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# Self-assessed competence among nurses working in municipal health-care services in Norway

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Poor health care received by older people and the shortage of well-educated staff in the municipal health-care sector have been reported in international media and research literature (World Health Organization (WHO), 2006; Karlstedt et al, 2015). The need for change is emphasised in the Five Year Forward View, as is the importance of training and further education for nurses after qualifying in community health care (NHS England et al, 2014; Kirk, 2015). The demands on nursing staff are expanding, implying an extensive span of required competencies among staff in community health care (Bing-Jonsson et al, 2013, p. 282). The overall aim of this study was to describe the level of self-assessed competence of practicing nurses in three municipalities in western Norway.

## The concept of competence

In recent years, there has been an intense debate over the meaning of nursing competence (Walloze, 2009). According to Yanhua and Watson (2011), progress towards consensus and

clarity of the concept is emerging. Competence has been defined as a framework of skills reflecting knowledge, attitudes, psychosocial and psychomotor elements, including performance, achievements and self-assessment (Benner, 1984; WHO, 2009).

Various methods and instruments have been developed to measure competence in the different health-care fields. The most common are structured or non-structured self-report instruments (Meretoja and Leino-Kilpi, 2003; McCarthy et al, 2011) and methods based on observation, proof and demonstration (Brosnan et al, 2006).

## Strengthening competence among personnel in the municipality

Strengthening competence among health-care personnel requires systematic measures that make it attractive to work in the municipal health care sector, according to the Norwegian Ministry of Health and Care Services White Paper 26 (2015, p. 58). White Paper 13, Education for welfare (Kunnskapsdepartementet, 2012), asserts that current health and social education programmes do not adequately meet competence needs. The reason behind this shortfall is that education is not sufficiently adaptable to developments and changes that have and will have consequences on the acquisition of competence. Competence Lift 2020 is the government's plan for recruitment, improved competence and professional development in the municipal health-care services until 2020 (The Norwegian Directorate of Health, 2017). One of its objectives is to introduce competence requirements into the Act on Municipal Health and Care Services (Department of Health and Care, 2011).

Studies show that nursing staff describe their own competence as being too low to meet the proposed needs inherent in Competence Lift 2020 (Hasson and Arnetz, 2008). Educational level, age, and length of experience seem to have an impact on nurses' self-perceived competence (Karlstedt et al, 2015). The importance of appropriate staff numbers and

## ABSTRACT

Demands made on nursing staff are expanding and changing, requiring a broad set of competencies that require evaluation and enhancement in places. This study used the Nurse Competence Scale to measure self-assessed competence among nurses working in three municipal health-care services in Norway. Results indicate that nurses perceive their competence as being satisfactory overall, but there are areas that would benefit from improvement: providing patients' family members with education and guidance, quality assurance, and using research to evaluate and develop services. These competencies could be the focus of departments' future competence plans. The Nurse Competence Scale can be used to assess the impact of training and the efficacy of competence-enhancing actions.

## KEY WORDS

- ◆ Competence ◆ Nurse Competence Scale ◆ Self-assessment
- ◆ Municipal health-care sector ◆ Service improvement ◆ Nursing

level of education in relation to positive patient safety outcomes has been highlighted by the European Union-funded RN4CAST project (Palese and Watson, 2014).

Competence requirements for registered nurses are emphasised in various updated directives and professional standards (European Commission, 2013; American Nurses Association, 2015; Australian Nursing & Midwifery Council, 2016). In order to achieve the objective of the Coordination Reform (White Paper 47; Ministry of Health and Care Services, 2009), i.e. achieving high-quality, sustainable health-care services, different competence development strategies must be implemented (Office of the Auditor General of Norway, 2016, p. 89). Major discrepancies have, however, been identified between the advanced competence expected in policy documents in Norway and the actual competence described by the research literature (Bing-Jonsson et al, 2016). It is therefore vital to develop clinical tools so that managers can identify current competence levels and development needs. There is a link between adverse events in nursing care and competence level (Bastick et al, 2006), and one way of ensuring quality of care is to ensure that those who provide care are competent to do so (Bing-Jonsson et al, 2016). To maximise patient care outcomes, nurse managers should recognise the multifactorial background of nursing competence (Flinkman et al, 2017, p. 1045).

