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# The desired competence of the Swedish ambulance nurse according to the professionals – A Delphi study



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#### ABSTRACT

Nursing is evolving into new fields of health care including ambulance care, where a branch of specialist nursing is growing. Various views exist on the desired competence for the ambulance nurse and valid guidelines are lacking in Sweden. To increase knowledge of the field, professionals were asked to describe what competences an ambulance nurse should possess. The aim of this study was therefore to elucidate the desired professional competence of the specialist ambulance nurse, according to the professionals. A modified Delphi technique was used, where a panel of professional experts expressed their views on the desired competence of the ambulance nurse. This study reports, at a high level of agreement among the panel experts, that the desired competence of the specialist ambulance nurse consist of forty-four separate competences creating ten areas of competences: execute leadership, generic abilities, interpersonal communication, institutional collaboration, pedagogic skills, possession of relevant knowledge, professional judgement, professional skills, research activities, and technical skills. The high level of agreement among the professionals as well as the large number of competences reflects the high demands placed on the ambulance nurse by the professionals themselves.

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#### **Background**

Nursing as a profession is evolving into new fields of health care. One of these fields is pre-hospital emergency care, or ambulance care, where a branch of nursing is growing (Suserud et al., 2003; Suserud, 2005; Williams, 2012). In some countries, including Sweden and the Netherlands, the registered nurse (RN) is considered to be the most appropriate profession to work in ambulance care service. The desired professional competence of ambulance health care staff varies internationally, and this includes the educational systems and levels of education (Kilner, 2004; Melby and Ryan, 2005). In the UK, Australia, USA, Norway and several other countries, the paramedic system is used, but in other parts of the world there are other national standards for ambulance staff (Al-Shaqsi, 2010; Sanders, 2012). In Sweden the nursing profession is emerging as the standard in ambulance care services (Ahl et al., 2005). In 2005 the Swedish National Board of Health and Welfare decreed (SOSFS, 2009) that it would from that point onwards be mandatory to staff ambulances with RNs and in some health care regions a nurse holding a specialist nursing degree is required. Normally, the ambulance nurse represents the highest level of competence in the field of Swedish prehospital emergency care services. The presence of other professions represented in the field, such as emergency medical technicians (EMTs) or physicians are not regulated on a national level and there are regional differences regarding staffing issues in ambulance care services. Historically, EMTs were the dominating group of staff in the ambulance care services (Suserud, 2005) but, since the governmental requirement of RNs were issued, they are a diminishing group. Physicians are present only in a limited number of regions and, often as part of special units such as helicopter emergency services (HEMS). EMTs are typically paired with RNs as members of the regular ambulance team where the nurse has the responsibility for the quality of care. Consequently, the RNs should be able to perform a variety of professional tasks including the work of EMTs as well as all levels of care in the prehospital setting. During this evolution the need of a nursing specialist education, similar to other areas of nursing, were identified and in 1998 a specialist nursing educational program at advanced level were established. The educational program results in a postgraduate diploma in specialist nursing, prehospital emergency care, as well as a master's degree (Ministry of Education and Research, 2011).

There is an ongoing media debate between representatives from the professional field, the authorities and the universities concerning the required professional competence and appropriate

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education for an ambulance nurse. National guidelines for the specialist ambulance nurse that were issued by the National Board of Health and Welfare (SOSFS, 1997:18) expired by year 2008 and have not been replaced (National board of Health and Welfare, 2008), leaving the professional field without legal guidance. Recently the Swedish National Association for Ambulance Nurses, in collaboration with the Swedish Society of Nursing, published national guidelines for the competence (Swedish Society of Nursing, 2012) required for an ambulance nurse, but this document has no legal status. Many other stakeholders have an interest in the process of developing a description of the competence required in this relatively new professional field. Examples of these stakeholders are health care representatives, the medical profession, the Ministry of Education and Research, the Swedish Agency for Higher Education and the universities as educational providers (Swedish Society of Nursing, 2010).

