Collegian xxx (2019) xxx–xxx

Contents lists available at ScienceDirect

Collegian

journal homepage: www.elsevier.com/locate/coll

A framework of nurses' responsibilities for quality healthcare — Exploration of content validity

Elizabeth Oldland[a,b,*], Mari Botti[a,b,c], Alison M. Hutchinson[a,b,d], Bernice Redley[a,b,d]

[a] Deakin University, Geelong, VIC 3220, Australia
[b] Centre for Quality and Patient Safety Research, Deakin University, Geelong, VIC 3220, Australia
[c] Centre for Quality and Patient Safety Research- Epworth HealthCare Partnership, Epworth Healthcare, Richmond, VIC 3121, Australia
[d] Centre for Quality and Patient Safety Research- Monash Health Partnership, Monash Health, Clayton, VIC 3168, Australia

ARTICLE INFO

Article history:
Received 8 April 2019
Received in revised form 8 July 2019
Accepted 14 July 2019
Available online xxx

Keywords:
Quality of healthcare
Nurses' role
Attitude of health personnel
Content validity
Professional practice framework

ABSTRACT

Background: Quality of healthcare may be compromised if nurses do not understand the full scope of their responsibilities.
Aim: To establish the content validity of a professional practice framework of nurses' responsibilities for healthcare quality.
Methods: In Phase 1, a narrative synthesis of the practice standards of five peak nursing bodies informed development of a practice framework. A search for validated instruments to measure the framework domains identified elements of practice within each domain. In Phase 2, 10 focus groups with 74 registered nurses were analysed to explore content validity of the framework. Literature review assessed the framework for currency in Phase 3.
Findings: The resulting framework comprises seven domains representing nurses' responsibilities for healthcare quality: (a) Management of the Environment; (b) Promotion of Safety; (c) Evidence Based Practice; (d) Medical and Technical Competence; (e) Person Centred Care; (f) Positive Interpersonal Behaviours; and (g) Clinical Leadership and Governance. Nurses' descriptions of their responsibilities for healthcare quality validated the domains and provided examples of how they are operationalised in practice. No new domains or elements of practice were identified in the focus groups or literature.
Discussion and conclusion: The seven-domain framework to describe nurses' responsibilities for healthcare quality has content validity and provides the foundation for an instrument to determine nurses' beliefs about their responsibilities for healthcare quality. Future research is required to investigate coherence between nurses' beliefs and professional and organisational expectations of nurses' responsibilities for safeguarding healthcare quality, and to measure change in perceptions of responsibilities as a result of interventions.

Summary of relevance
Problem or issue
Professional, organisational and educational expectations of nurses' responsibilities for healthcare quality may not be commensurate with nurses' understandings of their role.
What is already known
Nurses' responsibilities to ensure healthcare quality are broad-ranging; most commonly nurses identify patient safety responsibilities.

What this paper adds
A new framework, grounded in nurses' scope of practice, has content validity and encompasses measurable practice-based domains of healthcare quality. It provides the foundation for an instrument to measure nurses' beliefs about their responsibilities for healthcare quality, identify gaps between nurses' and professional, organisational and educational expectations of healthcare quality responsibilities, and measure changes in perceptions as a result of interventions.

1. Introduction

Nurses, as key personnel in healthcare delivery, play a critical role in the provision and coordination of care, prevention of

* Corresponding author at: School of Nursing and Midwifery, Deakin University, 221 Burwood Hwy, Burwood, 3125 VIC, Australia.
E-mail address: elizabeth.oldland@deakin.edu.au (E. Oldland).

https://doi.org/10.1016/j.colegn.2019.07.007

adverse events, and optimisation of health service productivity and patient outcomes (Aiken et al., 2014). Nurses' responsibilities in healthcare quality extend beyond the provision of safe care that is aligned with best evidence and clinical standards, to participation in broader organisational and system quality and safety structures (Australian Commission on Safety and Quality in Healthcare, 2017). Nurses have a professional mandate to measure, monitor and report on the appropriateness and effectiveness of healthcare, informing improvements in healthcare quality (Australian Commission on Safety & Quality in Health Care, 2014a). They play a key role in the support, implementation and evaluation of eHealth applications to improve patient safety (Car et al., 2008) and participate in the design and operation of facilities, equipment and work processes for safety. Responsibilities include consumer-centered care through systems and processes that support shared decision making, continuity of care, open disclosure, and sensitivity to the cultural needs and health literacy of patients (Australian Commission on Safety & Quality in Health Care, 2012, 2014b). Further, nurses are expected to encourage, participate in, and apply research evidence to improve the safety and quality of care (Melnyk, Gallagher-Ford, Long, & Fineout-Overholt, 2014) and to demonstrate clinical leadership (Mannix, Wilkes, & Daly, 2013; Patrick, Laschinger, Wong, & Finegan, 2011).

The wide-ranging quality and safety role expectations of nurses assumes the nursing workforce is equipped to fulfil its responsibilities, and is cognisant of those responsibilities. Arguably, the quality of healthcare may be compromised if nurses are not aware of the breadth of their responsibilities, do not accept those responsibilities, or do not feel equipped to fulfil those responsibilities. Nurses' perceptions of what constitutes quality care may be considered an indirect but informative source of information about perceived roles. Nurses have described their roles in person-centred care using a range of descriptors: 'humanism and holistic care' (Coulon, Mok, Krause, & Anderson, 1996), 'understanding patient needs and dignity' (Ryan et al., 2017), 'advocacy' (Burhans & Alligood, 2010; Lynn & McMillen, 1999), 'nursing presence' (Cline, Rosenberg, Kovner, & Brewer, 2011) and 'patient centeredness and therapeutic relationships' (Baernholdt, Jennings, Merwin, & Thornlow, 2010; Hudelson, Cléopas, Kolly, Chopard, & Perneger, 2008). Effective communication and teamwork are also common themes expressed by nurses in studies exploring nurses' perceptions of quality care (Cline et al., 2011; Coulon et al., 1996; Hudelson et al., 2008; Ryan et al., 2017). Other findings in the literature are nurses' acceptance of the need to be knowledgeable, skilled and competent, (Attree, 2001; Cline et al., 2011; Hudelson et al., 2008; McKenna et al., 2006), to promote patient safety (Ryan et al., 2017; Travaglia, Nugus, Greenfield, Westbrook, & Braithwaite, 2012) and, to adhere to broader professional responsibilities such as 'accountability' (Burhans & Alligood, 2010; Ryan et al., 2017). There is a lack of evidence that nurses identify broad aspects of clinical governance roles, consumer participation and evidence-based practice within their responsibilities for quality care.

Health professional education is expected to prepare graduates for practice, equipped with both core discipline specific knowledge and skills, as well as the competencies central to safe and high quality care (Institute for Healthcare Improvement, 1998; Institute of Medicine, 2003; World Health Organization Core Team, 2011). These include for example, effective team behaviours and leadership skills. Graduate education is an opportunity for nurses to extend and accelerate acquisition of essential knowledge, skills and behaviours and in particular, their understanding of their roles and responsibilities related to healthcare quality. The limited evidence about the role or effectiveness of graduate nursing education in developing safety and quality competencies suggests that students benefit from post-registration programs in relation to changes in attitudes, perceptions, knowledge and in skill acquisition (Cotterill-Walker, 2012; Gijbels, O'Connell, Dalton-O'Connor, & O'Donovan, 2010; Ng, Tuckett, Fox-Young, & Kain, 2014). The ability to measure nurses' role perceptions at the beginning of graduate education would enable course providers to tailor teaching and learning activities within a curriculum to optimise development of essential safety and quality related learning outcomes. The ability to measure role perceptions at the end of a course would inform evaluation of education outcomes. Similarly, understanding role perceptions would inform the implementation and evaluation of clinical quality improvement initiatives.

This paper reports on the development of a professional practice framework for nurses' roles and responsibilities in promoting the quality of healthcare. Establishing a framework that has clinical utility is an initial step in developing an instrument to measure nurses' perceived roles and responsibilities for healthcare quality. To be useful, this framework needs to encompass the full scope of the critical contribution of nursing to healthcare quality and reflect the multiple dimensions of quality activities in which nurses engage.

2. Aim

The aim of this study was to establish the content validity of a professional practice framework to describe the broad scope of nurses' roles and responsibilities in promoting quality healthcare.

3. Methodology

The study was conducted in three phases. Phase 1 involved three activities: i) a targeted search of nurses' professional practice standards and key health curricula guidelines; ii) narrative synthesis to develop a professional practice framework and; iii) a systematic search for validated instruments measuring nurses' knowledge, skills and attitudes with respect to nurses' responsibilities within each domain of healthcare quality. Phase 2 involved focus group interviews with registered nurses to explore nurses' perceptions of healthcare quality and the elements they recognise as relevant to nurses' roles. The findings were used to investigate the content validity of the framework developed in Phase 1. Phase 3 was a search of the key literature published since development of the framework to assess the framework for currency.

3.1. Phase 1: targeted search and narrative synthesis to identify concepts for a professional practice framework of nurses' responsibilities for healthcare quality

Codes of practice, practice standards or professional competencies are commonly determined by nursing regulators (International Council of Nurses, 2013b). They serve to convey professional standing, define practice and behaviour for regulation purposes to protect the public and achieve quality nursing practice outcomes, and are used to inform curricula designed to prepare nurses for practice (Cashin et al., 2017; Chiarella & White, 2013). The Australian practice standards and the practice standards of three peak nursing bodies with similar demographic characteristics, healthcare environments and nursing workforce as Australia (New Zealand, Canada, and the United Kingdom) were selected for review to ensure the framework would be fit for purpose. The International Council of Nurses website was also reviewed for relevant documents. In addition, national and international guidelines for health professional safety and quality curricula were considered as these are a useful source for essential skill, knowledge and attitudes for safe and high quality care. Guidelines were identified through a Google Advanced search, using the terms nurs*, health professional, healthcare professional, clinician, safety, quality, education

and curricul*. Dates were restricted to January 2000 to April 2014; however, relevant seminal sources published prior to 2000 were included in the final selection. Specialist practice standards, specialist nursing education frameworks and context specific literature were excluded.

Second, thematic analysis was used to produce a preliminary synthesis of findings of the domains for the professional practice framework. According to Mays, Pope, and Popay (2005, p. 12) this approach seeks "to identify and bring together the main, recurrent or most important issues or themes arising from a body of literature". This analysis identified seven domains of quality associated with nurses' responsibilities.

Third, a search for validated measurement instruments was undertaken to identify descriptive elements for each of the domains of healthcare quality in the proposed framework. Understanding how to measure nurses' knowledge and skills in, and attitudes towards evidence-based practice, for example, was anticipated to provide useful elements for identifying nurses' responsibilities in the respective quality domain and provide items for subsequent instrument development.

