

NURSE MANAGERS' PERCEPTIONS OF THE COMPETENCE OF NEWLY GRADUATED NURSES: A SCOPING REVIEW

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Aim To summarise nurse managers' perceptions of newly graduated nurses' (NGNs) competence and connected factors.

Background Nurse managers recruiting staff are responsible for employing competent nurses to ensure quality care and professional standards. Knowledge of managers' perceptions about the competence of NGNs is needed to understand the expectations of the health care system towards future professionals.

Evaluation A scoping review was conducted. A total of 12 research publications met the inclusion criteria and were analysed using inductive content analysis.

Key issues Managers' perceptions can be divided into three perspectives: NGNs' competence descriptions, assessment of competences, and connected factors. The NGNs' level of competence was assessed to be at least satisfactory, and dependent on prior exposure to the work setting, change in the degree of responsibility, and lack of confidence.

Conclusion Existing knowledge about nurse managers' perceptions of NGNs' competence is limited and rather fragmented. There is a clear need for rigorous empirical studies with comprehensive views of managers, emphasising the key role of managers in the evaluation of nurse competence.

Implications for Nursing Management Nurse managers can use the results of this review in recruitment, performance reviews and the development of job orientation programmes aimed at enhancing NGNs' transition to the nurse workforce.

Keywords nurse manager, newly graduated nurses, competence, literature review

Introduction

Newly graduated nurses (NGNs), also known as novice nurses working in their first clinical positions after graduation (Hickerson et al., 2016), comprise an increasing part of nursing staff today. Over the past decade, the proportion of NGNs in the nurse workforce has grown in several countries (OECD, 2017; Eurostat, 2018) in response to concerns about current or possible future shortages of nurses (Chan et al., 2013; U.S. Department of Labor, 2019). Nurse managers are in key position in recruiting NGNs and ensuring their smooth transition to work. NGNs' difficulties of transition into practice have, however, been documented (Numminen et al., 2014; Hickerson et al., 2016; Haddad et al., 2017) although various interventions have been targeted at facilitating the transition, for instance in the final clinical practicum of nursing education (Kaihlanen et al., 2018). NGNs' intentions of leaving the profession have also been reported repeatedly (Aiken et al., 2012; Chan et al., 2013; Haddad et al., 2017). Historically, one of the reasons essentially relating to the difficulties in transition to clinical practice and possibly causing intentions to leave has to do with the deficits in knowledge and skills that NGNs may demonstrate (Hickerson et al., 2016; Haddad et al., 2017). The situation is problematic as in clinical settings, NGNs are expected to be practice-ready and capable of getting down to work rather quickly to ensure the workflow in units facing high volumes of patients, for instance. (Haddad et al., 2017).

Knowledge about competencies – requirements on how to perform the work properly in a professional manner – is important for managers while doing recruitment and performance reviews (Poikkeus et al., 2014; Haddad et al., 2017). Frequently used methods to indicate nurses' actual competencies are nurse managers' reviews and self-reporting. However, there is limited evidence that the methods predict optimal competencies (Meretoja & Koponen, 2012) as well as lack of performance outcome measures to form the basis of targeted change or interventions (Huston et al., 2018).

There are several factors connected to competence that managers should recognise to maximise the outcomes (Kajander-Unkuri et al., 2014, Flinkman et al., 2017). In general, sociodemographics, such as older age, higher education, and healthcare experience prior to nursing education are associated with higher competence. Organizational factors, such as higher level of independence, and nurse-related factors, such as critical thinking and occupational commitment, are also connected to competence. Practice environment-related

factors are also associated with nursing students' competence, such as quality of care and ethical climate. (Flinkman et al., 2017.)

Effective use of competencies and nursing resources is critical in tackling the worldwide nursing shortage. With the high cost of recruitment and the limited resources available for NGNs' preparation for practice, learning about NGNs' competence from managers' point of view is essential to guide decisions about how to best educate them (Oermann et al., 2010) and support their transition into practice. Efforts to close the preparation-practice gap are justified as they potentially have implications, e.g. in decreasing turnover (Hickerson et al., 2016).

Research on competence comparing views between different assessors and from managers' perspective seems to be scarce (Flinkman et al., 2017), although they are key stakeholders when communicating potential competence requirements and deficits to nursing degree programmes, for instance. Therefore, the aim was to explore nurse managers' perceptions of NGNs' competence and connected factors based on previous research and to identify the nature, range and extent of the empirical research evidence (Arksey & Malley, 2005; Levac et al., 2010). A scoping review approach was chosen to summarise the knowledge as it allows a broad approach, including different study designs.

Method

A scoping review was undertaken following Arksey and Malley's (2005) methodological framework stages 1–5 as described below:

Stage 1) Identifying the research question

At the beginning, research questions were formulated to guide the searches for this scoping review. The questions were:

1. What NGN competences have been described?
2. How are competences assessed by nurse managers and what is the level of NGNs' competence?
3. What are the factors connected to the competence of NGNs?

