intuition	Emotion/Stress	Workload/Time	Team Support	Autonomy	Work Environment	Evidence/Technology	Patient/Ethics	Decision-Making
1	Braaten (2015)	✓			✓				✓	✓	✓	✓		✓	✓
2	Khong et al. (2015)		✓		✓	✓						✓	✓		✓
3	Lytle et al. (2015)		✓		✓					✓		✓	✓		✓
4	McAndrew and Leske (2015)							✓		✓	✓	✓		✓	✓
5	Seidi et al. (2015)	✓	✓		✓		✓			✓		✓			✓
6	Spineli et al. (2015)	✓						✓		✓	✓			✓	✓
7	Arzani et al. (2016)	✓	✓	✓	✓	✓	✓								✓
8	Chen et al. (2016)	✓	✓	✓	✓		✓					✓			✓
9	Kryworuchko et al. (2016)				✓			✓		✓	✓	✓		✓	✓
10	Nageshwar et al. (2016)	✓	✓	✓	✓				✓	✓	✓	✓			✓
11	Ranse et al. (2016)	✓						✓		✓	✓			✓	✓
12	van Graan et al. (2016)	✓	✓	✓	✓		✓							✓	✓
13	Wu et al. (2016)	✓	✓	✓	✓	✓			✓	✓	✓	✓			✓
14	Seidi et al. (2017)	✓	✓		✓		✓		✓	✓				✓	✓
15	Iddrisu et al. (2018)	✓			✓		✓		✓	✓	✓	✓		✓	✓
16	Ludin (2018)	✓		✓	✓	✓		✓	✓						✓
17	Miller and Hill (2018)	✓	✓			✓	✓					✓			✓
18	Shahrokhi et al. (2018)		✓	✓	✓	✓		✓							✓
19	Nibbelink and Carrington (2019)	✓			✓		✓		✓	✓	✓	✓	✓		✓
20	M. K. Park and Kim (2019)	✓		✓	✓	✓		✓		✓	✓	✓			✓
21	Polat et al. (2019)	✓		✓	✓		✓	✓							✓
22	Bingham et al. (2020)	✓			✓		✓		✓	✓	✓	✓	✓	✓	✓
23	Ede et al. (2020)	✓			✓				✓	✓	✓	✓		✓	✓
24	Farčić et al. (2020)	✓		✓		✓		✓				✓			✓
25	Alaseeri et al. (2021)	✓	✓	✓	✓	✓			✓	✓	✓	✓			✓
26	Dewi et al. (2021)		✓	✓	✓					✓			✓		✓
27	Nguyen and Liu (2021)	✓	✓	✓	✓	✓						✓			✓
28	Rababa and Al-Rawashdeh (2021)	✓		✓	✓		✓							✓	✓
29	Savci et al. (2021)	✓						✓	✓	✓		✓			✓
30	Arends et al. (2022)	✓			✓			✓		✓	✓	✓		✓	✓
31	Batran et al. (2022)	✓	✓		✓	✓						✓	✓		✓
32	Ghods Astan et al. (2022)		✓	✓	✓	✓							✓		✓
33	Laugesen et al. (2022)	✓						✓	✓	✓	✓	✓		✓	✓
34	Teece et al. (2022)	✓			✓		✓	✓	✓	✓	✓			✓	✓
35	Urhan et al. (2022)	✓	✓	✓	✓	✓						✓			✓
36	Abu Arra et al. (2023)	✓	✓	✓	✓	✓			✓	✓	✓	✓			✓
37	Dresser et al. (2023)	✓			✓		✓		✓	✓	✓	✓		✓	✓
38	Farzadfar et al. (2023)	✓	✓	✓	✓			✓						✓	✓
39	M. Park (2023)	✓		✓	✓	✓		✓		✓	✓	✓	✓		✓
40	Al-Shomrani et al. (2024)	✓	✓	✓	✓	✓					✓	✓			✓
41	Arash et al. (2024)	✓						✓		✓	✓	✓		✓	✓
42	Levy-Malmberg et al. (2024)	✓			✓		✓		✓	✓	✓	✓		✓	✓
43	Rababah and Al-Hammouri (2024)	✓	✓	✓	✓	✓						✓			✓
44	Takase et al. (2024)	✓			✓		✓							✓	✓
45	Aboalrob et al. (2025)	✓				✓		✓			✓	✓			✓
46	Alharbi et al. (2025)	✓	✓		✓	✓			✓	✓	✓	✓			✓
47	Ayed (2025)	✓	✓			✓		✓		✓				✓	✓