In this stage, the search strategy consisted of combining search terms for each of the quality domains in the proposed framework with terms to identify measurement tools ('measurement', 'instrument', 'tool', 'scale', 'questionnaire'), role ('role', 'competency', 'responsibility', 'skill') and nursing ('nurse'). Each of the seven domains was searched independently in Medline Complete and CINAHL Complete, using Boolean operators. Alternate search terms and synonyms for each domain were included to maximise results (for example, 'teamwork', 'communication' and 'reflective practice' were used to identify possible instruments for assessing the domain 'Positive Interpersonal Behaviours'). The search was limited to peer-reviewed, English language papers and the time period was restricted to January 2000 to April 2014.

Instruments were included if they specifically measured nurses' roles, responsibilities, knowledge, skills, attitudes or competency in one or more of the quality domains identified in the proposed framework, had undergone psychometric testing and validation, and were peer-reviewed and published. Replication studies were only included if they provided new psychometric validation of an instrument developed before 2000. Studies describing scale translation into a new language were excluded. A second consideration was that the instrument needed to specify elements or constructs, factors, or subscales of the phenomenon under investigation that were useful to the purpose of this stage of the study. Finally, instruments measuring patient perceptions of quality care were included if they provided useful or novel elements, acknowledging that patient experience is an essential quality outcome measure and patients' perspectives of quality should be considered by nurses when delivering quality care. Instruments focussing on safety culture or organisational climate were excluded as these measure perceptions of workplace environments rather than perceptions of roles.

3.2. Phase 2: nurses' understanding of healthcare quality and role perceptions

Phase 2 was an exploratory qualitative study designed to explore the content validity of the domains of healthcare quality identified in the narrative synthesis and used to form the professional practice framework.

3.2.1. Sample and setting

The sample was a cohort of registered nurses, employed in a variety of hospitals, who were enrolled in first year core subjects of a postgraduate Master of Nursing Practice (Specialty streams: Intensive care, Cardiac care, Emergency care, Critical care) in 2014 and 2015 at an Australian university. Teaching and learning activities within this course are designed to prepare students for specialist acute care practice, and to extend and advance their understanding of their responsibilities across the domains of healthcare quality. Although participants were postgraduate students, they were all registered nurses with acute care nursing experience and were all currently practising in acute care environments, thus were considered appropriate to inform the perceptions of nurses' roles for healthcare quality. All students enrolled in the first year core subjects (Graduate Certificate level units) were invited to participate in the study. Ten focus groups with 74 students (36%) were conducted over two years. There were no exclusion criteria.

Table 1
Focus groups: Open-ended questions.

1. In your opinion, what is quality healthcare? How can one recognise quality healthcare?
2. Can you give me an example (either hypothetical or from your own experience) of quality healthcare?
3. In your opinion, what are the main obstacles to quality healthcare?
4. Can you describe an actual situation where you felt that the healthcare provided was not optimal?
5. What should be done to ensure quality care?
6. What roles and responsibilities do you have in ensuring high quality care?
7. What is your role in ensuring that the clinical practice in your area is based on the best possible evidence?
8. What do you think clinical governance means at an individual nurse level, ward or unit level, and hospital level?

Questions 1–5 based on a semi-structured interview used in a study to explore nurses' ideas about quality {Hudelson et al., 2008 #994}.

3.2.2. Data collection

Focus groups were facilitated by the second, third and fourth authors. Each was PhD prepared, with extensive research and publishing experience, holding joint university and health service appointments. A semi-structured interview guide with open-ended questions and prompts to encourage group discussion was used (Table 1) to ensure clarity and promote consistency across groups, and focus group were audio-recorded. In addition, a non-participant observer documented interactions and non-verbal behaviours during the focus group discussions, and took notes to support and clarify the audio-recordings. Focus group interviews lasted approximately 60 min.

3.2.3. Data analysis

All interviews were transcribed verbatim, identifiers permanently removed and a study identification code allocated to each participant's data. All focus group data were managed in Microsoft Excel©. Transcripts were analysed using content analysis techniques that combined deductive and inductive approaches to identify themes (Elo & Kyngäs, 2008; Lincoln & Guba, 1985). Data were mapped according to alignment with the seven domains of the framework (deductive analysis) as the authors were interested in nurses' understandings of the domains specified in the literature derived framework. Then the data within the domains were analysed to identify themes (inductive analysis) within and across the seven domains, exploring the elements or nuances of participants' understandings of nurses' roles within each domain. To assess the content validity of the proposed framework, a key objective of the study was to identify: if nurses' understanding of healthcare quality mapped to the domains articulated in the professional practice framework (based on professional standards); which domains were well or under-developed and most frequently reported in the participants' focus group conversations; and the ways in which nurses' expressed their roles within each domain. This analysis approach explored whether role perceptions were

consistent with role expectations and whether nurses identified any elements within the domains that were not articulated within the proposed framework.

Trustworthiness of the findings was supported by consideration of the four criteria proposed by Lincoln and Guba (1985): (a) credibility, (b) transferability, (c) dependability; and, (d) confirmability. Site and time triangulation (Denzin, 1989; Patton, 1999; Shenton, 2004) was achieved with focus group participants representing multiple hospital sites and different student cohorts, reducing the potential for particular local or temporal factors peculiar to one institution or cohort to influence findings. Focus groups were audio recorded to ensure data were dependable (Borbasi, Jackson, & Langford, 2008). Strategies to promote honesty in participants when contributing data (Shenton, 2004) included facilitation by researchers who were independent of course teaching or assessment responsibilities. During focus groups, member checking was used to clarify understanding and 'check' the accuracy and intent of what was heard by the facilitator (Guba & Lincoln, 1989). Further detail about steps taken to promote trustworthiness of the findings is provided in online Supplementary file 1.

3.2.4. Ethical considerations

The project was approved by the University Human Research Ethics Committee. Participants were informed verbally and given a plain language statement explaining the research before being invited as a group, not individually, to participate. Consent was confirmed both verbally and in writing at the beginning of each focus group interview. To reduce the risk that students may have felt pressured to take part or may provide socially desirable responses in the focus groups, teaching staff (including the first author) had no role in recruitment or data collection and students were not individually approached to participate. Students were assured they were under no obligation to participate and that non-participation would in no way affect their course progression, results or relationship with the teaching team. Students were also reassured that all interview data would be transcribed for analysis with no individually identifying information.

3.3. Phase 3

Because the proposed framework was developed from a review of professional practice standards published before May 2014, and the focus groups to explore the content validity of the framework were conducted in 2014 and 2015, a search for updated versions of the practice standards or codes of conduct and health professional safety and quality curricula guidelines was undertaken in November 2018. The search for validated measurement instruments was also repeated, using the same methods used previously, to locate any additional literature published between May 2014 and November 2018. These were important steps to ensure currency of the proposed professional practice framework domains and elements, to explore whether any new domains or elements had emerged over time, and allow for modification of the framework, if required.

4. Findings

4.1. Phase 1: the professional practice framework and domain elements

An exploration of the nurse standards, position statements and codes of practice showed commonality in the practice domains and descriptors used to describe the scope of practice, professional expectations and practice standards of registered nurses. Data saturation occurred quickly, because domains or standards of practice were consistent. Ten additional documents proposing the core knowledge, skills and attitudes for healthcare quality for nurses and or health professionals were identified. These included patient safety curriculum frameworks, guides or competencies, for example the World Health Organization Patient Safety Curriculum Guide (World Health Organization Core Team, 2011), and several reports about nurse education, and current and future roles, for example, the IOM report, *The Future of Nursing - Leading Change, Advancing Health* (2010).

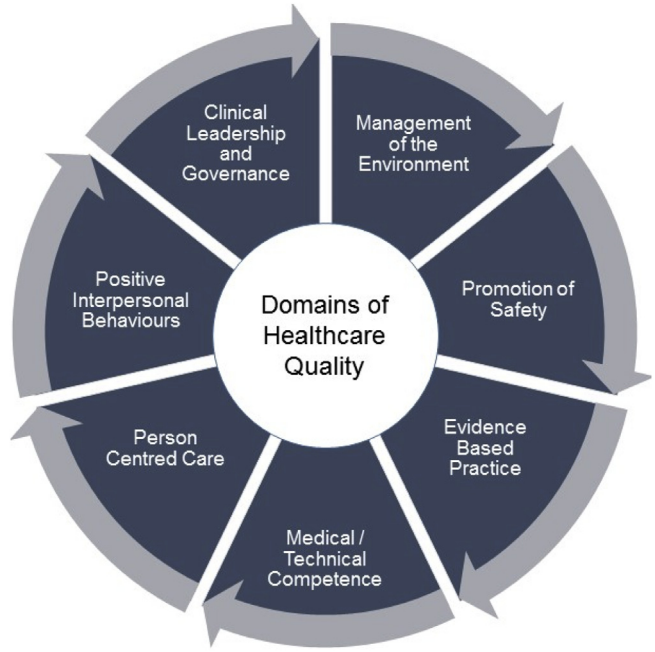

Fig. 1. Professional practice framework - Domains of healthcare quality.

The synthesis of findings is presented in Table 2.

The second step was the thematic analysis of the synthesised findings (Table 2). This resulted in a seven domain professional practice framework of nurses' responsibilities for healthcare quality: (a) Management of the Environment; (b) Promotion of Safety; (c) Evidence Based Practice; (d) Medical and Technical Competence; (e) Person Centred Care; (f) Positive Interpersonal Behaviours; and (g) Clinical Leadership and Governance (Fig. 1). The breadth of nurses' knowledge, skills and attitudes or behaviours in each of these domains is dependent on their role, experience and qualifications.

The third step was the search for validated instruments to identify descriptive elements for each of the domains of healthcare quality in the proposed framework. Thirty-three instruments that operationalised or measured nurses' responsibilities within the quality domains of the proposed framework were identified as well as 14 articles describing conceptual models or frameworks or competencies for specific domains of healthcare quality. The process for identifying and excluding this literature is illustrated in Fig. 2.

The results of each of these three steps are summarised in Table 3. This table provides an overview of the professional practice framework with domains and definitions, elements to operationalise nurses' responsibilities within each domain, and supporting literature. Many instruments measured competencies across multiple domains.

4.2. Phase 2 findings: content validity of the professional practice framework

Demographic characteristics of participants are illustrated in Table 4. Seven of the 74 (9%) participants did not complete the

Table 2
Synthesis of evidence from Phase 1 - Targeted search of practice standards, codes of conduct and health professional safety and quality curricula and reports.