### Strengthening working life and nurse education programme interactions

The situation in home health care is of particular concern and must be given appropriate attention by politicians. White Paper 13 suggests that the health-care sector will have a greater impact on education and that the workplace should be utilised more effectively as a 'learning arena' (Kunnskapsdepartementet, 2012). More nurses qualified to perform advanced level tasks in nursing and care services are needed in the municipalities in order to implement the Coordination Reform while ensuring patients receive a good service. Nearly 60% of the municipalities report that a small number of health-care personnel have a postgraduate or further education qualification. Two out of three municipalities have increased, to a limited extent, competence among staff working in nursing homes and home health care (Office of the Auditor General of Norway, 2016). A systematic literature review (Bing-Jonsson et al, 2016, p. 35) revealed a general lack of opportunities for competence development in the sector, however, and identified a pressing need for the general development of nursing staff competencies in municipal care.

## Method

### Study design and instrument

The data in this article are taken from a larger study of competence among nurses working in three different municipalities in western Norway. The study had a descriptive, cross-sectional quantitative design and used the Norwegian version of the Nurse Competence Scale (NCS) instrument (Meretoja et al, 2004a). The NCS was developed by Meretoja et al (2004b). It consists of 73 items organised into seven action-oriented competence categories:

- ♦ Helping role (seven items)

- ♦ Teaching-coaching (16 items)
- ♦ Diagnostic functions (seven items)
- ♦ Managing situations (eight items)
- ♦ Therapeutic interventions (10 items)
- ♦ Ensuring quality (six items)
- ♦ Work role (19 items)

The NCS instrument has proven to be an easy and useful instrument for assessing nurse competence in a variety of settings (Dellai et al, 2009). The instrument has mostly been used in hospitals. In this and a previous study (Karlstedt et al, 2015), however, the NCS instrument was tested in municipal health care. The psychometric properties of the instrument have proven valid, reliable and sensitive (Meretoja et al, 2004b; Dellai et al, 2009; Istomina et al, 2011; Numminen et al, 2013).

Nurses assessed the quality of action for each item of the NCS using the visual analogue scale (VAS 0–10). Each informant was asked to describe the quality of action on this scale with values of 0–25, 26–50, 51–75 and 76–100 that represented low, moderate, good and very good quality of action, respectively. The frequency of action was assessed using a four-point scale, where zero was not applicable, one was very seldom, two was occasionally and three was very often. As a complement to the NCS questionnaire, demographic variables were used in this study (Numminen et al, 2013).

### Data collection

Purposive selection of participants was used in accordance with the inclusion criteria: nurses selected had completed their bachelors degree, either part- or full-time, and were working within the municipal health-care sector. The research group contacted the head manager of three municipal health-care departments in western Norway and together they arranged three information sessions for municipal nurses prior to the study. The NCS questionnaire was sent electronically (QuestBack) to 123 nurses by e-mail. An additional 29 nursing students in further education programmes or on the masters programme at the university were also invited to join the study.

### Statistical analysis

Descriptive statistics were used to investigate frequencies and sociodemographic characteristics. The descriptive statistics of each item included median, standard deviations (SDs) and score ranges. The internal consistency of the seven NCS competence categories was assessed using Cronbach's  $\alpha$ . The median VAS score for each NCS item and the frequency of action (percentage with occasionally/very often) were presented.