Stage 2) Identifying relevant studies

In this review, the term ‘nurse manager’ was used to refer to all levels of managers, from nurse director (strategic and middle level) to nurse leader (unit level), with the exception of nurses who have managerial responsibilities within their work but have no official position as manager (Parand et al., 2014; Poikkeus et al., 2014). Inclusion and exclusion criteria were set (Table 1) and relevant studies identified by conducting a literature search up to November 2018 for primary empirical studies published in English. Following consultation with a health and medical science library informatician, the chosen combination of databases providing general and special health research content was considered to yield relevant citations widely about the topic of interest. (Bramer et al. 2017). The following databases were searched: Cinahl/Ebsco, PubMed from MEDLINE, Eric/Ebsco and Business Source Complete/Ebsco and keywords used were: nurs*, graduat* OR student* OR "Students, Nursing" combined with competenc* OR "Professional competenc*" OR "Clinical competenc*" AND "nurse administ*" OR "nurse leader*" OR "head nurse*" OR "charge nurse*" OR "nursing manage*" OR "department nurse*" OR "nurse leader*" OR "nurse director*" OR "Leadership" OR "nurse director*" (Appendix). No date restrictions were used. The database searches identified 1,327 references.

Table 1. Inclusion/exclusion criteria

<p>Inclusion:</p> <ul style="list-style-type: none">(1) primary empirical study,(2) administrator (all levels) as main participant or as part of a multiprofessional participant group,(3) graduating nurse student or newly graduated nurse as focus of the competence assessment, < 12 months from graduating,(4) preregistration programme. <p>Exclusion:</p> <ul style="list-style-type: none">(1) review, discussion, proceeding or editorial paper,(2) administrator from other sector than healthcare,(3) study finding concerning administrator point of view is not able to be identified from a wider participant group,(4) nurses, > 12 months from graduation,(5) postgraduate programme.
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Stage 3) Study selection

Study selection was done by two independent researchers screening the abstracts and full texts against the inclusion and exclusion criteria. Altogether 12 studies were included in the review (Figure 1).