Various consensus techniques can be used to find out what competences different interested parties in any particular field demand from a profession (Jones and Hunter, 1995). Such techniques include the nominal group technique, the consensus development conference and the Delphi technique (Keeney et al., 2001; De Meyrick, 2003; Hsu and Sandford, 2007). The consensus conference and nominal group techniques both require the participants to be simultaneously present in the process. The knowledge of the identity of the other participants can give a stronger influence to those with high authority. The Delphi technique is anonymous, however, and does not require simultaneous participation (Kennedy, 2004; Keeney et al., 2006). The technique was developed in the 1950s to foresee future events and uses a panel of experts who express their opinions on an area via a series of questionnaires (RAND, 1969). Results from the questionnaires are fed back to the panel of experts, who may change their views after seeing the opinions of the other experts. Diverging views currently exist on the desired competence of the ambulance nurse at a national level and research generated from the perspective of the relevant professionals is lacking. The aim of this study is to elucidate the desired professional competence of the specialist ambulance nurse, according to the views of the professionals.

#### Methods

This study was performed using a modified Delphi technique (Williams and Webb, 1994). A panel of professionals was invited to express their views on the desired competence of the ambulance nurse with the aim of reaching a reasonable consensus. The identities of the panel experts were not revealed to each other, to ensure that results were not biased by the members' background, politics or relationships among the panel members (Powell, 2003). The panel experts took part in three rounds of questionnaires. They were strategically recruited in order to obtain multiple perspectives, representing various organizational, educational and professional contexts, came from different parts of Sweden and were considered to be experts in ambulance care. The first author used personal knowledge and register studies to enroll the first line of panel experts. Some of those, at the request of the author, provided their recommendations for other experts to be included in the study. The panel experts were all contacted personally by phone for inclusion in the study. A total of 39 panel experts were included. Most of them were specialist nurses holding a degree in ambulance care. In order to ensure different views regarding their professional experiences the nurses were enrolled according to their years in the profession. Other panel experts represented different levels of management within the field, including medical managers, scientists, university teachers, union representatives and several national associations (Table 1).

**Table 1**Description of panel members: Position, professional experience of the specialist nurse, major body of professional education in each group and number of informants in each group.

Professional	Professional	Number
experience	education <sup>a</sup>	(tot = 39)
0-1 years	RN	3
1-3 years	RN	5
3-5 years	RN	4
>5 years	RN	4
	RN/Dr/EMT	4/2/2
	Dr	2
	RN	2
	RN	3
	RN	3
	RN/Dr	4/1
	experience  0-1 years 1-3 years 3-5 years	experience education <sup>a</sup> 0–1 years RN 1–3 years RN 3–5 years RN >5 years RN RN/Dr/EMT  Dr RN RN RN RN

<sup>&</sup>lt;sup>a</sup> RN = registered nurse, Dr = physician, EMT = emergency medical technician.

#### **Procedures**

Data was collected using web based electronic questionnaires that were modified by the authors (TeleForm® v10). In each of the three rounds, all panel experts received an e-mail link to the active questionnaire. By clicking the link, they were directed to the web server where the questionnaire was available for completion. After completing the questionnaire the expert panel submitted their responses by saving them on the server. The first questionnaire was accompanied by detailed information about the study's aims and background. The questionnaire contained an open question, where the informants were asked to write down, in their own words, their views of the desired competences of the ambulance nurse. The question was formulated to enable the expert panel to describe their views on what the ambulance nurse should be able to handle, analyze and perform in the profession from the perspective of the immediate future. The panel experts were given unlimited space for their written response. Analysis of this questionnaire was performed using qualitative content analysis as described by Burnard (1991). At first, a naive reading of all data as a whole unit of text resulted in summarized notes. The analysis then included the extraction of meaning units by thorough reading of the data. Similar meaning units of the transcripts were gathered into codes and then grammatically transformed into statements (Table 2). The grammatical transformation of codes into statements were made to state an opinion that aided the panel experts to take a decisive stand, based on their personal views, when answering the second questionnaire. The statements were thoroughly reassessed by the authors to assure that no specific competence was left out due to condensation of meaning units into

The second questionnaire consisted of 46 statements presented in random order. The expert panel was instructed to rate the statements with regard to level of agreement using a four-grade Likert scale. The lower end point of the scale represented "Totally disagree" and the higher end point "Totally agree". The panel members' responses were analyzed using the Statistic Package for Social Sciences Software (IBM® SPSS® Statistics, version 21).

The third questionnaire consisted of the same statements as the second, with the addition of summarized results presented as numeric values and bar diagrams of round two. Again, the expert panel was asked to rate their level of agreement with the given statements (Fig. 1). After analysis of the third questionnaire the results were arranged as levels of rated agreement and presented as mean values (*M*) and standard deviations (SD). The statements used in the second and third questionnaires were further analyzed and gathered into categories representing areas of competences.

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