To aid the interpretation of findings, we proposed a colour system based on a pragmatic view that NCS scores of below six are usually below the median, where:

- ♦ Green suggests that the competence level is satisfactory (0–25% of staff members with VAS scores below six)
- ♦ Yellow suggests that measures for competence development in the workplace must be considered (26–50% of staff members with VAS scores below six)
- ♦ Red suggests that competence-enhancing measures have to be considered and should be integrated into the competence plan of the ward (51–75% of staff members with VAS scores below six)

- ♦ Black implies that prioritised competence development measures have to be planned and implemented for nursing staff and mentors (76–100% of staff members with VAS scores below six).

The data were analysed using SPSS (Version 23.0).

### Ethical considerations

This study was approved by the Norwegian Social Science Data Service and follows the Ethical Guidelines for Nursing Research in the Nordic Countries (Northern Nurses' Federation, 2003) and the Helsinki Declaration. Permission to use the Norwegian version of the NCS instrument was granted by the copyright holder. We used Wangenstein's (2010) version of the NCS translated from English to Norwegian (forward translation only) with small changes. All potential participants received written information about the study and how to withdraw should they wish. The questionnaires were electronically submitted by QuestBack. During the study, only one administrator and the research group had access to the computer where the questionnaires were stored.

### Results

Eighty-nine out of the 152 nurses (59%) invited to participate returned completed NCS questionnaires. The demographics of the participants are given in *Table 1*. Participants were aged between 26 and 55 years. The majority of nurses were aged between 31 and 50 years (64%). Most were working in home health care (43.3%) or nursing homes (38.6%). The nurses had been working in health care for a considerable period of time: 33.7% for more than 10 years and 27.0% for between 21 and 29 years. All nurses had a bachelors degree (registered nurses) and 25.8% had completed further education consisting of 30–60 credits.

The mean scores and standard deviations for the seven competence categories are given in *Table 2*. The frequencies at which action-orientated competencies were 'occasionally' and 'very often' undertaken ranged from 69.63 (SD 13.38) for the helping role to 53.83 (SD 17.53) for ensuring quality.

**Table 1. Demographics of the participants (n=89)**

Variables		Number	SD (%)
Age	25–30	12	13.5%
	31–50	57	64.0%
	51–65	20	22.5%
Sex	Female	85	95.5%
	Male	4	4.5%
Workplace	Home health care	39	43.3%
	Nursing home	34	38.6%
	Other	15	17.0%
	Missing	1	1.1%
Work experience	7 months to 9 years	20	22.5%
	10 to 19 years	30	33.7%
	21 to 29 years	24	27.0%
	>30 years	13	14.6%
Further education	<30 credits	14	15.7%
	30–60 credits	23	25.8%
	61–90 credits	6	6.7 %
	>90 credits	14	15.7%
	None	28	31.5%

The reliability of the instrument was assessed and Cronbach's  $\alpha$  coefficients in all the seven competence categories ranged between 0.74 and 0.87.

*Table 3* displays how the NCS findings could be presented in a detailed and novel way using a colour code. Twenty-one items (28.8 %) were in the green zone, 29 items (39.7 %) in yellow, 16 items (21.9 %) in red and seven items (9.6 %) in black.

**Table 2. Self-assessed competence and frequencies of action-oriented competency application (n=89)**

Competence category	Minimum	Maximum	Mean	Standard deviation	Cronbach's $\alpha$
Helping role	26.00	95.00	69.63	13.38	0.80
Teaching/coaching	27.14	92.50	59.29	14.45	0.87
Diagnostic functions	17.14	95.71	65.69	14.99	0.78
Managing situations (n=87)	40.00	97.50	68.17	12.36	0.74
Therapeutic interventions	15.00	94.00	61.57	14.56	0.85
Ensuring quality (n=88)	7.50	96.67	53.83	17.53	0.82
Work role	39.47	94.21	67.75	12.04	0.84
Total*	39.38	93.29	63.90	11.62	0.92

\*'occasionally' and 'very often' in different competence categories (n=89). Complete valid responses=86