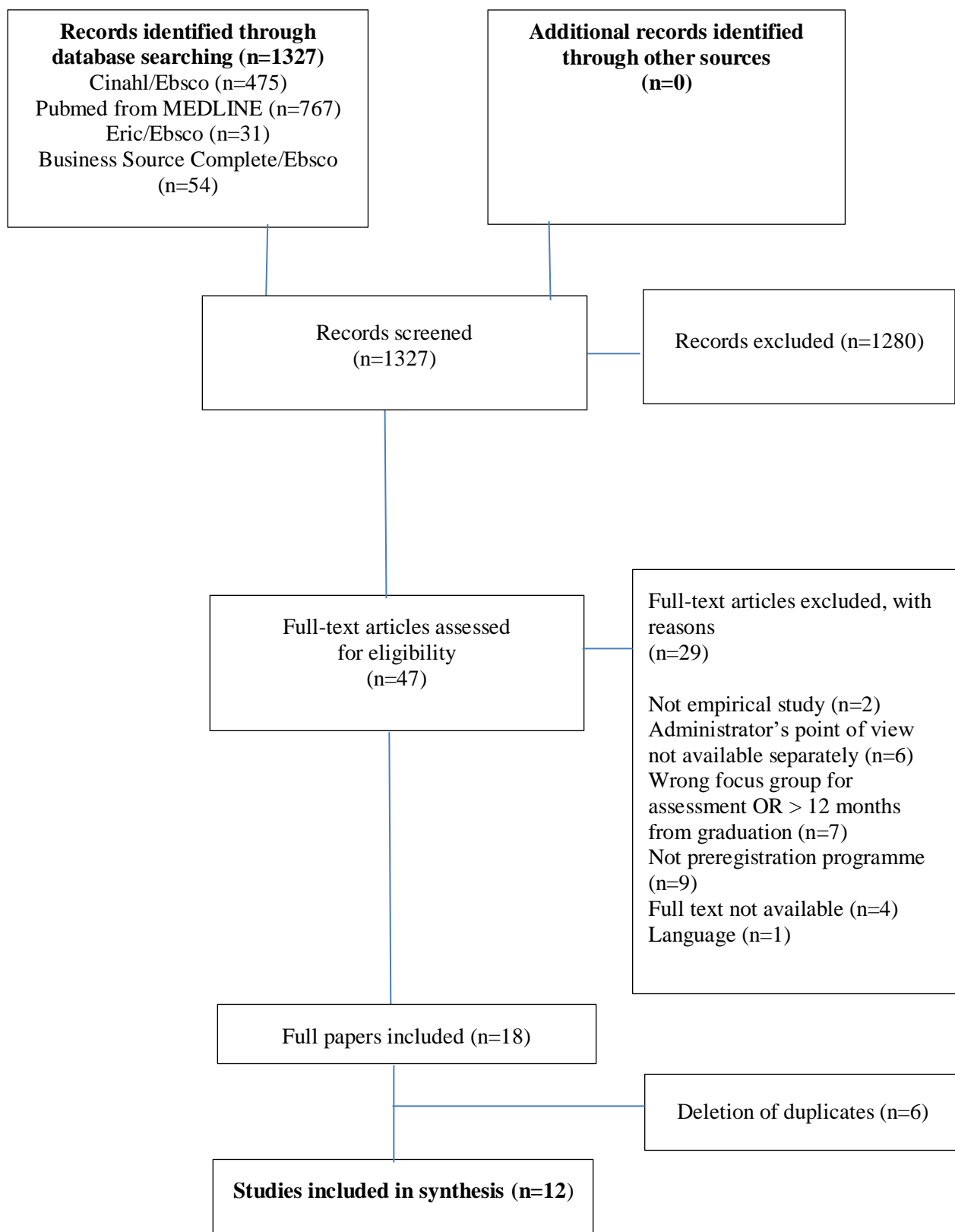


Figure 1. Flowchart of the study selection process

Stage 4) Charting the data

Data analysis began with data extraction. The information extracted comprised aim, study design, sample, data collection, competence categories and overall competence (Table 2). Charted data from primary research reports formed the basis for further analysis.

Table 2. Summary of the studies included into review (in the order of publication year), competence categories and overall competence

BSN= Baccalaureate nursing education
ADN =Accelerated nursing education
NGN=Newly graduated nurse

Author, year, country	Aim	Study design, sample, data collection	Competence categories (managers' assessment of these)	Overall competence
Numminen et al. 2014 Finland	To evaluate whether educational outcomes of nurse education meet the requirements of nursing practice by exploring the correspondence between nurse educators' and nurse managers' assessments of novice nurses' professional competence	A cross-sectional comparative design; Nurse managers in university hospital n=141, Nurse educators n=86 Nurse Competence Scale (NCS) using Visual analogue scale (VAS 0-100); 0-25 low quality >25-50 rather good quality >50-75 good quality >75-100 very good quality	Helping role (55.0) Teaching and coaching (43.3) Diagnostic functions (42.6) Managing situations (42.5) Therapeutic interventions (35.4) Ensuring quality (45.6) Work role (38.9)	Managers assessed novice nurses' overall level of professional competence as rather good (VAS 43.7; SD 22.0) In all competence areas educators assessed NGNs' competence to a significantly higher level than managers (p < 0.001)
Rafferty & Lindell 2011 USA	To determine whether nurse managers perceive a difference in the clinical performance of accelerated ADN and traditional baccalaureate BSN graduates	Comparative descriptive study with two group ADN/BSN, single data collection; Nurse managers n=200 attending a national nursing conference Six-Dimension Scale of Nursing Performance (Six-D Scale) using Likert scale from 1 to 4; 1= not very well	Leadership (ADN 2.59/BSN 2.64) Critical care (ADN 2.57/BSN 2.60) Teaching/collaboration (ADN 2.54 /BSN 2.65) Planning/evaluation (ADN 2.68/BSN 2.88) Interpersonal relations/communication (ADN 2.81/BSN 2.90) Professional development (ADN 2.83/BSN 2.94)	Satisfactory level of competence (mean 2.54-2.94); ADN and BSN level of competence not significantly different

		2= satisfactorily 3= well 4= very well		
Thomas et al. 2011 USA	To describe nurse managers' perceptions of competency levels of new registered nurses (RNs) during the first 6 months of employment	<i>Study design not reported;</i> Nurse managers from five-state region n=148 Competency Levels of New Registered Nurses Questionnaire using Response scale ranging from 1 to 4; 1=novice (needs direct supervision),2=advanced beginner (needs some guidance),3=competent (coordinates care independently, 4=proficient (confident in knowledge; can apply with ease)	Patient-centered care (1.67) Interdisciplinary teams (1.74) Quality improvement (2.03) Information management (2.74) EBP (1.67)	Competence levels ranged from 1.67 to 2.74, indicating new RNs ranged from novice (needs direct supervision=1) to advanced beginner (needs some guidance =2).
Oermann et al. 2010 USA	To explore the readiness of nursing graduates for beginning practice from the perspective of their managers	<i>Study design not reported;</i> Focus groups interviews with open-ended questions of nurse managers n=14 in the medical center	N/A	New graduates not prepared clinically for beginning practice.
Utley-Smith 2004 USA	To measure nurse administrators' perceptions of the importance of selected competencies of BSN graduates in hospitals, home health agencies and nursing homes; and to categorize competencies through factor analysis	A cross-sectional survey design; Nurse administrators: Hospital, n=147 Nursing home, n=113, Home health agency n=103 An adapted version of the Virginia Hospital Association (VHA) Health Manpower Resource Center survey using Likert scale (1-4) from 1 (not important) to 4 (extremely important)	Health promotion (Hospital H 12.48*/ Home health HH 14.16/ Nursing home NH 12.61) Supervision (H 8.76/HH 8.61/NH 10.35) Interpersonal communication (H 11.10/HH 11.64/NH 11.52) Direct care (H 10.54/HH 9.66/NH 10.58) Computer technology (H 6.16/HH 5.52/NH 6.03) Caseload management (H 5.26/HH 4.40/NH 4.41) * Factor score means	All competency items were considered important by nurse administrators, mean 2.8-3.9. Significant differences in the importance of competency categories between work settings. 42, 8 % nurse administrators reported BSN graduates met competency expectations.

