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Facilitators and barriers to innovation and research capacity among clinical nurses: A qualitative systematic review

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ADMINISTRATIVE INFORMATION**Support** - No support.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202670078**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 July 2026 and was last updated on 20 July 2026.**INTRODUCTION**

Review question / Objective Review question: What are the facilitators and barriers influencing the development, formation, and negotiation of innovation and research capacity among clinical nurses, as experienced and perceived by clinical nurses themselves?

Objective: To identify, appraise, and synthesize qualitative evidence on facilitators and barriers to innovation and research capacity among clinical nurses, and to generate evidence-based suggestions for nursing practice, education, and healthcare policy.

Rationale Innovation and research capacity among clinical nurses is critical to advancing nursing science, improving patient outcomes, and strengthening healthcare systems. As the largest segment of healthcare professionals, nurses are uniquely positioned to identify clinical problems, generate evidence-based solutions, and drive

transformative changes in patient care. However, nurses devote the majority of their time to direct patient care and administrative duties, with limited protected time for research activities, and the conceptualization of innovation and research capacity in nursing remains inconsistent across studies, impeding the development of targeted interventions.

Existing evidence on influencing factors is fragmented across different cultural settings, practice environments, and nurse sub-populations. Previous reviews have primarily synthesized quantitative evidence or focused on specific aspects of research engagement (e.g., evidence-based practice implementation in community nursing). No qualitative synthesis has systematically integrated evidence on both facilitators and barriers to innovation and research capacity specifically among clinical nurses across diverse cultural and practice settings. Meta-aggregation is a pragmatic approach that synthesizes findings from qualitative studies to produce directly actionable recommendations for practice and policy; a comprehensive synthesis of

qualitative evidence is therefore needed to understand the full spectrum of facilitators and barriers from the perspective of clinical nurses themselves.

Condition being studied This review does not examine a disease or clinical condition. The phenomenon of interest is innovation and research capacity among clinical nurses - the comprehensive ability to identify researchable problems, design and implement studies, critically evaluate evidence, translate findings into practice, and develop innovative approaches to improve care delivery. This capacity extends beyond basic clinical competence to encompass higher-order cognitive skills including critical thinking, creativity, problem-solving, and scholarly inquiry. It is a complex, multidimensional construct integrating knowledge, skills, attitudes, and contextual supports, influenced by factors at the individual (knowledge, skills, motivation, self-efficacy), interpersonal (mentorship, peer support, teamwork), organizational (culture, resources, leadership support, time allocation), and systemic (policy environment, educational preparation, professional recognition) levels.

METHODS

Search strategy A comprehensive literature search was conducted across ten electronic databases: PubMed, Embase, CINAHL, Web of Science, Scopus, Cochrane Library, China National Knowledge Infrastructure (CNKI), WanFang Data, China Science and Technology Journal Database (VIP), and SinoMed. Eligible records were published from the inception of each database through December 18, 2025.

Search keywords: 'clinical nurse', 'registered nurse', 'innovation capacity', 'research capacity', 'research ability', 'innovative ability', 'qualitative research', 'qualitative study', 'grounded theory', 'phenomenology', and 'semi-structured interview'.

Participant or population Clinical nurses or registered nurses practicing in healthcare settings (including tertiary, secondary, general, teaching, community, university, and academic medical center hospitals, across diverse countries and cultural contexts). Studies focusing on nursing students, other healthcare professional students, or non-clinical nurses were excluded.

Intervention Not applicable — this is a qualitative systematic review with no intervention being evaluated. The phenomenon of interest is the experiences, perceptions, meanings, and processes related to the development, formation,

or negotiation of innovation capacity, research capacity, or innovative research ability among clinical nurses, including reported facilitators, barriers, challenges, and influential experiences.

Comparator Not applicable — no comparative intervention is applied to the target population in this qualitative evidence synthesis.

Study designs to be included Primary qualitative study designs, including but not limited to phenomenology, grounded theory, ethnography, and qualitative description. Mixed-methods studies were included only if the qualitative component could be clearly extracted and met all other eligibility criteria.

Eligibility criteria Inclusion criteria:

1. Participants are clinical nurses or registered nurses practicing in healthcare settings;
2. Studies explicitly explore experiences, perceptions, meanings, or processes related to the development, formation, or negotiation of innovation capacity, research capacity, or innovative research ability;
3. Primary qualitative study designs (phenomenology, grounded theory, ethnography, qualitative description, etc.); mixed-methods studies only if the qualitative component can be clearly extracted;
4. Studies report rich qualitative data on facilitators, challenges, or influential experiences in the context of the phenomenon of interest;
5. Published in English or Chinese.

Exclusion criteria:

1. Purely quantitative research, conference abstracts, editorials, or review papers;
2. Studies focusing on nursing students, other healthcare professional students, or non-clinical nurses;
3. Studies lacking sufficient qualitative data for extraction.