Table 3. Nurse Competence Scale scores

Items and scores		Median	Score <6 (%)	Occasionally/ very often (%)
<b>Helping role</b>				
	Planning patient care according to individual needs	8	8.2	97.3
	Supporting patients' coping strategies	8	13.9	97.3
	Critically evaluating my own philosophy in nursing	7	19.2	94.5
	Modifying the care plan according to individual needs	7	26.0	93.1
	Utilising nursing research findings in relationships with patients	6	44.4	90.3
	Developing the treatment culture of my unit	6	35.6	97.2
	Decision-making guided by ethical values	8	13.9	95.8
<b>Teaching/coaching</b>				
	Mapping out patient education needs carefully	6	58.3	87.4
	Finding the optimal timing for patient education	5	71.6	84.7
	Mastering patient education content	7	33.3	91.8
	Providing individualised patient education	7	38.2	88.9
	Coordinating patient education	5	76.2	52.1
	Able to recognise family members' needs for guidance	5.5	65.7	84.7
	Acting autonomously in guiding family members	5	66.7	69.9
	Taking student nurse's level of skill acquisition into account in mentoring	7	43.3	72.2
	Supporting student nurses in attaining goals	8	29.5	75.0
	Evaluating patient education outcomes together with the patient	5	69.4	48.6
	Evaluating patient education outcomes with the family	5	81.4	46.5
	Evaluating patient education outcomes with the care team	5	79.7	58.9
	Taking active steps to maintain and improve my professional skills	8	32.9	98.6
	Developing patient education in my unit	4	82.5	52.0
	Developing orientation programmes for new nurses in my unit	5	66.7	52.8
	Coaching others in duties within my area of responsibility	7	45.1	87.5
<b>Diagnostic functions</b>				
	Analysing a patient's well-being from many perspectives	8	12.9	97.2
	Able to identify a patient's need for emotional support	8	32.9	95.8
	Able to identify family members' emotional support needs	6	52.1	91.7
	Arranging expert help for a patient when needed	8	24.7	97.2
	Coaching other staff members in patient observation skills	7	33.3	91.8
	Coaching other staff members in the use of diagnostic equipment	4	77.2	37.5
	Developing documentation of patient care	6	60.3	81.7
<b>Managing situations</b>				
	Able to recognise situations posing a threat to life early	7	34.4	90.2
	Prioritising my activities flexibly according to changing situations	8	14.1	97.2
	Acting appropriately in life-threatening situations	8	9.9	97.2
	Arranging debriefing sessions for the care team when needed	5	80.0	38.8
	Coaching other team members in mastering rapidly changing situations	6	51.5	77.8
	Consistent care planning with available resources	8	14.5	97.2
	Keeping nursing care equipment in good condition	7	42.5	90.3

	Promoting flexible team cooperation in rapidly changing situations	8	24.3	97.2
	<b>Therapeutic interventions</b>			
	Planning my own activities flexibly according to the clinical situation	8	11.4	97.2
	Making decisions concerning patient care, taking the particular situation into account	8	4.2	97.3
	Coordinating the multidisciplinary team's nursing activities	6.5	29.4	80.6
	Coaching the care team in the performance of nursing interventions	7	30.8	80.0
	Updating written guidelines for care	4	61.2	50.0
	Providing consultation for the care team	7	26.5	84.5
	Utilising research findings in nursing interventions	5	58.8	67.6
	Systematically evaluating patient care outcomes	6	38.6	89.0
	Incorporating relevant knowledge to provide optimal care	7	35.6	97.2
	Contributing to further multidisciplinary clinical pathway development	4	74.1	41.1
	<b>Ensuring quality</b>			
	Committed to my organisation's care philosophy	8	22.7	92.8
	Able to identify areas of patient care requiring further development and research	4.5	69.9	54.9
	Critically evaluating my unit's care philosophy	5	51.5	75.0
	Systematically evaluating patient satisfaction with care	7	25.0	91.8
	Utilising research findings in the further development of patient care	5	65.7	66.2
	Making proposals concerning further development and research	3	75.4	42.5
	<b>Work role</b>			
	Able to recognise colleagues' needs for support and help	6	34.2	97.3
	Aware of the limits of my own resources	6	43.1	88.9
	Professional identity serves as resource in nursing	8	11.1	98.6
	Acting responsibly in terms of limited financial resources	8	29.0	87.7
	Familiar with my organisation's policy concerning the division of labour and coordination of duties	9	11.3	97.2
	Coordinating student nurse mentoring in the unit	7	30.5	63.0
	Mentoring novices and advanced beginners	7	32.3	76.7
	Providing expertise for the care team	6	37.7	63.9
	Acting autonomously	9	1.4	100.0
	Guiding staff members to duties corresponding to their skill levels	8	9.6	98.6
	Incorporating new knowledge to optimise patient care	5	67.1	60.2
	Ensuring smooth flow of care in the unit by delegating tasks	8	15.1	100.0
	Taking care of myself in terms of not depleting my mental and physical resources	7	39.7	91.6
	Utilising information technology in my work	6	47.5	79.5
	Coordinating patients' overall care	7	19.2	73.2
	Orchestrating the whole situation when needed	7	26.9	80.8
	Giving feedback to colleagues in a constructive way	7	21.9	98.6
	Developing patient care in multidisciplinary teams	6	43.9	72.6
	Developing the work environment	7	26.8	91.8