<p>King et al. 2003 USA</p>	<p>To increase awareness of the competencies needed of BSN to meet the demands of acute health care agencies, considering changes in the health care delivery system</p>	<p><i>Study design not reported;</i> Nurse administrators n=82 Nurses in the acute health care agencies n=122 Faculty members n=117 Deans or directors n=11</p> <p>A questionnaire regarding the importance of 24 entry-level competencies needed by BSN graduates during the next 10 years and the degree to which observed the competency in new BSN.</p>	<ul style="list-style-type: none"> • Critical thinking • Client relationships • Positive relationships with working team • Knowledge of cultural diversity • Responsibility/accountability for patient satisfaction • Cost-effective care • Responsibility/accountability for patient outcomes • Coordinate care across settings • Use computer information systems • Delegate • Initiate referrals • Work within interdisciplinary teams • Conduct patient assessment • Develop and implement a plan of care • Evaluate outcomes of patient care • Assess patient learning needs • Implement and evaluate teaching plans • Promote healthy lifestyles • Apply research to nursing practice • Participate in quality improvement monitoring processes in the health care agency • Involve patient's families and/or significant others in decisions • Continue self-development • Implement care using critical pathways • Safely administer IV medications <p><i>Level not reported</i></p>	<p>Entry-level competencies rated higher by nurse administrators (than faculty):</p> <ul style="list-style-type: none"> • Assume responsibility/accountability for patient satisfaction • Use concepts of cost-effective care • Use computer information systems • Participate in quality improvement monitoring processes in health care agency
<p>Lee et al. 2002 Taiwan</p>	<p>To compare the differences between head nurses' expectations and NGNs'</p>	<p>A descriptive study; Head nurses or acting head nurses n=126 from university medical centers NGN n=147</p>	<ul style="list-style-type: none"> • Assessment & measurement • Treatment • Infection control • Nutrition & elimination 	<p>Significant difference between the expectations of head nurses and the ability of NGN.</p> <p>Out of 213 skills, 153 were expected by over 60% of</p>

	perceptions of the entry-level skill competency	213 item skill evaluation scale including: the time of performance, a competency level and comment section. Percentage congruence for skills reported to be performed precisely in clinical situations including following categories: >_ 90% >_ 80-<90% >_ 70-<80% >_ 60-70%	<ul style="list-style-type: none"> • Hygiene & comfort • Mobilization • Security • Specimen collection • Bed making • Recording • Health education <i>Level reported only in comparison</i>	<p>head nurses to be performed precisely by NGN in clinical situations.</p> <p>Only 82 items of 213 were reported to be performed precisely by NGN.</p>
Runciman et al. 2002 UK	To explore perceptions of adequacy of the skills of newly qualified diplomats in first staff nurse posts in nursing homes following registration	Qualitative study; A semi-structured interviews of senior nurse managers n=9 from nursing homes in Scotland	N/A	Managers' impressions of adequacy of the skills were mixed, but generally favorable. Confidence, knowledge and questioning approach were perceived strengths and limitations were in practical and organizational skills.
Somerville et al. 2000 Australia	To explore perceptions of the nature and scope of nursing skills required within the clinical setting and how adequately beginning registered nurses (BRNs) were prepared for their first six months of practice	<p>A descriptive comparative design; Nursing unit managers (NUMs) n=9 from surgery, medicine, women's and child health and critical care BRN n=71</p> <p>A cross-sectional survey consisting of 88 specific skills using response categories: strongly agree (4), agree (3), disagree (2), strongly disagree (1)</p>	<p><i>List of 88 skills not available</i></p> <p><i>Competence category ratings not reported</i></p>	The level of agreement in NUMs perceptions of preparedness was about 20% lower than BRNs in half 10 of the 21 skills listed (47.6%). The remaining 11 skills were perceived at similar levels (less than 20% difference).
Carlisle et al. 1999 UK	To assess the match between skills required by health service managers	<i>Study design not reported;</i> A semi-structured individual interviews of senior nurse managers n=60; and	N/A	The level of skills varies from the managers' expectations; concern of clinical skills and competencies.