Information sources Electronic databases: PubMed, Embase, CINAHL, Web of Science, Scopus, Cochrane Library, CNKI, WanFang Data, VIP (China Science and Technology Journal Database), and SinoMed — searched from database inception to December 18, 2025. Additional source: hand-searching of the reference lists of all included articles.

Main outcome(s) The main outcome is the synthesized qualitative evidence (synthesized findings, categories, and themes, with credibility levels assigned per the JBI meta-aggregation approach) describing the facilitators and barriers influencing clinical nurses' innovation and research

capacity. The synthesis yielded four synthesized findings:

1. Navigating organizational culture and structural support (barriers: resource constraints, workload pressures, lack of protected research time; facilitators: institutional support, enabling infrastructure, funding, research-friendly policies);
2. The dual nature of professional knowledge and competence (barriers: knowledge deficits and educational gaps in research methodology; facilitators: continuous learning, research training, and skill development);
3. The mediating role of leadership and mentorship (barriers: absence of mentorship and unsupportive leadership; facilitators: supportive leadership and mentorship networks);
4. The internal process of motivation and self-efficacy (barriers: low research self-efficacy and motivation; facilitators: intrinsic motivation and growing confidence through successful experiences).

Additional outcome(s) Secondary outcomes include: clinical nurses' experiences, perceptions, and meanings related to engagement in research and innovation activities; the multilevel (individual, interpersonal, organizational, systemic) influences on capacity development; and cross-cultural/contextual variations in facilitators and barriers (e.g., high-resource Western settings vs. Chinese contexts vs. resource-limited settings), which inform contextually adapted interventions. Evidence-based implications for nursing practice, education, management, and healthcare policy were also derived.

Data management All retrieved records were imported into EndNote 21 for reference management, and duplicate records were removed. Two reviewers independently screened titles and abstracts, then assessed full texts against the eligibility criteria. A standardized data extraction approach was used to extract: author, publication year, country, study design, data collection methods, method of data analysis, sample size, clinical setting, years of nursing experience, gender, and all author-reported findings pertaining to facilitators, barriers, or experiences of innovation and research capacity. Data extraction was performed independently by two reviewers; discrepancies were resolved through discussion with reference to the original studies, and a third reviewer was consulted when consensus could not be reached.

Quality assessment / Risk of bias analysis The methodological quality and rigor of all included qualitative studies was critically appraised using

the JBI Critical Appraisal Checklist for Qualitative Research. This standardized tool assesses 10 key domains of qualitative research integrity, including congruity between the research methodology and the stated philosophical perspective, objectives, data collection methods, data analysis and interpretation, as well as the researcher's cultural/theoretical positioning and the representation of participants' voices.

The appraisal was conducted independently by two reviewers; each item was rated as 'Yes', 'No', or 'Unclear'. Discrepancies were resolved through discussion until consensus was reached, with a third reviewer consulted if necessary. Overall methodological quality of included studies was moderate to high; a frequent limitation was inadequate reporting of researcher reflexivity (Q6 & Q7). No study was excluded on the basis of quality.

Strategy of data synthesis Data were synthesized using the JBI meta-aggregation approach, a recognized method for systematic reviews of qualitative evidence, following a three-stage process:

1. Extracting findings from the included studies (with accompanying illustrations/verbatim data);
2. Grouping these findings into categories based on similarity in meaning (thematic similarities);
3. Developing synthesized findings (statements) from these categories.

Each synthesized statement was assigned a credibility level (unequivocal, credible, or unsupported) based on the supporting data. The review was conducted and reported in accordance with the ENTREQ (Enhancing Transparency in Reporting the Synthesis of Qualitative Research) guidelines.

Subgroup analysis No statistical subgroup analysis is applicable to this qualitative meta-aggregation. Instead, contextual comparison was undertaken across study contexts to explore variations in facilitators and barriers, including: geographic/cultural context (e.g., Chinese settings vs. high-resource Western settings vs. resource-limited settings), healthcare setting type (tertiary, general, teaching, community, academic medical centers, Magnet-designated institutions), and nurse sub-populations (e.g., years of nursing experience). Findings were compared to identify context-specific patterns and to inform culturally and contextually adapted interventions.

Sensitivity analysis No statistical sensitivity analysis is applicable to qualitative evidence synthesis. The robustness of the synthesized findings was addressed through: (1) systematic

critical appraisal of all included studies using the JBI checklist, with quality judgments considered during interpretation; (2) assignment of credibility levels (unequivocal/credible/unsupported) to each finding according to the quality and congruity of supporting data; and (3) assessment of the influence of lower-quality evidence — noting that no study was excluded based on quality, and that a common limitation (inadequate researcher reflexivity reporting) was considered when interpreting the trustworthiness of synthesized findings.

Country(ies) involved China.

Keywords Clinical nurses; Innovation capacity; Research capacity; Systematic review; Qualitative study.

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