Colour key: green: competence level is satisfactory (0–25% of staff with VAS scores <6); yellow: consider measures for competence development in the workplace (26–50% of staff with VAS scores <6); red: competence-enhancing measures have to be assessed and should be integrated into the ward's competence plan (51–75% of staff with VAS scores <6); black: prioritised competence development measures have to be planned and implemented for nursing staff and mentors (76–100% of staff with VAS scores <6)



## KEY POINTS

- ♦ Competence is a framework of skills reflecting knowledge, attitudes, psychosocial and psychomotor elements including performance, achievements and self-assessment.
- ♦ The Nurse Competence Scale can be used to as a measure of self-perceived competence.
- ♦ The scale can be adapted to different health-care settings and used by health-care managers to assess competence-enhancing activities.

## Discussion

The results of this study indicate that there is a correlation between the tasks that nurses perform often and their perception of having a satisfactory competence level. This study and earlier similar studies in specialist and municipal health care (Meretoja et al, 2004b; O'Leary, 2012; Karlstedt et al, 2015) reveal that nurses assess their own competence in performing nursing tasks and their professional role as being satisfactory. The trend seems to be that tasks performed at high frequencies lead to the acquisition of the required competencies (Benner, 1984).

Teaching/coaching is one area where many nurses perceive that they are less competent. It is a matter of discovering and mapping information/training needs for relatives and for patients. What is surprising is that the nurses often notice family members' needs for education and guidance but, unlike other areas, have not developed the corresponding competence to handle these needs. There may be several reasons for this. Nurses working in community care experience very stressful clinical situations (Kyrkjebø et al, 2017), which may be one reason why the informational meetings with relatives are not being prioritised.

When considering the 'diagnostic functions' item, nurses perceive that they have good skills in analysing the patient's wellbeing from many perspectives and arranging expert assistance for the patient when needed, but are not able to see the relatives' need for support.

When considering the 'managing situations' item, the nurses perceive their competence as good except when supervising others in rapidly-changing situations. This may be due to the fact that nurses work alone and do not see each other in these situations (Hovland et al, 2015).

The 'quality assurance' item scores the lowest of all and raises questions about the need for further education. According to Karlstedt et al (2015), it is important that nurses get tailored education in accordance with the responsibilities the organisation places on them.

Using research to evaluate and develop services in the municipality sector is an area where nurses perceive that they have a lower level of competence. This and earlier studies show that nurses have little focus on research and development work (Boström et al, 2009). Numminen et al (2013) also found low scores related to the use of research-based knowledge. This is of great concern when health-care services are constantly changing and there are high competence demands and expectations of health-care staff (Kunnskapsdepartementet, 2009; European Commission et al, 2015). In order to provide quality services

that correspond to new requirements, there is a continuous need to update staff competence (Hauer, 2013). This raises questions about whether interventions supporting competence are optimally targeted (Numminen et al, 2013, p. 1419).