	from registered nurses, and the skill exhibited by Project 2000 diplomates and to formulate the areas of mismatch	nine focus group interviews of clinical managers n=72 from acute and primary care		
Nickel et al. 1995 USA	To assess perceptions of functioning levels of BSN near graduation and comparing views of health department administrators, educators and students	<i>Study design not reported;</i> Health department administrators n=15 Educators n=15 Students n=185 A modified list of 47 essential public health nursing competencies using a five-point Likert scale anchored with text at three points: 1 – minimal competency, maximum supervision required; 3 – some competence, some supervision needed; 5 – competent, supervision required only in unusual or complex situations.	<ul style="list-style-type: none"> • Individual competencies • Group competencies • Community competencies <i>Competence category rating not reported</i>	Analyses of the student competencies in three categories of individual-, group-, and community-level skills; individual skills were ranked higher than group and community competencies (by all three groups surveyed). Administrators tended to rank student competencies lower than educators; as students rated competencies parallel to the administrator/educator profile, but a higher level.
Joyce-Nagata et al. 1989 USA	To validate whether the competencies of graduates of BSN programmes were as expected by nursing service administrators and whether the expected competencies were evidenced in the work setting	<i>Study design not reported;</i> Directors of nursing n = 142 in health care settings The survey for the baccalaureate competencies using a five-point Likert scale; five indicates strong agreement with the competency, one indicates a strong disagreement with the statement.	<ul style="list-style-type: none"> • the conceptual framework of BSN education as being reflective of philosophical and ethical points of view regarding man, health and nursing • the knowledge base of the BSN graduate as being supported by experience in humanities and the biopsychosocial sciences • the utilization of nursing process with individuals, families, groups and communities toward goals of health promotion, maintenance and/or restoration 	All of the BSN competencies were expected by all respondents. More than half of the identified competencies expected by nursing administrators were not evidenced in the nursing practice setting.

			<ul style="list-style-type: none"> • BSNs' contribution to nursing practice through the utilization of systematic inquiry • the demonstration of the BSNs' accountability in nursing practice • collaboration with nurses, health professionals, and consumers for the improvement of health-care delivery • BSNs' contribution to the ongoing appraisal and definition of nursing as a maturing profession <p><i>Level not reported</i></p>	
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Stage 5) Collating, summarizing and reporting the results

The analysis process was led by one researcher who familiarized herself with the material in depth, closely monitored by another researcher. The analysis process including the initial and final findings was repeatedly discussed within the whole research team. The data analysis process followed the principles of inductive content analysis (Elo & Kyngäs, 2008). Coding and identification was done by highlighting passages related to the research questions while reading the text. The passages of text from different articles were collected for further comparison of similarities and differences for grouping and to identify categories linked to the aims of the study.

Quality appraisal

Quality appraisal was conducted for all included studies by two researchers. Seven questions presented by Reilly et al. (2008) were used as indicators of internal, descriptive, construct and external validity (Table 3). A positive answer is given one point, and points are summed to yield the total score. Seven is the highest score, indicating high methodological quality. (Reilly et al., 2008.) In the evaluation of methodological quality, the score varied from 1 to 6. Half of the studies (n=6) received five or more points out of the maximum of seven, indicating overall moderate level of quality. All but one study had a clear research question. Moreover, all studies had an appropriate study design in relation to the addressed research question. All studies

lacked generalizability of the findings. Two thirds of the studies (67%) provided sufficient details on context and setting. Less than half (42%) described rigorous data collection and analysis. Many studies did not report the data analysis method or details of how the analysis was performed. Moreover, half of the studies (50%) presented enough data to permit independent judgements of the findings and justified conclusions. All the appraised studies (n=12) were included in the analysis regardless of their scores as they met the inclusion criteria for their content.

Table 3. Methodological quality of the studies according to the criteria by Reilly, Xie and Jacobs (2008)

Aspect of quality	Clear research question	Appropriate design	Generalisable	Sufficient detail on context / setting / intervention	Rigorous data collection / analysis demonstrated	Presentation of results	Conclusion justified	Overall QA* score (max 7)
Author, year								
Numminen et al. 2014	Yes	Yes	No	Yes	Yes	Yes	Yes	6
Rafferty & Lindell 2014	Yes	Yes	No	Yes	No	Yes	No	4
Thomas et al. 2011	Yes	Yes	No	No	No	No	No	2
Oermann et al. 2010	Yes	Yes	No	Yes	No	No	Yes	4
Utley-Smith 2004	Yes	Yes	No	Yes	No	No	No	3
King et al. 2003	No	Yes	No	No	No	No	No	1
Lee et al. 2002	Yes	Yes	No	Yes	Yes	No	Yes	5
Runciman et al. 2002	Yes	Yes	No	Yes	Yes	No	No	4
Somerville et al. 2000	Yes	Yes	No	Yes	Yes	No	Yes	5
Carlisle et al. 1999	Yes	Yes	No	Yes	Yes	Yes	Yes	6
Nickel et al. 1995	Yes	Yes	No	No	No	No	Yes	3
Joyce-Nagata et al. 1989	Yes	Yes	No	No	No	No	No	2

*Scoring coded as: yes=1p, no = 0p

Results

Description of studies

A total of 12 research publications reported between 1989 and 2014 were included in the review (Table 2). The studies were conducted in five different countries: USA (n=7), UK (n=2), Australia (n=1), Finland (n=1) and Taiwan (n=1). The samples consisted of nurse managers from different organizational levels and health care settings, including the titles of manager, administrator, head nurse and director. The number of respondents ranged from 9 to 363. The most common data collection methods were questionnaires (n=9) and individual or focus group interviews (n=3). Three main categories: description of NGNs' competence, assessment of NGNs' competence, and factors connected to the competence of NGNs were found, together with eight subcategories.