Table 1 shows that the literature favors cumulative, multicomponent explanations rather than isolated single-factor accounts. Studies of deterioration, acute care, and ethically complex practice commonly examined experience and knowledge together with work environment, team support, autonomy, workload, and patient context. By contrast, instrument-based surveys more often concentrated on critical thinking, self-efficacy, anxiety, and decision-making style. The repeated co-occurrence of individual and contextual determinants indicates that competence becomes clinically consequential only when nurses can obtain information, communicate concern, consult colleagues, and exercise accountable discretion. The matrix also reveals an uneven evidence landscape: experience and knowledge form a mature research cluster, whereas evidence and technology remain sparsely represented. This imbalance is analytically important because contemporary nursing decisions increasingly occur within electronic records, alerting systems, and algorithmic tools. The table therefore maps research attention while reinforcing that frequency alone does not establish effect magnitude, direction, or causal importance.

4. Discussion

The principal finding is that nursing decision-making is jointly produced by capability and context. Experience and knowledge were the most frequently examined determinants, and their influence was broadly consistent across acute, emergency, critical-care, perioperative, and palliative settings. Experienced nurses can draw on a larger repertoire of encounters, recognize configurations of cues more rapidly, and anticipate likely clinical trajectories. Arzani et al. (2016) reported progressively stronger decision-making across Benner-derived levels of operating-room experience. Levy-Malmberg et al. (2024) likewise identified differences in how graduate nurses, specialist nurses, and nurse practitioners gathered, interpreted, and used information in emergency departments. These findings support an expertise account, but years of service should not be treated as a direct proxy for expertise because repeated exposure produces learning only when practice includes feedback, reflection, and opportunities to identify and correct error. Knowledge and critical thinking provide the analytical structure needed to test intuitive impressions. Chen et al. (2016) associated knowledge readiness and critical-thinking dispositions with nurse practitioners' decision modes, whereas Ludin (2018) showed that stronger critical thinking did not translate uniformly into identical decision patterns. Critical thinking therefore supports scrutiny of assumptions and alternatives, but decision-making additionally requires prioritization, commitment, action, and evaluation. Intuition is most defensible when it reflects experience-dependent pattern recognition and is verified when cues are unfamiliar, feedback is delayed, or bias is plausible. Miller and Hill (2018) found meaningful variation in practicing nurses' use of intuition, supporting education that develops both rapid recognition and deliberate checking.

Self-efficacy, emotional state, and decision stress influence whether knowledge is mobilized under pressure. Farčić et al. (2020) linked positive professional self-concept and experience with stronger clinical decision-making, and Aboalrob et al. (2025) identified professional self-concept as a substantial predictor after accounting for demographic and professional variables. Anxiety was associated with differences in decision-making among nurses caring for patients with COVID-19 (Savci et al., 2021), while emotional intelligence was positively associated with clinical decision-making among neonatal intensive-care nurses (Ayed, 2025). Affect should therefore be understood as a mechanism that shapes attention, confidence, risk perception, communication, and willingness to commit to action rather than as background noise. Because this evidence is mainly cross-sectional, reciprocal relationships remain possible: repeated decision difficulty may diminish confidence, while greater confidence may facilitate timely action. Training was examined in nearly half of the studies, but relatively few studies used intervention designs. A structured evidence-based nursing program

improved decision-making in one randomized trial (Ghodsi Astan et al., 2022), and reflective practice produced beneficial effects among intensive-care nurses (Shahrokhi et al., 2018). The educational implication is that passive knowledge transmission is unlikely to be sufficient; case-based reasoning, explicit justification of priorities, feedback, and debriefing are more closely aligned with the demands of clinical decisions.