Finding a tool that measures competence can be challenging. The NCS is a valid and reliable tool for measuring competence in specialist health care (Meretoja et al, 2004b) and in the municipal sector (Karlstedt et al, 2015). The NCS instrument does not encompass all areas that need competence-enhancing strategies, but it may be an important tool for identifying shortcomings and in describing the overall competence level of services (Meretoja et al, 2004b). It can be argued that the value of self-assessment is limited. Self-assessment is subjective and based on nurses' individual interpretation of the concept of competence. It appears that nurses evaluate their own competence as being lower than their leaders (Meretoja and Leino-Kilpi, 2003). The results from the NCS can therefore be used as the basis for discussion between managers and health-care workers. The NCS does not relate to the actual care the patient receives (O'Leary, 2012). Competence planning work must therefore take into account external requirements and expectations such as patient satisfaction and outcomes (O'Leary, 2012; Lai, 2013).

Competence measurement must be related to relevant tasks and contribute to goal achievement (Lai, 2013). One important discussion is how nursing home and home health care managers can use the tool when outlining competence plans and competence-building measures for and with staff. A leader's role is to involve and listen to nursing staff members' needs. A safe and supportive working community is important for competence development, but pressing work situations may be a barrier to this (Hovland et al, 2015; Kyrkjebø et al, 2017).

The nursing competency requirements identified by this survey could be incorporated in departments' competence plans, together with external requirements and patient outcome measurements. As competence plans are part of the strategic focus on competence development, they are crucial for achieving the goals outlined in Competence Lift 2020 and in creating value. Thus, they are a key managerial responsibility (Lai, 2013).

Before measuring competence, it is vital that there is a consensus on the level of competence that is crucial for a specific department. White Paper 44 (Kunnskapsdepartementet, 2009) emphasises that the competence level of nursing staff must be increased, but there is no discussion about what this expected competence level means (Bing-Jonsson et al, 2016). Our proposed cut-offs for the NCS colour system in this study are pragmatic, thus, the system can be refined according to what is considered useful in a particular clinical setting.

There is a correlation between age, length of experience, education and levels of self-assessed competence in municipal health care (Karlstedt et al, 2015), but the constant changes in health care support the relevance of the NCS and the need for experienced nurses. If implemented before and after teaching and training, the tool can be used to measure the effect of competence-enhancing actions. Since competence needs vary according to experience (Benner, 1984) and are contextual, the NCS can be adapted and the results used by managers to get a clear overview of which area(s) to focus on (Meretoja and Koponen, 2012). In addition to clinical practice, the tool

is relevant to university colleges and universities when translating theoretical education into clinical practice. It is useful for measuring competence among new graduates.

Demographic changes in society and in the population's disease classification have led to an increased need for nurses with higher clinical skills. It is important that managers actively provide opportunities for nurses to develop skills. Demographic changes are not unique to Norway: the OECD Nurses in Advanced Roles report asserts that many countries must consider ways to improve the efficiency of health care by reviewing roles and responsibilities for different professional groups within health care (Delamare and Lafortune, 2010).

## Conclusions

The development and testing of methodologies for assessing competence can be useful in identifying training needs and areas for professional development at the staff member level, but it is also useful for individual nurses to be aware of their own competence and identify areas that need to be enhanced. Frail patients with complex needs receive fragmented services in the municipal and specialist health-care sectors. To improve the service these patients receive, it is important that nurses have a wide range of competencies. It is imperative to start with nurses' competence levels when planning competence-enhancing measures that reflect their status and needs. The NCS tool can benefit nursing home and home health-care managers when outlining competence plans and competence-building measures for and with the staff.

**BJCN**

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