Description of NGNs' competence

Description of NGNs' competence consisted of three subcategories: definitions of competencies, importance of competencies, and expectations of competencies. There was high variation in the description of competence in the studies. In the definitions of competencies, more general level of competence descriptions was used, such as using the baccalaureate degree curriculum-based definitions of competence (Joyce-Nagata et al., 1989; King et al., 2003; Utley-Smith, 2004). In addition, the terms professional competence (Numminen et al., 2014), nurse competency (Thomas et al., 2011), clinical competencies (Rafferty & Lindell, 2011), skill competency (Carlisle et al., 1999; Somerville et al., 2000; Lee et al., 2002; Runciman et al., 2002), and community nursing competencies (Nickel et al., 1995) were used. Competences were also described with regard to managers' perception of the importance of (King et al., 2003; Utley-Smith et al., 2004; Thomas et al., 2011) and expectations for NGNs' competence (Joyce-Nagata et al., 1989; Lee et al., 2002).

The importance of competencies from managers' perspective was described in earlier studies (King et al., 2003; Utley-Smith et al., 2004; Thomas et al., 2011). NGNs' competencies were ranked as extremely important in the following areas: patient safety (including medication safety), teamwork and collaboration, problem-solving and professional communication (Thomas et al., 2011). When identifying entry-level competencies required of graduates

starting to work in acute health care agencies, managers regarded certain competencies as more important than educators in the following areas: patient satisfaction, cost-effective care, computer information systems and quality monitoring processes (King et al., 2003).

In general, numerous competencies have been described as important from nurse managers' perspective. However, when it comes to the importance of different competence items, there are differences between work settings, such as hospitals, home health agencies and nursing homes. For instance, hospital administrators rated caseload management competence as more important than home health and nursing home managers and expected nurses to care for a larger number of patients during work shifts. Instead, home health care managers rated the importance of health promotion competence higher than hospital and nursing home managers. Direct care competence and computer technology competence were considered more important by hospital and nursing home managers than home health care managers (Utley-Smith, 2004). In addition, nursing home managers assessed supervision competence as more important than hospital and home health managers. For the nursing home sector, business and customer care ethos as well as skill requirements regarding the increased acute care demands have been pointed out as important competencies (Runciman et al., 2002). Concerning community nursing competencies, basic nursing skills such as health assessment, history taking and basic communication skills were given the highest rating (Nickel et al., 1995).

Managers' expectations of NGNs' competencies were described (Joyce-Nagata et al., 1989; Lee et al., 2002), noting that the expectations of nurse managers and the abilities of NGNs differed significantly. Nurse managers expected NGNs to possess all curriculum-based baccalaureate competencies, but more than half of the identified competencies were not manifested in clinical nursing practice (Joyce-Nagata et al., 1989). Nurse managers expected several skills to be performed precisely by NGNs in clinical situations. However, in many skills there was a significant difference between these expectations and the graduates' perceptions of their performance. (Lee et al., 2002.) Correspondingly, in several skills listed, managers' perception of the adequacy of NGNs' skill preparation was lower compared to the graduates (Somerville et al., 2000). Utley-Smith (2004) found that less than half (42.8%) of the nurse managers reported graduates meeting their competence expectations.

Assessment of NGNs' competence

Assessment of NGNs' competence consisted of two subcategories: assessment methods and competence level. Methods of assessment varied, and assessment of competence by nurse managers was performed in different ways; nine of 12 studies applied some tool to rate or rank various competences (Table 2). The most recent studies used previously validated instruments, such as the Nurse Competence Scale (NCS) (Numminen et al., 2014), the Six-Dimension Scale of Nursing Performance (Six-D Scale) (Rafferty et al., 2011), and the Competency Levels of New Registered Nurses Questionnaire (Thomas et al., 2011). Besides validated instruments, other tools and surveys were also used. The items for these had been derived from ministry or other national authority documents (Nickel et al., 1995; King et al., 2003), studies examining nursing skills and competencies (Somerville et al., 2000; King et al., 2003) and nursing-related textbooks (Lee et al., 2002), the nursing curriculum (Joyce-Nagata et al., 1989; Somerville et al., 2000) and the hospital orientation programme (Somerville et al., 2000). Moreover, a manpower survey (Utley-Smith, 2004) and health care workforce reports (King et al., 2003) had been used as basis for creating the items. Furthermore, NGNs' level of competence was assessed using different scoring methods (Table 2), which made comparisons rather difficult. In general, managers assessed NGNs' level of competence from satisfactory (Rafferty & Lindell, 2011) to rather good (Numminen et al., 2014). NGNs' competence levels were noted to range from novice to advanced beginner (Thomas et al., 2011), indicating the need for direct supervision or at least some guidance (Nickel et al., 1995; Thomas et al., 2011).