Focus of search	Professional nursing peak body performance standards and competencies, codes of conduct, and relevant position statements
Synthesis of findings	To ensure healthcare quality, nurses have a responsibility to: • act professionally, ethically and morally, promoting the safety and dignity of both recipients and providers of healthcare • embrace their roles and responsibilities in the delivery and evaluation of healthcare quality • operate within their scope of practice and at levels consistent with established performance standards for their role and position, upholding the reputation of the profession • promote patient safety through environmental safety and risk management, including infection control, safe use of medicines, recognising and responding to clinical deterioration, equipment safety, safe clinical practice, safe environment of care, and accumulating an integrated body of scientific knowledge focused on patient safety • support patients in self-care decisions and partner with patients in the planning, delivery and evaluation of care • ensure healthcare is informed by evidence, clinical expertise and patient preferences. • engage in critical enquiry to inform clinical decision making • communicate and collaborate effectively with patients and other health professionals • be a reflective practitioner • initiate, lead and support measures that improve patient safety including quality improvement, education and research.
Sources	- The International Council of Nurses (ICN) Nursing Definitions (2002) - ICN Position Statements: • B05: Nursing research (2007) • D04: Participation of nurses in health services decision making and policy development (2008) • D05: Patient safety (2012b) • B03: Cultural and Linguistic Competence (2013a) • B07: Scope of Practice (2013c) • D05: Patient safety (2012b) - The ICN Code of Ethics for Nurses (2012a) - Nursing and Midwifery Board of Australia • National competency standards for the registered nurse (2006) • Code of Professional Conduct for Nurses in Australia (2008b) • Code of Ethics for Nurses in Australia (2008a) - UK Nursing and Midwifery Council • Standards for competence for registered nurses (2010) • Code of conduct (2008) - Canadian Nurses Association • Canadian Framework for the Practice of Registered Nurse (2007) • Code of Ethics (2008) - Nursing Council of New Zealand • Code of Conduct (2012a) • Competencies for Registered Nurses, (2012b)
Focus of search	National and international health professional safety and quality curricula and reports
Synthesis of findings	For quality healthcare, health professionals should demonstrate competency in: • patient/family/person-centred care • teamwork and collaboration • optimising human and environment factors • evidence-based practice • quality improvement and clinical governance to improve care • safety • discipline and context specific knowledge and skill • health informatics
Sources	- Institute for Healthcare Improvement (1998). Knowledge domains for health professional students seeking competency in the continual improvement and innovation of health care - Institute of Medicine (2003). Health Professions Education: A Bridge to Quality - Australian Council for Safety and Quality in Health Care (2005). The Australian Patient Safety Education Framework - The Lancet Commissions (Frenk et al., 2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world - Prime Minister's Commission on the Future of Nursing and Midwifery in England (2010). The Future of Nursing and Midwifery in England - Institute of Medicine (2010). The Future of Nursing - Leading Change, Advancing Health - Canadian Patient Safety Institute (Frank, Brien, & on behalf of The Safety Competencies Steering Committee, 2008). The Safety Competencies: Enhancing Patient Safety Across the Health Professions - World Health Organization Core Team (2011). World Health Organisation Patient Safety Curriculum Guide: Multi-professional edition - Quality and Safety Education for Nurses (2012). Knowledge, Skills and Attitudes for Graduate level competence - Health Workforce Australia (2012). National Common Health Capability Resource: shared activities and behaviours in the Australian health workforce

demographic information page circulated with the consent form at the commencement of the focus group.

Content analyses of focus group data revealed alignment with all seven domains. Four domains (Person Centred Care, Positive Interpersonal Behaviours, and Promotion of Safety, Clinical Leadership and Governance) emerged more frequently in participant responses and participant perceptions relating to these domains appeared to be more developed and sophisticated than for the remaining three domains (Management of the Environment, Medical and Technical Competence and Evidence Based Practice). Participants captured numerous aspects or elements of each

Table 3
Phase 1 results: Professional practice framework domains, definitions and elements.

Management of the Environment	
Definition:	Encapsulates nurses' responsibilities to maintain an appropriate, healing physical space in which a health care service is delivered.
Elements:	• Noise minimization • Clean and tidy environment • Patient privacy • Appropriate lighting • Patient and family comfort
Instruments informing elements of the domain:	- Lynn, McMillen and Sidani (2007) Nurses' Assessment of Quality Scale - Acute Care Version - Koerner (2000) Inpatient Nursing Service Quality Scale (INSQ) - Wilde Larsson and Larsson (2002) Quality from the Patient's Perspective (QPP) - short form
Additional key sources informing elements of the domain/s:	- Sofaer and Firminger (2005) Patient Perceptions of the Quality of Health Services) - McCormack and McCance (2006) Framework for person-centred nursing - Kitson, Marshall, Bassett, and Zeitz (2013) A narrative review and synthesis - core elements of patient-centred care
Promotion of Safety	
Definition:	Refers to nurses' responsibility to provide care that minimizes risks and harm to themselves and service users. It avoids injuries to patients from the care that is intended to help them (IOM 2001; WHO, 2006).
Elements:	• Risk identification and management • Error reporting • Infection prevention • Medication safety • Safety procedure compliance • Understanding human and environmental factors that mitigate harm (includes teamwork, communication) • Recognition and response to adverse events including clinical deterioration • Safety culture promotion • Personal safety awareness
Instruments informing elements of the domain:	- Ginsburg, Castel, Tregunno, and Norton (2012) Health Professional Education in Patient Safety Survey (H-PEPSS) - Lee, An, Song, Jang, and Park (2014) Patient Safety Competency Self-Evaluation (PSCSE) tool - Piscotty, Grobbel, and Abele (2013) Nursing Quality and Safety Self-Inventory (NQSSI) - Schnall et al. (2008) Patient Safety Attitudes, Skills and Knowledge Scale (PS-ASK)
Additional key sources informing elements of the domain/s:	- Okuyama, Martowirono, and Bijnen (2011) Systematic review of tools assessing health professionals' patient safety competencies
Evidence Based Practice	
Definition:	Involves giving consideration to the best available evidence; the context in which the care is delivered; client preference; and the professional judgement of the health professional (Pearson, Wiechula, Court, & Lockwood, 2005; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996)
Elements:	• Formulation of clinical questions • Critical appraisal and synthesis of evidence • Evidence development and generation • Evidence dissemination • Knowledge translation • Evaluation of evidence based decisions and practices • Understanding of research and statistical terms and methods
Instruments informing elements of the domain:	- Melnyk, Fineout-Overholt, and Mays (2008) The Evidence-Based Practice Beliefs and Implementation Scales - Ruzafa-Martinez, Lopez-Iborra, Moreno-Casbas, and Madrigal-Torres (2013) Evidence Based Practice Evaluation Competence Questionnaire (EBP-COQ) - Upton and Upton (2006) Self-report questionnaire for implementation of Evidence Based Practice Questionnaire
Additional key sources informing elements of the domain/s:	- Melnyk et al. (2014) Evidence-based practice competencies for nurses
Medical and Technical Competence	
Definition:	Refers to the discipline and context specific knowledge and psychomotor skills registered nurses need to provide quality healthcare.
Elements:	• Discipline and context specific knowledge • Psychomotor skill • Technical skill • Health informatics proficiency (includes information literacy, documentation, clinical information systems, communication systems, and data security) • Critical thinking and problem solving

Table 3 (*Continued*)

Instruments informing elements of the domain:	- Cowan, Wilson-Barnett, Norman, and Murrells (2008) Nurse competence self-assessment questionnaire tool generic across the EU - Hsu and Hsieh (2009); 2013) Nursing Students Competency Inventory scale - Nilsson et al. (2014) The nurse professional competence (NPC) Scale - Meretoja, Isoaho, and Leino-Kilpi (2004) Nurse Competence Scale - Takase and Teraoka (2011) Holistic Nursing Competence Scale. - Yoon, Yen, and Bakken (2009), and Choi and Bakken (2013) Self-Assessment of Nursing Informatics Competencies Scale (SANICS) - Hunter, McGonigle, Hill, Hebda, and Sipes (2014) Self-assessment tool of levels of informatics competency - Hill, McGonigle, Hunter, Sipes, and Hebda (2014) The Nursing Informatics Competency Assessment L3/L4 (NICA - L3/L4) - Hunter, McGonigle, and Hebda (2013) TIGER-based measurement of nursing informatics competencies
Additional key sources informing elements of the domain/s:	- Kajander-Unkuri, Salminen, Saarikoski, Suhonen, and Leino-Kilpi (2013) Review and classification of competence areas for nursing students within the EU - Staggers, Gassert, and Curran (2002) Competencies for health informatics by level of nursing practice
Person Centred Care	
Definition:	Nursing care that takes into account the preferences and cultures of individual service users and their communities. Nurses have a responsibility to respect and respond to individual needs (ACSQHC, 2011)
Elements:	• Partnership with patients and families/Promoting and respecting informed decision-making • Open disclosure • Recognition of patient preferences • Patient advocacy • Empathy and care • Provision of holistic care, equitable, and accessible healthcare • Cultural knowledge and sensitivity (cultural safety/competency) • Maintaining dignity, privacy and confidentiality • Ensuring spiritual well-being • Awareness of health literacy • Engaging authentically
Instruments informing elements of the domain:	- Schim, Doorenbos, Miller, and Benkert (2003), and Doorenbos, Schim, Benkert, and Borse (2005) Cultural Competence Assessment instrument - Wu, Larrabee, and Putman (2006) Caring Behaviours Inventory (CBI) - Perng and Watson (2012) Nurse Cultural Competence Scale - Sidani et al. (2014) Patient Centred Care measure
Additional key sources informing elements of the domain/s:	- Campinha-Bacote (2002) Model of cultural competence in health care delivery - McCormack and McCance (2006) Framework for person-centred nursing - Kitson et al. (2013) A narrative review and synthesis - core elements of patient-centred care
Positive Interpersonal Behaviours	
Definition:	Refers to the communication skills, team behaviours and personal attributes that promote safe and quality healthcare.
Elements:	• Being ethical • Professionalism • Collaboration • Team work climate • Team leadership • Team orientation • Mutual support • Effective communication • Situation assessment and advocacy • Conflict resolution • Adaptability • Ownership/accountability/role responsibility • Mutual performance monitoring • Emotional intelligence and relational empathy • Life-long learning • Reflective practice
Instruments informing elements of the domain:	- Walker et al. (2011) Observational Skill based Clinical Assessment tool for Resuscitation (OSCAR) – non-technical skills - Guise et al. (2008) Clinical teamwork scale - Baumann and Kolotylo (2009) The Professionalism and Environmental Factors in the Workplace Questionnaire - Kalisch, Lee, and Salas (2010) Nursing Teamwork Survey - Keebler et al. (2014) TeamSTEPPS Teamwork Perceptions Questionnaire (T-TPQ) - Orchard, King, Khalili, and Bezzina (2012) Interprofessional Team Collaboration Scale (AITCS) - Sigalet et al. (2013) KidSIM Team Performance Scale
Additional key sources informing elements of the domain/s:	- Salas, Sims, and Burke (2005) Core components of teamwork - Clancy and Tornberg (2007) TeamSTEPPS: Teamwork competencies program - Bainbridge, Nasmith, Orchard, and Wood (2010) Competencies for interprofessional collaboration - Gordon, Darbyshire, and Baker (2012) Systematic review of non-technical skills training to enhance patient safety