Organizational and relational conditions were not peripheral; they determined whether a sound judgment could become timely action. Alaseeri et al. (2021) identified workload, communication, autonomy, culture, resources, and psychological status as interacting influences on nursing decisions. Nibbelink and Carrington (2019) situated acute-care decision-making within information flow and unit context, while Alharbi et al. (2025) linked the nursing work environment to decision-making through psychological empowerment. Together, these findings support a multilevel interpretation in which individual expertise is enabled or constrained by staffing, communication norms, leadership responsiveness, access to consultation, and permission to exercise professional judgment. Workload and time pressure narrow attention, interrupt information integration, delay reassessment, and reduce opportunities for consultation or reflection. Bingham et al. (2020) described escalation as contingent on urgent-review criteria, clinical concern, and the response of treating teams. Ede et al. (2020) showed that nurses sometimes questioned the sensitivity and specificity of early warning systems and had to reconcile protocol with clinical judgment. Dresser et al. (2023) identified workload and system failure points across the pathway from noticing to response. Protocols may standardize cues, but they cannot compensate for chronic overload or an unreceptive escalation system.

Team support and autonomy operate most effectively as complementary conditions. Nurses often seek confirmation from experienced colleagues when uncertainty is high, but consultation is useful only when it strengthens rather than displaces professional accountability. Kryworuchko et al. (2016) found that communication, role expectations, relationships, and organizational processes shaped decisions about life-sustaining treatment. McAndrew and Leske (2015) showed that nurses and physicians brought different perspectives to end-of-life decisions, creating both productive balance and relational tension. Arends et al. (2022) reported that nurses wanted meaningful involvement in decisions about potentially life-prolonging treatment. Autonomy should therefore be understood as accountable discretion within collaborative structures rather than isolated independence. Patient and ethical context was especially visible in pain management, restraint, end-of-life care, forensic nursing, deterioration, and moral distress. Rababa and Al-Rawashdeh (2021) connected pain-management decisions with critical thinking and decision modes, while Teece et al. (2022) showed that restraint decisions involved safety, agitation, alternatives, risk, and team dynamics. Arash et al. (2024) associated clinical decision-making with moral distress in intensive care. These settings reveal the limits of purely technical models because nurses must integrate patient preferences, dignity, family concerns, legal obligations, and anticipated consequences.

Evidence and technology were distinctly underrepresented despite the growing role of digital systems in nursing work. The available studies indicate that decision-support tools can organize information, standardize risk assessment, and prompt action, but their value depends on usability, relevance, transparency, and workflow fit. Lytle et al. (2015) illustrated how decision support could structure fall-risk prevention, and Batran et al. (2022) found an association between informatics competency and clinical decision-making. As contextual secondary evidence, Hants et al. (2023) emphasized that digital health systems can alter both clinical decision-making and the nursing process. The most defensible implication is that technology should augment rather than replace professional judgment. Systems should make the basis of recommendations visible, accommodate documented exceptions, preserve nurses' ability to express concern, and support escalation when patient-specific knowledge conflicts with an algorithmic threshold. Future evaluations must distinguish improvements in

documentation or guideline adherence from improvements in decision accuracy, timeliness, and patient outcomes.

For practice, the synthesis suggests that improvement strategies should target both nurse capability and the conditions under which decisions are enacted. Education should combine realistic cases, explicit reasoning, reflection, feedback, and interprofessional escalation practice. Clinical leaders should protect surveillance and reassessment time, create psychologically safe consultation pathways, respond reliably to escalation, and clarify the scope of accountable nursing autonomy. Digital tools should be implemented with nurse participation and monitored for workload, alert burden, override behavior, and unintended effects on professional responsibility. These recommendations follow from the convergence of findings across determinants rather than from a single causal estimate; they should therefore be adapted to the clinical setting and evaluated with observable performance and patient-safety outcomes.

Confidence in the synthesis is moderated by limitations in both the primary studies and the review process. The evidence base was dominated by single-site cross-sectional surveys and qualitative studies, with comparatively few randomized or longitudinal designs. Self-report scales often measured confidence, style, or perceived ability rather than observed accuracy, and many studies did not link decision scores to patient outcomes. Instruments and translations varied across countries and specialties, consistent with the measurement heterogeneity reported by Zainal et al. (2025). Review-level limitations include the absence of prospective registration, single-reviewer screening and extraction, restriction to English-language studies, reliance on four open searchable sources, and the lack of duplicate independent appraisal. These limitations increase the risk of missed studies, selection error, and interpretive bias. Consequently, the review supports a coherent multilevel framework and identifies recurring mechanisms, but it does not justify universal effect sizes, causal rankings, or a single threshold for competent nursing decision-making.