In earlier studies, the level of NGNs' competence focused mainly on assessment of observable skill competency, whereas later studies assessed professional competence as a whole, across multiple domains. The reported level of NGNs' skill achievement varied. NGNs lacked skills in some main clinical areas and the adequacy of skill preparation was limited. In one study, managers' impression of the adequacy of NGNs' skill preparation was generally favourable (Carlisle et al., 1999), whereas in another study, managers regarded NGNs as not clinically prepared for starting practice and patient care (Oermann et al., 2010). NGNs were also considered to lack 'basic nursing skills', 'practical' or 'core skills', such as expertise with commonly used equipment, drug administration, injection technique, problems fitting into the health care team and communication skills (Carlisle et al., 1999; Runciman et al., 2002.) As a nuance, there are some generational differences concerning communication skills in conjunction with new technology. NGNs were considered to relate more easily to computers

than to patients' families, health care personnel and physicians (Thomas et al., 2011). The older generation, on the other hand, was perceived to have better communication skills and show more empathy with patients (Oermann et al., 2010). Limitations of managerial/organisational skills were also reported (Runciman et al., 2002).

In professional competence assessment, the highest level of different competence areas was reported in the category "helping role", indicating good level of competence. A rather good level of competence was also reported in the categories "ensuring quality", "teaching/coaching", "diagnostic functions" and "managing situations" (Numminen et al., 2014). In a comparison study, the highest competence category reported among both accelerated and baccalaureate graduates was "professional development" (Rafferty & Lindell, 2011). "Information management" was also reported as the highest competence category (Thomas et al., 2011). The lowest level of competence was reported in the categories "therapeutic interventions" and "work role" (Numminen et al., 2014). In a comparison study, "teaching/collaboration competence" was reported as the lowest competence category among accelerated graduates and "critical care" among baccalaureate graduates (Rafferty & Lindell, 2011). "Patient-centred care" and "EBP" were also reported as the lowest level competence categories (Thomas et al., 2011).

Factors connected to the competence of NGNs

Prior exposure to work setting, change in the degree of responsibility and lack of confidence were considered to be factors connected to the competence and/or skills of NGNs. These were also somewhat interconnected. Prior exposure to work setting, especially during clinical placements, was thought to be connected to the competence and/or skills of NGNs (Carlisle et al., 1999; Oermann et al., 2010). This was often articulated as managers' anticipation of NGNs having experience in the area of practice. For example, managers from oncology units regarded it as important for NGNs to have some experience with palliative care, while critical care managers pointed out the need of previous experience for starting practice in critical care. (Oermann et al., 2010.) Managers were concerned with the brief placements in some clinical settings during nursing education because they were not long enough for effective skill acquisition and learning. Besides hampering core nursing skills acquisition, short placements did not enhance the socialisation of students to either the organisation or the unit. (Carlisle et al., 1999.)

Change in the degree of responsibility was considered to be connected to the competence and/or skills of NGNs. In some cases, this was also linked to the educational outcomes of the different degree programmes where new graduates qualify. (Carlisle et al., 1999; Runciman et al., 2002 Oermann et al., 2010.) New programmes have resulted in NGNs' preparedness for such responsibilities, e.g. advanced practice roles, for which the actors in clinical practice have not yet been fully prepared. As there is some discrepancy concerning responsibilities, the expectations concerning the competence also vary. (Carlisle et al., 1999.) On the other hand, new graduates from all degree programmes have been unwilling to make decisions and ask staff for a second opinion (Oermann et al., 2010), possibly indicating uncertainty in the face of new responsibilities. In bed-side work, in nursing homes not having doctors on-site and having to rely on experienced nurse colleagues' support by telephone, the competence of new graduates as being responsible for the situation was put to the test (Runciman et al., 2002).

Lack of confidence in clinical skills was perceived to be an important factor in NGNs' readiness to practice and whether they would be retained in the work setting. Lack of confidence was also commented on in relation to NGNs' own patient-care skills and interacting with other team members and health care professionals, such as physicians. (Oermann et al., 2010.)

Discussion

The aim of this scoping review was to explore nurse managers' perception of NGNs' competence and connected factors. The ultimate goal was to provide knowledge to inform working life in improving NGNs' competence, supporting recruitment, managers' performance reviews and future research. Twelve studies were included in the review, describing competencies, assessing NGNs' competence and defining factors connected to it.