Table 3 (*Continued*)

Clinical Leadership and Governance	
Definition:	Refers to registered nurses' behaviours that provide direction and support to clients and the healthcare team in the delivery of patient care (Patrick et al., 2011). Nurses share accountability to patients and the community for assuring the delivery of health services that are safe, effective, high quality and continuously improving (Australian Commission on Safety & Quality in Healthcare, 2017)
Elements:	• Initiation, monitoring and participation in quality improvement strategies • Unit based/direct care strategic leadership and clinical coordination • Mobilising others • Mentorship • Research activity • Professional development • Systems knowledge • Supervision and education of other health professionals
Instruments informing elements of the domain	- Patrick et al. (2011) Clinical leadership survey
Additional key sources informing elements of the domain/s	- Mannix et al. (2013) An integrative review of attributes of clinical leadership in contemporary nursing

Table 4
Demographic characteristics of focus group participants (N = 74).

Characteristics[a]	
Age	
Mean (SD)	29.8 (6.1)
Median (IQR)	27.5 (8)
Female	60 (89.6%)
Years as nurse since RN registration	
Mean (±SD)	6.82 (5.8)
Median (IQR)	4.35 (6.7)
Highest nursing qualification	
Hospital certificate or Diploma of Nursing	12 (17.9%)
Bachelor of Nursing or preregistration Master of Nursing	54 (80.6%)
Postgraduate Certificate or Diploma	1 (1.5%)

[a] Missing data = 7, valid percentages reported.

domain, which are expressed as themes with examples derived from the data presented in Table 5.

Participants strongly identified with roles in providing *person-centred care*. They expressed this responsibility as partnering with patients and families to facilitate delivery of quality care including: patients and families in decision making, setting goals with patients and families, and partnering in care through effective communication. Participants discussed strategies adopted to improve communication, including nurse-led multidisciplinary handovers, which included patient and family contribution, and the use of tools to promote communication such as whiteboards. Providing holistic care was also frequently mentioned. Participants described their role in recognising and meeting the broader psychosocial needs of their patients. They expressed concern about caring for the patient as a whole, rather than having a sole focus on meeting patients' physical needs. Participants acknowledged that relating to the patient and addressing psychosocial needs contributes to consumer satisfaction with nursing care. Participants frequently recognised their roles in advocating for patients. They expressed this as empowering patients, ensuring patients' concerns are considered by the multidisciplinary team, and explaining medical jargon to achieve improved patient outcomes. Providing culturally appropriate care was a frequently expressed dimension of person-centred care. Participants spoke about meeting the cultural needs of indigenous patients, language barriers as an impediment to quality care, and the need to involve interpreters or English speaking family members, to aid effective communication. There was also recognition of the varying health literacy of their patients and the need to use layman's language to clarify medical terminology.

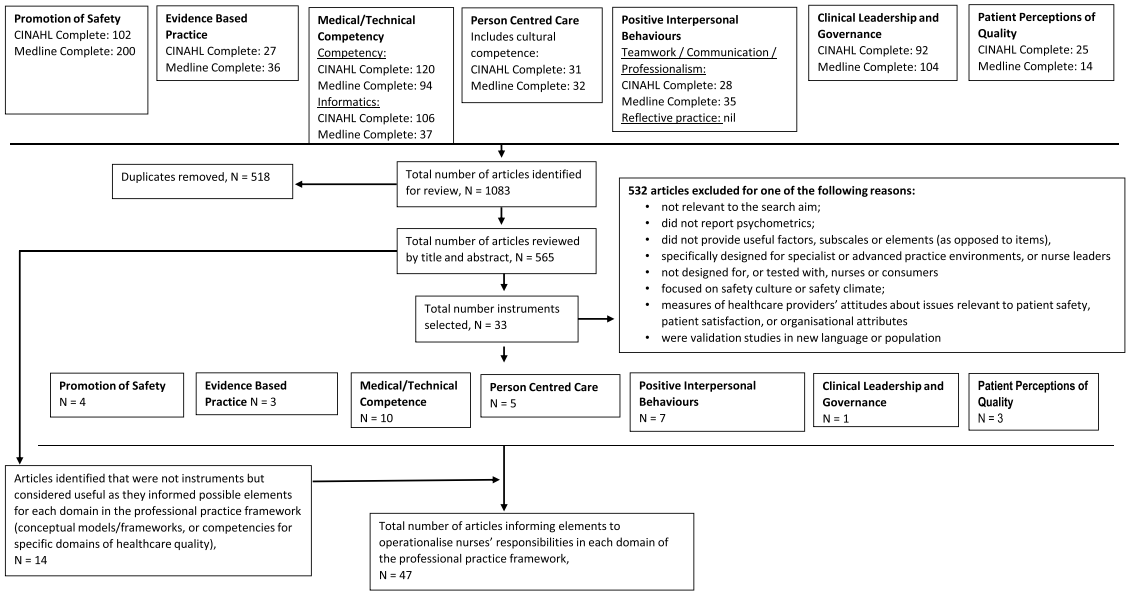

Fig. 2. Flow chart of article selection for Phase 1 Elements.

Table 5
Phase 2 findings: Participants' perceptions of nurses' roles and responsibilities in healthcare quality.

Domain	Theme	Example
Management of the Environment	• Improving the consumer experience	*We have been doing a lot of work in improving the waiting area in our ED. Improving the quality of the seating, providing places people can recharge their phones. Little things like that . . .. somewhere they can make a cup of tea or get a drink of water, a playroom area for kids, little things can improve the experience for them. (P1.50)*
Promotion of Safety	• Identifying and managing risk	*When we do get long term patients. . .. . you can really see if you have given good quality care because not only do they improve but you have minimised any risks, for example pressure areas, infection, risks. . ...and if you've managed these big risks you know you've given good quality care to the patients. (P1.10)*
	• Implementing processes to improve the quality of care	*Before implementing ISBAR, handover on night duty was really just a quick handover at the desk with notes, but since we introduced ISBAR, there is more quality, like checking the wristbands, being more organised, more patient centered and this has improved the quality of the care. (P1.43)*
Evidence Based Practice	• Using and communicating evidence	*With the new national standards, we have working parties in our unit for each one and the teams are responsible for looking up the evidence and communicating that for each one (P2.14)*
Medical/Technical Competence	• Clinical reasoning and competence	*I feel like I provide good quality care when I'm not just racing around, but I actually understand what's going on, not running from task to task. (P1.38)*
Person Centred Care	• Partnering with consumers	*We have changed to bedside handovers with all the multidisciplinary care providers there with the nurse leading it. That has opened up communication, the patient is invited to express their concerns, and the families can be part of it, so (that has) improved quality. (P1.22)*
	• Providing holistic care	*The other day I had the luxury of getting my patient a newspaper, which was the one thing he wanted, the crosswords. So I think he would have felt he got quality care that day even though it wasn't really medically related or anything, it just helped him feel better. (P2.3)*
	• Advocating for patients	*If I don't agree with treatment decisions, I'm going to call the consultant. . .I'm advocating for my patient because I want the best outcome for my patient and I'm not getting it from what's happening at the moment. (P2.24)*
Positive Interpersonal Behaviours	• Providing culturally competent care	*There are so many cultural factors. The culture is so different where we are, that the way we deliver hospital services needs to change. (P1.38)*
	• Communicating with the healthcare team	*We are working on communication at my hospital. We've had some critical incidents recently and a lot of it was stuff around communication, so I think we improve safety and quality (by) looking at communication between nursing and medical staff and what we can do, what practices we can put in place to facilitate a greater level of communication. I think once communication falls down, that's when safety and quality just plummet. (P2.22)*
	• Contributing to a positive workplace culture	*I think it is really important that staff stay approachable, because you want junior, inexperienced staff to not be afraid to ask questions. If people come to a new working environment and it is hostile, it is going to be difficult to keep staff. But also they are not going to ask for advice or ask questions, and that's when mistakes will happen. They can't do it on their own. (P2.19)*
Clinical Leadership and Governance	• Being accountable and reflective	*Getting feedback from other people. If I've made a mistake I would rather know about it and not do it again. (P1.9)*
	• Providing leadership at a clinical unit level	*Education is empowering. You might not have great managers all the time, but as nurses on the floor, by educating one another, by leading by example, by teamwork, better communication, we can do all that without great managers. (P1.15)*
	• Initiating, monitoring and participating in quality improvement	*Clinical governance to me is looking at the processes around the care we provide and particularly the significant elements of care we provide. Making sure that we've got policies for the clinical care that we provide that reflect the latest evidence. (P2.22)*

Nurses' *positive interpersonal behaviours*, such as the way they interact with other nurses and with members of the wider healthcare team, were seen as integral to providing safe, high quality care. Participants spoke about the need for open, respectful and effective communication between nurses and all members of the multidisciplinary team. There was a focus on the inclusiveness, timeliness and effectiveness of communications and the patient safety consequences when communication between healthcare team members is compromised. A positive work culture with friendly, welcoming and approachable staff was reported as important for quality care. Participants recognised their roles in work practices, interactions and relationships in workplace culture and spoke about being positive role models and working in teams. Being accountable for clinical practice and being reflective were identified by some participants as behaviours essential to identifying threats to quality care and to improve practice. This theme included taking responsibility for one's own practice, actively seeking feedback, and being receptive to feedback. The processes of debriefing and reflecting on situations where care was suboptimal were reported as valuable team behaviours to improve healthcare quality.

Participants had a well-developed understanding of nurses' roles in the *promotion of safety*. Comments were mostly about actions centred on identifying risks to patients and managing those risks. Responses suggested that focus group participants understood and accepted their responsibility for patient outcomes that are particularly sensitive to nursing care for example, pressure care and falls. Many discussed the roles they played in responding to clinical deterioration and how patient outcomes were improved through early recognition and intervention. Participants identified their roles in implementing processes to improve the quality of care, for example, the use of an evidence-based approach to clinical handover, checklists, care pathways and hourly rounding. They discussed the role of incident reporting mechanisms to gather data about errors, equipment faults, patient harm or other adverse events.