5. Research Gaps and Future Directions

The first priority is longitudinal and multilevel research. Most studies measured nurses and work settings at a single point, which cannot establish whether experience, confidence, empowerment, or work environment precedes stronger decisions. Repeated observation across career stages should examine how exposure, feedback, mentoring, and unit culture shape decision trajectories. Multilevel models should distinguish nurse-level determinants from team, unit, and organizational effects and should test cross-level interactions, such as whether critical thinking has greater practical value in psychologically safe units. The second priority is intervention research linked to observable performance. Educational programs should be evaluated through simulated and real clinical decisions rather than knowledge gain alone. Comparisons should include case-based reasoning, reflective debriefing, cognitive forcing strategies, mentoring, interprofessional escalation practice, and structured evidence use. Organizational interventions should test staffing changes, protected consultation time, rapid-response communication redesign, and empowerment-focused leadership. Outcomes should include cue recognition, prioritization, timeliness, accuracy, escalation, omission, and patient safety.

The third priority is measurement harmonization. Existing instruments assess overlapping but non-equivalent constructs, including decision style, confidence, self-reported ability, critical-thinking disposition, and clinical judgment. Researchers should define the target construct explicitly, report validity evidence and score interpretation, and demonstrate links between instrument scores and observed decisions. New or adapted measures should be tested for measurement invariance across countries, languages, specialties, and career stages. The noticing, interpreting, responding, and

reflecting sequence offers a useful basis for process-sensitive assessment, but instrument scores should not be treated automatically as substitutes for clinical outcomes. The fourth priority concerns digital decision support and artificial intelligence. Future studies should determine when digital tools improve judgment, when they produce automation bias or alert fatigue, and how nurses respond when algorithmic recommendations conflict with patient-specific knowledge. Participatory design should include nurses from different experience levels and settings, and evaluations should report transparency, workflow burden, override behavior, equity, safety events, and effects on professional autonomy.

The fifth priority is broader contextual and comparative evidence. More research is needed in primary care, community nursing, long-term care, mental health, rural services, low-resource settings, and humanitarian contexts, where staffing, information, technology, and referral access differ from tertiary hospitals. Comparative studies should distinguish registered nurses, advanced-practice nurses, newly graduated nurses, and specialist roles. Ethical and patient-related determinants require closer examination, particularly shared decisions, cultural differences, family involvement, moral distress, and situations in which legal or organizational rules conflict with the nurse's assessment. Future reviews should use prospectively registered protocols, complete database-specific search strategies, duplicate independent screening, and transparent study-level appraisal. Primary researchers should publish extractable effect estimates and sufficient contextual detail to support quantitative synthesis when constructs and designs are comparable. Until such evidence accumulates, narrative synthesis remains appropriate, provided that it continues to distinguish the volume of research on a determinant from the strength, direction, and consistency of evidence for its influence.

6. Conclusion

This review synthesized 47 primary empirical studies published during the prespecified eleven-year eligibility period and identified thirteen determinants of nursing decision-making. Experience, knowledge, work environment, and team support received the greatest research attention, whereas evidence and technology remained distinctly underexamined. The central conclusion is that nursing decision-making is neither an individual cognitive skill nor an organizational product in isolation. It is an enacted clinical capability produced through interactions among experiential pattern recognition, analytical reasoning, knowledge, confidence, emotion, education, workload, collaboration, autonomy, technology, and patient-specific ethical complexity. Experience can support rapid recognition, but its value depends on reflective learning and feedback. Knowledge and critical thinking strengthen interpretation, yet they do not guarantee action when staffing, hierarchy, communication, or role boundaries constrain the nurse. Education is most promising when it uses realistic cases, explicit reasoning, reflection, and feedback, while organizational improvement requires environments that protect surveillance time, enable consultation, respond to escalation, and authorize accountable professional judgment. The evidence supports an integrated multilevel framework but remains limited by cross-sectional designs, self-report measures, construct inconsistency, review-level methodological constraints, and weak linkage to patient outcomes. Future research should test causal pathways, harmonize measurement, evaluate educational and organizational interventions, and design digital support that strengthens rather than displaces nursing judgment.

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