There was high variation in NGNs' competences described by the nurse managers. Competence statements were derived from different sources and different tools were used with varying competence categories and items. Complexity and variation in competence description has already been identified in existing literature (Meretoja et al., 2004; Gruppen et al., 2012; Kajander-Unkuri et al., 2013), not least due to the fact that studies like the ones in our review were national in nature and mainly assessed competences locally, e.g. in one hospital district. As nursing is a global profession, it would be beneficial to compare competences and share

good evaluation practices among different health care systems and settings. This would ease managers in recruitment, making nursing programme outcomes more comparable, compatible and transparent globally.

Overall, there seems to be a lack of clarity about the level of NGNs' competence (Brown & Crookes, 2016) and confusion about expectations of NGNs' performance at graduation (Missen et al., 2016). As competence can be defined as emphasising capacity, such as 'functional adequacy and capacity to integrate knowledge and skills to attitudes and values into specific contextual situations of practice' (Meretoja et al., 2004, pp. 330-331), beyond the educational preparation the adequacy of NGNs' competence also depends on the health care context, including understanding the social rules governing the organisation of work and knowledge about hospital policies and guidelines. Therefore, large-scale competence research is needed across different health care systems and settings to define the most important competences required to meet working life expectations and the core abilities of NGNs.

In this review, no stand was taken to the conceptual differences and/or overlap of competence and clinical skills. However, as mentioned earlier, the challenge to combine the results concerning these two concepts was recognised. In general, managers assessed NGNs' level of competence from satisfactory to rather good. Moreover, NGNs' competence levels were noted to range from novice to advanced beginner, indicating different needs for supervision. In comparison, clinical skills were more often expected to be performed accurately and independently, but the level of NGNs' skill achievement varied. NGNs were reported to lack skills in some main clinical areas and the adequacy of skill preparation was limited. There has been at least some concern related to the achievement of core nursing skills and/or competence. This seems to be a relevant worry even today, as there are indications internationally, based on the self-evaluations of preregistration students, that the ability to identify the fundamentals of care is low (Jangland et al., 2018). These signs need to be taken seriously while developing nursing curricula to ensure that care needs, patient safety and quality care are met.

There are factors connected to competence, and competence develops beyond degree attainment. However, these factors are under-researched. Factors connected to competence explain some of the differences in competence among NGNs beyond their degree attainment, such as prior exposure to work setting, change in the degree of responsibility, and lack of confidence. Competence can be seen as a continuum, developing further in the workplace.

Nurse managers have a key role in supporting NGNs' transition to practice, and development of competence descriptions, support for professional behaviour and reflection of NGNs' adequate knowledge and skills are therefore important. Competence assessment provides a good knowledge basis for managers in developing job orientation programmes, continuing education and other supportive interventions to help NGNs in their early career (Numminen et al., 2014). Nurse managers have a vital role in escalating the progress of NGNs' competence in the work setting from beginning practitioners to competent practitioners.

The scoping review method met its purpose by providing an outline of the research area, and the quality appraisal of the included studies helped in assessing the studies' contribution to the conclusions of this review. The overall methodological quality of the included studies was on a moderate level, despite some weaknesses in data collection, generalisability of results, and debatable conclusions. Therefore, the conclusions drawn in this review have a relatively solid base. The validity of this review was enhanced by two researchers conducting a systematic literature search and quality assessment. The coverage of the literature search was ensured by using the expertise of a health and medical science library informatician, and the research team commented on the whole review process. However, there are some limitations in this review. First, due to the variety in the definition of competence in the included studies, it was challenging to compare competence levels between different studies, synthesise the findings and make implications of the importance and level of competence among NGNs. Second, there was no time limit for this review, which might have distorted the competence descriptions and assessments, as the understanding of what competence is and how it can be measured might have had various meanings at different times, not to mention changes in curricula of nursing degree programmes.

Conclusions and implications for practice

In conclusion, the nurse managers' perception and assessment of the competence of NGNs varies without any consensus. There is a need to explore further and empirically nurse managers' assessment of NGNs' competence, connected factors and the environment in which these nurses take up their first employment. The use of general competence assessment methods and instruments would also be beneficial to get a broader understanding of NGNs' competence internationally. As there is a lack of clarity about the expectations and importance

of NGNs' competence and level of competence, further research is needed on strategies to evaluate competence in recruitment and in the evaluation of the follow-up of the competences.

Implications for practice should be drawn with caution due to potential difficulty of making assumptions of the level of NGNs' competence because of the variety of competence descriptions and assessment methods. Due to the lack of knowledge about competences, there is a danger that discussion is based on unrealistic expectations, not on evidence. Frequent competence assessments and targeting the factors connected to the level of competence is needed. Prior exposure to real work setting during the final clinical practice and recruitment through it could help ease the transition of NGNs and improve agreements of competence expectations and requirements. To facilitate the change in the degree of responsibility for NGNs, mentoring practices and support available at the beginning of nursing career are important. To gain confidence in one's nursing skills, the ability to practice the skills necessary in a new clinical area and further education about current practices is necessary.

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Conflict of interest

No conflict of interest

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