Participants expressed their roles and responsibilities in *clinical leadership and governance* primarily in terms of providing leadership at a clinical unit level. Many commented that they were responsible for educating and mobilising others. This included informal education opportunities with other staff and nursing students. Some participants recognised the coordination role they played in patient management, and others demonstrated ownership of a leadership role through comments about being a change agent through having a voice and being a role model. A second theme encompassed participation in quality improvement and accreditation processes. Many participants demonstrated their understanding of their roles in clinical governance through comments about quality processes, for example ensuring up to date policies and procedural guidelines, and participation in clinical audit and feedback activities.

Focus group participants discussed their roles in *evidence-based practice* primarily in the context of identifying, communicating, and implementing evidence in practice. For example, many participants described their role in looking up the evidence about a practice issue and their personal responsibility to be aware of the best evidence. There was less discussion about evidence-based change strategies, being an active participant in primary research or conducting primary research. Comments about roles and responsibilities in *medical and technical competence* were present, but infrequent and not well developed. From the data available, participants spoke of their roles in providing care that was knowledge-based, evidence-informed, effective and appropriate. These comments were most often linked to skills in patient assessment, critical thinking and problem solving. There was a strong sense of the imperative to understand the 'big picture', that is, to be skilled and knowledgeable in patient assessment, identifying and clarifying patient problems, implementing care in response to the identified problem, and evaluating the care delivered for its effectiveness. 'Tasking', or responding to the immediate need was considered to be an impediment to quality care. Some participants provided examples of when they, or others, provided quality care and optimised patient outcomes by demonstrating competence in patient assessment. Finally, there were few comments about roles in *management of the environment*. Comments focussed on an organised, clean and tidy physical environment, and on providing an environment for patients and families that was comfortable, and eased the inconveniences of hospitalisation, for example, providing tea and coffee making facilities. There were no references to noise control, maintaining patient privacy or ensuring appropriate lighting as elements of quality care that were identified in the literature.

4.3. Phase 3: review of recent literature to assess the currency of the model

New editions of practice standards and codes of practice published since 2014 in Australia (Nursing & Midwifery Board of Australia, 2016, 2018), the United Kingdom (Nursing & Midwifery Council, 2018a, 2018b) and Canada (Canadian Nurses Association, 2015, 2017) were located. Narrative synthesis of these documents confirmed the seven domains of the professional practice framework identified in 2014 were still current and relevant. No new domains of nurses' roles and responsibilities for healthcare were identified that would require modification of the framework; however, an increased focus on consumer participation in healthcare in the professional practice standards, a shift from the terminology of 'competencies' to 'practice standards', and an increased focus on nurses' roles in clinical governance was evident; for example, the National Model Clinical Governance Framework and the Clinical Governance for Nurses and Midwives fact sheet (Australian Commission on Safety & Quality in Health Care, 2017b, 2017c). The components of the ACSQHC framework and fact sheet for nurses and midwives are reflected in the seven domains of this study's professional practice framework (for example, 'Partnering with consumers' and 'Safe environment for the delivery of care').

Five new instruments measuring nurses' knowledge, skills or attitudes and behaviours in one or more of the framework domains were identified. These include scales measuring competency (Finnbakk, Wangensteen, Skovdahl, & Fagerström, 2015; Wangensteen, Johansson, & Nordström, 2015), critical thinking (Zuriguel-Pérez et al., 2017), person-centered care (Slater, McCance, & McCormack, 2017) and interprofessional collaboration (Sakai et al., 2017). A conceptual model for practice guidance on person-centered care (Santana et al., 2018), and a framework for recommended core competencies in nursing and inter-professional informatics (Hubner et al., 2016) were also considered relevant. Lastly, a patient safety competency framework for undergraduate nursing students published in Australia (Levett-Jones et al., 2017) was also relevant to this phase of the study. It includes a clearly articulated set of patient safety competency statements, defining required knowledge and skill, within 9 areas of practice. Though designed to inform curriculum development, teaching and student assessment, and directed at undergraduate students, there are similarities between this and the proposed professional practice framework of the current study. For example, both include 'Person-centred care', and 'Evidence-based practice' as specific areas of practice/domains. Other areas of practice in Levett-Jones et al.'s framework, for example, 'Cultural competence' and 'Teamwork and collaborative practice' are specified as elements within the domains of the current study's framework ('Person-centred care' and 'Positive interpersonal behaviours' respectively).

While each of these sources explored safety and quality competencies or elements of practice that operationalise nurses' roles in healthcare quality, no uniquely new domains or elements of practice were identified that added to those specified in Phase 1 of this study. This suggests the original framework elements sufficiently encapsulated the broad roles and responsibilities nurses have within the domains. The process for identifying and excluding literature during this stage is illustrated in Supplementary file 2.

5. Discussion

The framework, derived from the professional standards literature, identifies a core set of seven domains of quality in healthcare relevant to registered nurses' roles and responsibilities and scope of practice. The elements specified within each domain articulate nurses' responsibilities in the respective quality domain. Understanding these domains and elements provides the means for health service and education providers within a variety of contexts to describe, understand and evaluate nurses' perceptions of their responsibilities in healthcare quality and to support them to fulfil these roles.

Focus group findings were that participants identified nurses' roles in each of the seven domains of healthcare responsibilities, supporting the content validity of the framework. Comments mapping to the domains of Management of the Environment and Medical and Technical Competence were not as prevalent or well-developed as those mapping to the other domains. For example, there were no comments about noise minimisation, (an element specified in the framework under 'Maintenance of the Environment'), or psychomotor or technical skills (Medical and Technical Competence). A possible reason for this finding is that participants may see this knowledge and skill as implicit in the discipline specific aspects of critical care practice. When considering roles in healthcare quality, it is possible that they looked beyond 'the obvious' and focussed on broader roles, or it may be that the focus group questions did not prompt comments about these domains. When

participants spoke about evidence-based practice, they focussed largely on their responsibility to access and implement evidence, rather than their roles in evidence development or generation. This may reflect the characteristics of the nurse participants who had had little formal research training and were employed primarily in clinical roles with no organisational expectations to initiate or conduct formal research.

There are commonalities between the findings reported in the literature about how nurses define or perceive 'quality nursing care' and the findings reported in this study. For example, describing person centred care as care that is holistic and cognisant of patient needs and preferences (Baernholdt et al., 2010; Coulon et al., 1996; Hudelson et al., 2008; Ryan et al., 2017), and advocating for patients (Burhans & Alligood, 2010). Participants discussed the need for effective interprofessional communication and teamwork, which is also reflected in the literature (Cline et al., 2011; Coulon et al., 1996; Hudelson et al., 2008; Ryan et al., 2017). Other themes common to this study's findings and the published literature are the importance of clinical reasoning and being technically competent, (Attree, 2001; Cline et al., 2011; McKenna et al., 2006), identifying and managing risk to promote patient safety (Ryan et al., 2017; Travaglia et al., 2012) and being accountable for practice (Burhans & Alligood, 2010; Ryan et al., 2017).

A finding in the current study that has not been well articulated in the previous literature is participants' recognition of their responsibilities in healthcare quality that extend beyond the provision of competent, person-centred, safe care, to care that is aligned with best evidence and clinical standards (Evidence Based Practice domain), and that includes participation in broader organisational quality and safety systems (Clinical Leadership and Governance domain). The themes identified in these two domains ('Using and communicating evidence', 'Providing leadership at a clinical unit level', and 'Initiating, monitoring and participating in quality improvement') reflect the immediate, practice-based realities for acute care registered nurses and are nursing roles the study participants (all practising registered nurses) would likely demonstrate and see colleagues performing on a daily basis. These behaviours are consistent with professional expectations, supporting the content validity of the framework. There are several possible explanations for the finding that focus group participants in this study identified roles and responsibilities in healthcare quality not commonly reported in the literature.

First, the participants in this study (registered nurses undertaking postgraduate critical care studies), may be different in important ways from participants in other published research about how nurses define or perceive 'quality nursing care'. Study participants reported in the literature are from more diverse clinical settings, and may or may not have postgraduate qualifications. The second reason may relate to participants' postgraduate course experience. Responsibility for evidence-based practice and clinical leadership is a central tenet of the postgraduate course our participants were undertaking. This responsibility is consistently reinforced in teaching and assessment strategies, for example, by focussing on recently published clinical care standards, and incorporating assessments that require critique of clinical protocols against the evidence and development of skills in disseminating evidence through preparation of educational materials. Enrolment in an education program underpinned by safety and quality is a strength of the study design as participants are a reliable source for content validation. It may be that the experience of postgraduate study increased our participants' awareness of roles and responsibilities in quality.

Third, in Australia, there has been considerable focus on implementation of the National Safety and Quality Health Service Standards (Australian Commission on Safety & Quality in Health Care, 2017a) and the accreditation processes developed to support and assess implementation of the Standards. It is possible that increased involvement of direct care nurse clinicians in these processes has raised awareness of nurses' roles and responsibilities in these domains of quality. Another possibility is that participation in the focus groups in some way expanded their awareness of broader roles in health care quality. Focus group questions intentionally elicited information regarding participants' beliefs about their roles in clinical leadership and governance. For example, participants were asked to describe what they believed clinical governance means at an individual nurse level, ward or unit level, and hospital level.

The focus group findings support the content validity of the professional practice framework. No new domains or elements of responsibilities within the domains emerged through the focus groups that had not previously been identified through the literature search of the professional practice standards, health professional safety and quality educational outcomes literature, or the search for elements of the domains from published measurement instruments. Not all elements were identified by focus group participants (for example roles in open disclosure or research evidence development). This may reflect the participants' experiences, interest, and prior education, or may be due to the direction of the focus group questions and resulting discussion.

There are possible limitations to this research. All focus group participants were from acute care practice environments and were undertaking acute care postgraduate studies, limiting the content validation of the framework to this population. It will be important to validate the framework with nurses from other practice settings. It may be that examination of nursing professional practice standards from a wider range of countries may have revealed different or expanded roles and responsibilities from those included in the professional practice framework. Finally, participants may have provided socially desirable responses in the focus groups with peers, despite all steps taken to encourage honesty and to assure participants that their participation or comments would in no way affect course progression. The breadth and depth of focus group discussions suggests that participants provided honest responses.

The framework, and elements operationalising the framework domains, provide the foundation for item development for an instrument to measure nurses' perceptions of their roles in healthcare quality. Development of a valid and reliable instrument that address all of the domains within the framework is expected to enable identification of potential gaps between nurses' beliefs and national, professional and organisational expectations of nurses' responsibilities. Understanding role perceptions, and being able to measure change in perceptions over time, will inform nursing curricula and teaching and learning activities, and may provide context for understanding, designing and evaluating clinical initiatives designed to improve the safety and quality of healthcare.

6. Conclusions

This professional practice framework of nurses' responsibilities for healthcare quality has content validity and makes a contribution to understanding quality in healthcare. The framework is grounded in nurses' scope of practice. It encompasses realistic, practice-based domains of quality that are discipline-specific and achievable, representing the broad responsibilities that nurses have for healthcare quality rather than limited to quality outcomes, measures, characteristics or competencies. Focus group findings demonstrate that participants' understandings of nurses' responsibilities for quality were consistent with the nursing practices and behaviours that maintain and improve the quality of healthcare articulated in the practice standards derived framework. Role perceptions were consistent with the literature, contributing to the content validity of the

framework. No new dimensions or domains of perceived roles or responsibilities for healthcare quality were found in the focus group data. A subsequent review of literature published after framework development did not indicate the need for any alterations to the framework or elements. The framework provides a platform for instrument development to measure nurses' perceptions of responsibilities for healthcare quality.

Ethical statement

This study involved human research and the study was approved by the University Human Ethics Advisory Group (HEAG-H 42_2014) on the April 29, 2014.

CRediT authorship contribution statement

Elizabeth Oldland: Conceptualization, Methodology, Investigation, Data curation, Writing - original draft, Project administration. **Mari Botti:** Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing, Supervision. **Alison M. Hutchinson:** Conceptualization, Methodology, Investigation, Writing - review & editing, Supervision. **Bernice Redley:** Conceptualization, Methodology, Investigation, Writing - review & editing, Supervision.

Declaration of Competing Interest

No conflict of interest.

Acknowledgement

The first author was the recipient of the 2014 Australian Nursing and Midwifery Federation Research Scholarship.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.colegn.2019.07.007.

References

Aiken, L. H., Sloane, D. M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R., . . . & Sermeus, W. (2014). Nurse staffing and education and hospital mortality in nine European countries: A retrospective observational study. *Lancet*, *383*(9931), 1824–1830. http://dx.doi.org/10.1016/S0140-6736(13)62631-8

Attree, M. (2001). A study of the criteria used by healthcare professionals, managers and patients to represent and evaluate quality care. *Journal of Nursing Management*, *9*(2), 67–78. http://dx.doi.org/10.1046/j.1365-2834.2001.00219.x

Australian Commission on Safety and Quality in Health Care. (2011). *Australian Safety and Quality Framework for Health Care – Getting Started Guide for The Healthcare Team*. Retrieved from http://www.safetyandquality.gov.au/wp-content/uploads/2011/01/ASQFHC-Guide-Healthcare-team.pdf

Australian Commission on Safety and Quality in Health Care. (2012). *Safety and quality improvement guide standard 2: Partnering with consumers*.

Australian Commission on Safety and Quality in Health Care. (2014a). *Framework for Australian clinical quality registries*. Retrieved from http://www.safetyandquality.gov.au/wp-content/uploads/2014/09/Framework-for-Australian-Clinical-Quality-Registries.pdf

Australian Commission on Safety and Quality in Health Care. (2014b). *National Safety and Quality Health Service Standard 2: Partnering with consumers – embedding partnerships in health care*. Retrieved from http://www.safetyandquality.gov.au/wp-content/uploads/2014/11/Partnering-with-Consumers-Embedding-partnerships-in-health-care.pdf

Australian Commission on Safety and Quality in Health Care. (2017a). *National safety and quality health service standards* (2nd ed.). Sydney: ACSQHC. Retrieved from https://www.safetyandquality.gov.au/wp-content/uploads/2017/12/National-Safety-and-Quality-Health-Service-Standards-second-edition.pdf

Australian Commission on Safety and Quality in Health Care. (2017b). *National model clinical governance framework*. Sydney: ACSQHC. Retrieved from https://www.safetyandquality.gov.au/wp-content/uploads/2017/12/National-Model-Clinical-Governance-Framework.pdf

Australian Commission on Safety and Quality in Healthcare. (2017). *Clinical governance for nurses and midwives*. Sydney: ACSQHC. Retrieved from https://www.safetyandquality.gov.au/wp-content/uploads/2017/12/Clinical-governance-for-nurses-and-midwives.pdf

Australian Council for Safety and Quality in Health Care. (2005). *National patient safety education framework*. Retrieved from https://www.safetyandquality.gov.au/wp-content/uploads/2012/06/National-Patient-Safety-Education-Framework-2005.pdf

Baernholdt, M., Jennings, B. M., Merwin, E., & Thornlow, D. (2010). What does quality care mean to nurses in rural hospitals? *Journal of Advanced Nursing*, *66*(6), 1346–1355. http://dx.doi.org/10.1111/j.1365-2648.2010.05290.x

Bainbridge, L., Nasmith, L., Orchard, C., & Wood, V. (2010). Competencies for interprofessional collaboration. *Journal, Physical Therapy Education*, *24*(1), 6–11. Retrieved from http://aptaeducation.org/members/jopte/

Baumann, A., & Kolotylo, C. (2009). The professionalism and environmental factors in the Workplace Questionnaire®: Development and psychometric evaluation. *Journal of Advanced Nursing*, *65*(10), 2216–2228. http://dx.doi.org/10.1111/j.1365-2648.2009.05104.x

Borbasi, S., Jackson, D., & Langford, R. (2008). *Navigating the maze of nursing research. An interactive learning adventure* (2nd ed.). Mosby Elsevier Australia.

Burhans, L. M., & Alligood, M. R. (2010). Quality nursing care in the words of nurses. *Journal of Advanced Nursing*, *66*(8), 1689–1697. http://dx.doi.org/10.1111/j.1365-2648.2010.05344.x

Campinha-Bacote, J. (2002). The process of cultural competence in the delivery of healthcare services: A model of care. *Journal of Transcultural Nursing*, *13*(3), 181–184.

Canadian Nurses Association. (2007). *Framework for the practice of registered nurses*. Retrieved from https://www.cna-aiic.ca/-/media/nurseone/files/en/rn_framework_practice_2007_e.pdf?la=en&hash=D91A23A238194FFBBC21D0F0497CF3C489552CE5

Canadian Nurses Association. (2008). *Code of ethics for registered nurses*. Ottawa. Retrieved from https://www.cna-aiic.ca/en/nursing-practice/nursing-ethics#2008

Canadian Nurses Association. (2015). *Framework for the practice of registered nurses in Canada*. Ottawa. Retrieved from https://www.cna-aiic.ca/-/media/cna/page-content/pdf-en/framework-for-the-pracice-of-registered-nurses-in-canada.pdf?la=en&hash=55716DC66A8C15D13972F9E45BE4AC7AE0461620

Canadian Nurses Association. (2017). *Code of ethics*. Ottawa. Retrieved from https://www.cna-aiic.ca/en/nursing-practice/nursing-ethics#toc

Car, J., Black, A., Anandan, C., Cresswell, K., Pagliari, C., McKinstry, B., . . . & Sheikh, A. (2008). *The impact of eHealth on the quality & safety of healthcare – A systemic overview & synthesis of the literature. Extended executive summary. Report for the NHS connecting for health evaluation programme*. Retrieved from http://www1.ic.ac.uk/resources/1636368E-DDEE-42A0-85AC-BDE9EC3B9EA1/

Cashin, A., Heartfield, M., Bryce, J., Devey, L., Buckley, T., Cox, D., . . . & Fisher, M. (2017). Standards for practice for registered nurses in Australia. *Collegian*, *24*, 255–266. http://dx.doi.org/10.1016/j.colegn.2016.03.002

Chiarella, M., & White, J. (2013). Which tail wags which dog? Exploring the interface between professional regulation and professional education. *Nurse Education Today*, *33*(11), 1274–1278. http://dx.doi.org/10.1016/j.nedt.2013.02.002

Choi, J., & Bakken, S. (2013). Validation of the self-assessment of nursing informatics competencies scale among undergraduate and graduate nursing students. *The Journal of Nursing Education*, *52*(5), 275–282. http://dx.doi.org/10.3928/01484834-20130412-01

Clancy, C., & Tornberg, D. (2007). TeamSTEPPS: Assuring optimal teamwork in clinical settings. *American Journal of Medical Quality*, *22*(3), 214–217. http://dx.doi.org/10.1177/1062860607300616

Cline, D., Rosenberg, M., Kovner, C., & Brewer, C. (2011). Early career RNs' perceptions of quality care in the hospital setting. *Qualitative Health Research*, *21*(5), 673–682. http://dx.doi.org/10.1177/1049732310395030

Cotterill-Walker, S. (2012). Where is the evidence that master's level nursing education makes a difference to patient care? A literature review. *Nurse Education Today*, *32*(1), 57–64. http://dx.doi.org/10.1016/j.nedt.2011.02.001

Coulon, L., Mok, M., Krause, K.-L., & Anderson, M. (1996). The pursuit of excellence in nursing care: What does it mean. *Journal of Advanced Nursing*, *24*(4), 817–826. http://dx.doi.org/10.1111/1365-2648.ep8543398

Cowan, D., Wilson-Barnett, J., Norman, I., & Murrells, T. (2008). Measuring nursing competence: Development of a self-assessment tool for general nurses across Europe. *International Journal of Nursing Studies*, *45*(6), 902–913. http://dx.doi.org/10.1016/j.ijnurstu.2007.03.004

Denzin, N. K. (1989). *The research act: A theoretical introduction to sociological methods* (3rd ed.). Englewood Cliffs, N.J: Prentice Hall.

Doorenbos, A., Schim, S., Benkert, R., & Borse, N. (2005). Psychometric evaluation of the cultural competence assessment instrument among healthcare providers. *Nursing Research*, *54*(5), 324–331. Retrieved from http://journals.lww.com/nursingresearchonline/Pages/default.aspx

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115. http://dx.doi.org/10.1111/j.1365 -2648.2007.04569.x

Finnbakk, E., Wangensteen, S., Skovdahl, K., & Fagerström, L. (2015). The Professional Nurse Self-Assessment Scale: Psychometric testing in Norwegian long term and home care contexts. *BMC Nursing*, *14* http://dx.doi.org/10.1186/s12912-015-0109-3, 59–59

Frank, J., Brien, S. E., & on behalf of The Safety Competencies Steering Committee. (2008). *The safety competencies: Enhancing patient safety across the health*

professions. December 2015. Retrieved from https://www.patientsafetyinstitute.ca/en/toolsResources/safetyCompetencies/Pages/default.aspx

Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., . . . & Zurayk, H. (2010). The Lancet Commissions: Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *The Lancet*, *376*, 1923–1958. http://dx.doi.org/10.1016/S0140-6736(10)61854-5

Gijbels, H., O'Connell, R., Dalton-O'Connor, C., & O'Donovan, M. (2010). A systematic review evaluating the impact of post-registration nursing and midwifery education on practice. *Nurse Education in Practice*, *10*(2), 64–69. http://dx.doi.org/10.1016/j.nepr.2009.03.011

Ginsburg, L., Castel, E., Tregunno, D., & Norton, P. (2012). The H-PEPSS: An instrument to measure health professionals' perceptions of patient safety competence at entry into practice. *BMJ Quality & Safety*, *21*(8), 676–684. http://dx.doi.org/10.1136/bmjqs-2011-000601

Gordon, M., Darbyshire, D., & Baker, P. (2012). Non-technical skills training to enhance patient safety: A systematic review. *Medical Education*, *46*(11), 1042–1054. http://dx.doi.org/10.1111/j.1365-2923.2012.04343.x

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, California: Sage Publications.

Guise, J., Deering, S., Kanki, B., Osterweil, P., Li, H., Mori, M., . . . & Lowe, N. (2008). Validation of a tool to measure and promote clinical teamwork. *Simulation in Healthcare*, *3*(4), 217–223. Retrieved from http://journals.lww.com/simulationinhealthcare/Abstract/2008/00340/Validation_of_a_Tool_to_Measure_and_Promote.2.aspx

Health Workforce Australia. (2012). *National Common Health Capability Resource: Shared activities and behaviours in the Australian health workforce*. Retrieved from http://tellcentre.net/cop/wp-content/uploads/formidable/NCHCR2013.pdf

Hill, T., McGonigle, D., Hunter, K., Sipes, C., & Hebda, T. (2014). An instrument for assessing advanced nursing informatics competencies. *Journal of Nursing Education and Practice*, *4*(7), 104–112. http://dx.doi.org/10.5430/jnep.v4n7p104

Hsu, L., & Hsieh, S. (2009). Testing of a measurement model for baccalaureate nursing students' self-evaluation of core competencies. *Journal of Advanced Nursing*, *65*(11), 2454–2463. http://dx.doi.org/10.1111/j.1365-2648.2009.05124.x

Hubner, U., Shaw, T., Thye, J., Egbert, N., Marin, H., & Ball, M. (2016). Towards an international framework for recommendations of core competencies in nursing and inter-professional informatics: The TIGER competency synthesis project. *Studies in Health Technology and Informatics*, *228*, 655–659. http://dx.doi.org/10.3233/978-1-61499-678-1-655

Hudelson, P., Cléopas, A., Kolly, V., Chopard, P., & Perneger, T. (2008). What is quality and how is it achieved? Practitioners' views versus quality models. *Quality & Safety in Health Care*, *17*(1), 31–36. http://dx.doi.org/10.1136/qshc.2006.021311

Hunter, K., McGonigle, D., & Hebda, T. (2013). TIGER-based measurement of nursing informatics competencies: The development and implementation of an online tool for self-assessment. *Journal of Nursing Education and Practice*, *3*(12), 70–80. http://dx.doi.org/10.5430/jnep.v3n12p70

Hunter, K., McGonigle, D., Hill, T., Hebda, T., & Sipes, C. (2014). *Self-reported assessment of basic and informatics specialist/innovator nursing informatics competencies: TANIC© and NICA L3/L4©. 29*. pp. 4–7.

Institute for Healthcare Improvement. (1998). *Knowledge domains for health professional students seeking competency in the continual improvement and innovation of health care*. Retrieved from http://www.ihi.org/education/ihiopenschool/resources/Assets/Publications%20-%20EightKnowledgeDomainsforHealthProfessionalStudents_5216cd8e-1867-4c77-90b6-955641ecab78/KnowledgeDomains.pdf

Institute of Medicine. (2001). *Crossing the Quality Chasm. A New Health System for the 21st Century*. Retrieved from http://iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx

Institute of Medicine. (2003). *Health professions education: A bridge to quality*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK221528/

Institute of Medicine. (2010). *The future of nursing – Leading change, advancing health*. Retrieved from http://www.nationalacademies.org/hmd/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx

International Council of Nurses. (2002). *Nursing definitions*. Retrieved from https://www.icn.ch/nursing-policy/nursing-definitions

International Council of Nurses. (2007). *Position statement B05: Nursing research*. Retrieved from http://www.icn.ch/images/stories/documents/publications/position_statements/B05_Nsg_Research.pdf

International Council of Nurses. (2008). *Position Statement D04: Participation of nurses in health services decision making and policy development*. Retrieved from http://www.icn.ch/images/stories/documents/publications/position_statements/D04_Participation_Decision_Making_Policy_Development.pdf

International Council of Nurses. (2012a). *The ICN code of ethics for nurses*. Retrieved from http://www.icn.ch/images/stories/documents/about/icncode_english.pdf

International Council of Nurses. (2012b). *Position statement D05: Patient safety*. Retrieved from http://www.icn.ch/images/stories/documents/publications/position_statements/D05_Patient_Safety.pdf

International Council of Nurses. (2013a). *Position statement B04: Nursing regulation*. Retrieved from https://www.icn.ch/sites/default/files/inline-files/B04_Nsg_Regulation.pdf

International Council of Nurses. (2013b). *Position statement B07: Scope of practice*. Retrieved from http://www.icn.ch/images/stories/documents/publications/position_statements/B07_Scope_Nsg_Practice.pdf

International Council of Nurses. (2013c). *Position statement B03: Cultural and linguistic competence*. Retrieved from http://www.icn.ch/images/stories/documents/publications/position_statements/B03_Cultural_Linguistic_Competence.pdf

Kajander-Unkuri, S., Salminen, L., Saarikoski, M., Suhonen, R., & Leino-Kilpi, H. (2013). Competence areas of nursing students in Europe. *Nurse Education Today*, *33*(6), 625–632. http://dx.doi.org/10.1016/j.nedt.2013.01.017

Kalisch, B., Lee, H., & Salas, E. (2010). The development and testing of the nursing teamwork survey. *Nursing Research*, *59*(1), 42–50. http://dx.doi.org/10.1097/NNR.0b013e3181c3bd42

Keebler, J., Dietz, A., Lazzara, E., Benishek, L., Almeida, S., Toor, P., . . . & Salas, E. (2014). Validation of a teamwork perceptions measure to increase patient safety. *BMJ Quality & Safety*, *23*(9), 718. Retrieved from http://qualitysafety.bmj.com/

Kitson, A., Marshall, A. P., Bassett, K., & Zeitz, K. (2013). What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *Journal of Advanced Nursing*, *69*(1), 4–15. http://dx.doi.org/10.1111/j.1365-2648.2012.06064.x

Koerner, M. (2000). The conceptual domain of service quality for inpatient nursing services. *Journal of Business Research*, *48*(3), 267–283. http://dx.doi.org/10.1016/S0148-2963(98)00092-7

Lee, N., An, J., Song, T., Jang, H., & Park, S. (2014). Psychometric evaluation of a patient safety competency self-evaluation tool for nursing students. *The Journal of Nursing Education*, *53*(10), 550–562. http://dx.doi.org/10.3928/01484834-20140922-01

Levett-Jones, T., Dwyer, T., Reid-Searl, K., Heaton, L., Flenady, T., Applegarth, J., . . . & Andersen, P. (2017). *Patient safety competency framework (PSCF) for nursing students*. Retrieved from http://www.proftlj.com/wp-content/uploads/2017/07/UTS_PSCF_Brochure_2.pdf

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Lynn, M., & McMillen, B. (1999). Do nurses know what patients think is important in nursing care? *Journal of Nursing Care Quality*, *13*(5), 65–74. Retrieved from http://www.aspenpublishers.com

Lynn, M., McMillen, B., & Sidani, S. (2007). Including the provider in the assessment of quality care: Development and testing of the Nurses' Assessment of Quality Scale – acute care version. *Journal of Nursing Care Quality*, *22*(4), 328–336. Retrieved from http://journals.lww.com/jncqjournal/pages/default.aspx

Mannix, J., Wilkes, L., & Daly, J. (2013). Attributes of clinical leadership in contemporary nursing: An integrative review. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, *45*(1), 10–21. http://dx.doi.org/10.5172/conu.2013.45.1.10

Mays, N., Pope, C., & Popay, J. (2005). Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field. *Journal of Health Services Research & Policy*, *10*, 6–20. Retrieved from https://journals.sagepub.com/home/hsr

McCormack, B., & McCance, T. (2006). Development of a framework for person-centred nursing. *Journal of Advanced Nursing*, *56*(5), 472–479. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2648

McKenna, H. P., Keeney, S., Currie, L., Harvey, G., West, E., & Richey, R. H. (2006). Quality of care: A comparison of perceptions of health professionals in clinical areas in the United Kingdom and the United States. *Journal of Nursing Care Quality*, *21*(4), 344–351. Retrieved from http://journals.lww.com/jncqjournal/pages/default.aspx

Melnyk, B., Gallagher-Ford, L., Long, L., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews on Evidence-based Nursing*, *11*(1), 5–15. http://dx.doi.org/10.1111/wvn.12021

Melnyk, B. M., Fineout-Overholt, E., & Mays, M. Z. (2008). The Evidence-Based Practice Beliefs and Implementation Scales: Psychometric properties of two new instruments. *Worldviews on Evidence-Based Nursing*, *5*(4), 208–216 [corrected] [published erratum appears in *Worldviews on Evidence-Based Nursing* (2009) *6*(1):49]. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1741-6787

Meretoja, R., Isoaho, H., & Leino-Kilpi, H. (2004). Nurse Competence Scale: Development and psychometric testing. *Journal of Advanced Nursing*, *47*(2), 124–133. http://dx.doi.org/10.1111/j.1365-2648.2004.03071.x

Ng, L. C., Tuckett, A. G., Fox-Young, S. K., & Kain, V. J. (2014). Exploring registered nurses' attitudes towards postgraduate education in Australia: An overview of the literature. *Journal of Nursing Education and Practice*, *4*(2), 162–170. http://dx.doi.org/10.5430/jnep.v4n2p162

Nilsson, J., Johansson, E., Egmar, A., Florin, J., Leksell, J., Lepp, M., . . . & Gardulf, A. (2014). Development and validation of a new tool measuring nurses self-reported professional competence—The nurse professional competence (NPC) Scale. *Nurse Education Today*, *34*(4), 574–580. http://dx.doi.org/10.1016/j.nedt.2013.07.016

Nursing and Midwifery Board of Australia. (2006). *National competency standards for the registered nurse*. Retrieved from http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx

Nursing and Midwifery Board of Australia. (2008a). *Code of ethics for nurses in Australia (Retired version)*. Retrieved from https://www.

nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx
Nursing and Midwifery Board of Australia. (2008b). *Code of professional conduct for nurses in Australia (Retired version)*. Retrieved from https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx
Nursing and Midwifery Board of Australia. (2016). *Registered nurse standards for practice*. Retrieved from http://www.nursingmidwiferyboard.gov.au/News/2016-02-01-revised-standards.aspx#standardsforpractice
Nursing and Midwifery Board of Australia. (2018). *Code of conduct for nurses*. Retrieved from https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx
Nursing and Midwifery Council. (2008). *Code of conduct*. Retrieved from https://www.nmc.org.uk/globalassets/sitedocuments/standards
Nursing and Midwifery Council. (2010). *Standards for competence for registered nurses*. Retrieved from http://www.nmc-uk.org/Publications/Standards
Nursing and Midwifery Council. (2018a). *Standards of proficiency for registered nurses*. London, UK. Retrieved from https://www.nmc.org.uk/globalassets/sitedocuments/education-standards/future-nurse-proficiencies.pdf
Nursing and Midwifery Council. (2018b). *The Code. Professional standards of practice and behaviour for nurses, midwives and nursing associates*. London, UK. Retrieved from https://www.nmc.org.uk/standards/code/
Nursing Council of New Zealand. (2012b). *Code of conduct*. Retrieved from http://www.nursingcouncil.org.nz/Nurses/Code-of-Conduct
Nursing Council of New Zealand. (2012a). *Competencies for registered nurses*. Retrieved from http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Registered-nurse
Okuyama, A., Martowirono, K., & Bijnen, B. (2011). Assessing the patient safety competencies of healthcare professionals: A systematic review. *BMJ Quality & Safety*, *20*(11), 991–1000. http://dx.doi.org/10.1136/bmjqs-2011-000148
Orchard, C., King, G., Khalili, H., & Bezzina, M. (2012). Assessment of Interprofessional Team Collaboration Scale (AITCS): Development and testing of the instrument. *The Journal of Continuing Education in the Health Professions*, *32*(1), 58–67. http://dx.doi.org/10.1002/chp.21123
Patrick, A., Laschinger, H., Wong, C., & Finegan, J. (2011). Developing and testing a new measure of staff nurse clinical leadership: The clinical leadership survey. *Journal of Nursing Management*, *19*(4), 449–460. http://dx.doi.org/10.1111/j.1365-2834.2011.01238.x
Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research*, *34*(5), 1189–1208. Retrieved from http://hsr.org/
Pearson, A., Wiechula, R., Court, A., & Lockwood, C. (2005). The JBI model of evidence-based healthcare. *International Journal of Evidence-Based Healthcare, 3*(8), 207–215.
Perng, S., & Watson, R. (2012). Construct validation of the Nurse Cultural Competence Scale: A hierarchy of abilities. *Journal of Clinical Nursing*, *21*(11–12), 1678–1684. http://dx.doi.org/10.1111/j.1365-2702.2011.03933.x
Piscotty, R., Grobbel, C., & Abele, C. (2013). Initial psychometric evaluation of the nursing quality and safety self-inventory. *The Journal of Nursing Education*, *52*(5), 269–274. http://dx.doi.org/10.3928/01484834-20130412-03
Prime Minister's Commission on the Future of Nursing and Midwifery in England. (2010). *Frontline care: Report by the Prime Minister's commission on the future of nursing and midwifery in England*. Retrieved from https://webarchive.nationalarchives.gov.uk/20100331110440/http://cnm.independent.gov.uk/wp-content/uploads/2010/03/front_line_care.pdf
Quality and Safety Education for Nurses. (2012). *Quality and safety education for nurses: Graduate level competencies*. Retrieved from http://qsen.org/competencies/graduate-ksas/
Ruzafa-Martinez, M., Lopez-Iborra, L., Moreno-Casbas, T., & Madrigal-Torres, M. (2013). Development and validation of the competence in evidence based practice questionnaire (EBP-COQ) among nursing students. *BMC Medical Education*, *13* http://dx.doi.org/10.1186/1472-6920-13-19, 19–19
Ryan, C., Powlesland, J., Phillips, C., Raszewski, R., Johnson, A., Banks-Enorense, K., . . . & Welsh, J. (2017). Nurses' perceptions of quality care. *Journal of Nursing Care Quality*, *32*(2), 180–185. http://dx.doi.org/10.1097/NCQ.0000000000000211
Sackett, D., Rosenberg, W., Gray, J., Haynes, R., & Richardson, W. (1996). *Evidence Based Medicine: What It is and What It Isn't: It's about Integrating Individual Clinical Expertise and the Best External Evidence.* , 71.
Sakai, I., Yamamoto, T., Takahashi, Y., Maeda, T., Kunii, Y., & Kurokochi, K. (2017). Development of a new measurement scale for interprofessional collaborative competency: The Chiba Interprofessional Competency Scale (CICS29). *Journal of Interprofessional Care*, *31*(1), 59–65. Retrieved from https://www.tandfonline.com/loi/ijic20
Salas, E., Sims, D., & Burke, C. (2005). Is there a "Big Five" in Teamwork? *Small Group Research*, *36*(5), 555–599. http://dx.doi.org/10.1177/1046496405277134
Santana, M. J., Manalili, K., Jolley, R. J., Zelinsky, S., Quan, H., & Lu, M. (2018). How to practice person-centred care: A conceptual framework. *Health Expectations*, *21*(2), 429–440. http://dx.doi.org/10.1111/hex.12640
Schim, S., Doorenbos, A., Miller, J., & Benkert, R. (2003). Development of a cultural competence assessment instrument. *Journal of Nursing Measurement*, *11*(1), 29–40. Retrieved from http://www.springerpub.com/journal-of-nursing-measurement.html
Schnall, R., Stone, P., Currie, L., Desjardins, K., John, R., & Bakken, S. (2008). Development of a self-report instrument to measure patient safety attitudes, skills, and knowledge. *Journal of Nursing Scholarship*, *40*(4), 391–394. http://dx.doi.org/10.1111/j.1547-5069.2008.00256.x
Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*(2), 63–75. Retrieved from http://www.iospress.nl/journal/education-for-information/
Sidani, S., Collins, L., Harbman, P., MacMillan, K., Reeves, S., Hurlock-Chorostecki, C., . . . & van Soeren, M. (2014). Development of a measure to assess healthcare providers' implementation of patient-centered care. *Worldviews on Evidence-Based Nursing/Sigma Theta Tau International, Honor Society Of Nursing*, *11*(4), 248–257. http://dx.doi.org/10.1111/wvn.12047
Sigalet, E., Donnon, T., Cheng, A., Cooke, S., Robinson, T., Bissett, W., . . . & Grant, V. (2013). Development of a team performance scale to assess undergraduate health professionals. *Academic Medicine*, *88*(7), 989–996. http://dx.doi.org/10.1097/ACM.0b013e318294fd45
Slater, P., McCance, T., & McCormack, B. (2017). The development and testing of the Person-centred Practice Inventory - Staff (PCPI-S). *International Journal for Quality in Health Care*, *29*(4), 541–547. http://dx.doi.org/10.1093/intqhc/mzx066
Sofaer, S., & Firminger, K. (2005). Patient perceptions of the quality of health services. *Annual Review of Public Health*, *26*(1), 513–559. http://dx.doi.org/10.1146/annurev.publhealth.25.050503.153958
Staggers, N., Gassert, C., & Curran, C. (2002). A Delphi study to determine informatics competencies for nurses at four levels of practice. *Nursing Research*, *51*(6), 383–390. Retrieved from http://journals.lww.com/nursingresearchonline/Pages/default.aspx
Takase, M., & Teraoka, S. (2011). Development of the holistic nursing competence scale. *Nursing & Health Sciences*, *13*(4), 396–403. http://dx.doi.org/10.1111/j.1442-2018.2011.00631.x
Travaglia, J., Nugus, P., Greenfield, D., Westbrook, J., & Braithwaite, J. (2012). Visualising differences in professionals' perspectives on quality and safety. *BMJ Quality & Safety*, *21*(9), 778–783. http://dx.doi.org/10.1136/bmjqs.2011.051755
Upton, D., & Upton, P. (2006). Development of an evidence-based practice questionnaire for nurses. *Journal of Advanced Nursing*, *53*(4), 454–458. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2648
Walker, S., Brett, S., McKay, A., Lambden, S., Vincent, C., & Sevdalis, N. (2011). Observational Skill-based Clinical Assessment tool for Resuscitation (OSCAR): Development and validation. *Resuscitation*, *82*(7), 835–844. http://dx.doi.org/10.1016/j.resuscitation.2011.03.009
Wangensteen, S., Johansson, I. S., & Nordström, G. (2015). Nurse Competence Scale - Psychometric testing in a Norwegian context. *Nurse Education in Practice*, *15*(1), 22–29. http://dx.doi.org/10.1016/j.nepr.2014.11.007
Wilde Larsson, B., & Larsson, G. (2002). Development of a short form of the Quality from the Patient's Perspective (QPP) questionnaire. *Journal of Clinical Nursing, 11*(5), 681–687.
World Health Organization. (2006). *Quality of care: a process for making strategic choices in health system*. Retrieved from http://www.who.int/management/quality/assurance/QualityCare_B.Def.pdf
World Health Organization Core Team. (2011). *Patient safety curriculum guide: Multi-professional edition*. Retrieved from https://www.who.int/patientsafety/education/mp_curriculum_guide/en/
Wu, Y., Larrabee, J. H., & Putman, H. P. (2006). Caring Behaviors Inventory: A reduction of the 42-item instrument. *Nursing Research*, *55*(1), 18–25. Retrieved from http://journals.lww.com/nursingresearchonline/Pages/default.aspx
Yoon, S., Yen, P., & Bakken, S. (2009). Psychometric properties of the self-assessment of nursing informatics competencies scale. *Studies in Health Technology and Informatics*, *146*, 546–550. Retrieved from https://www.ncbi.nlm.nih.gov/labs/journals/stud-health-technol-inform/
Zuriguel-Pérez, E., Falcó-Pegueroles, A., Roldán-Merino, J., Agustino-Rodriguez, S., Gómez-Martín, M. C., & Lluch-Canut, M. T. (2017). Development and psychometric properties of the nursing critical thinking in clinical practice questionnaire. *Worldviews on Evidence-based Nursing*, *14*(4), 257–264. http://dx.doi.org/10.1111/wvn.12220