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# The Development Process of eHealth Strategy for Nurses in Finland

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**Abstract** Growing use of information and communication technology (ICT) demands have caused a need for nursing to strengthen the knowledge, skills and competences related to ICT in health (eHealth) and define its versatile roles. The Finnish Nurses Association (FNA) named a group of eHealth experts from various professional fields that are closely connected to nursing e.g. nursing practice, higher education, nursing research and administration. The main purpose was to describe nurses' contribution to the national strategy concerning eHealth development and implementation in health and social care. The group searched for answers, discussed strategic issues, wrote drafts, and sent texts for open commentary circles. The chosen themes of the eHealth strategies deal with the role of the client, nursing practice, ethical aspects education and eHealth competences, nursing leadership, knowledge management and research and development. The article describes the strategic work and the structure of eHealth strategy of nurses in Finland.

**Keywords.** eHealth, strategy, nursing, competencies, education, health informatics

## 1. Introduction

The development of the concept and content for the ubiquitous term eHealth was launched in the early 2000's in Europe by the European Commission in order to guide various countries to build up roadmaps and strategies to adopt and implement eHealth through action plans. [1, 2, 3] Parallel to EU actions the World Health Organization stressed the importance to focus on eHealth initiatives across the world. [4] Both these coalitions highlighted the importance of goals to increase the quality of care and efficiency, reduce cost, and enable new modes of care and to empower citizens and communities with the implementation of eHealth internationally. In this article client refers to patients also.

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eHealth as a concept emerged in literature at the beginning of 2000 when Eysenbach published his argumentative paper: What is eHealth? This paper stressed the significance of understanding “e” not only as an abbreviation of electronic. eHealth refers also to efficiency, enhancing quality of care, evidence based, empowerment, education, enabling, extending, ethics and equity [5]. All these elements are common and well known in nursing.

The International Council of Nurses’ (ICN) has adopted the definition by the WHO to be used in nursing: eHealth is the use of information and communication technologies (ICT) for health. This has implications to treating patients, conducting research, educating the health workforce, tracking diseases and monitoring public health. [6.] The ICN has established the eHealth Programme to support eHealth adoption among its members. The goals are to support eHealth practice, to be recognized as an authority on eHealth, and to be positioned centrally in the eHealth Community. With policies and strategies applicable throughout the ICN pillars and programmes, eHealth Programme seeks to advance nurses’ knowledge of and involvement in eHealth worldwide. All this is empowered by global collaboration through various networks as Telenursing Network, Connecting Nurses and advancing the use of International Classification for Nursing Practice (ICNP). The eHealth Programme especially aims to provide tools and techniques to meet future healthcare needs, to promote best eHealth practices and policies, to collaborate with stakeholders, and to represent the voice of nurses. [7.] Following international and national initiatives many nursing associations have prepared national eHealth strategies focusing on the topic from a nurses’ point of view (E.g. Iceland, Norway, Sweden) [8, 9, 10]. This paper describes the process of strategy work and the chosen structure of the national eHealth strategy for nurses in Finland. Furthermore the paper aims to start discussion about the importance of international co-operation in strategic eHealth work.

## 2. Methods

This development project can be seen as a multiprofessional triangulation. Ten experts representing eHealth and health informatics from different parts of Finland and from various nursing contexts, universities (n=3), universities of applied sciences (UAS) (n=2), university hospitals (n=2), central hospital (n=1) and health care centres (n=2) were asked to join the strategy development.

**In the first phase** the expert group had group discussions about the need of strategy for nurses to be able to develop and use eHealth services, what kind of participation citizens and professionals will share in now and in future in health and welfare services. The larger group was divided into sub-groups based on experts’ interests and the work was time-scheduled. Qualitative analysis was used in the first part of knowledge creating. **In the second phase** an integrative review was accomplished in order to clarify the research based from both national and international norms and declarations. **In the third phase** the expert group had joint virtual writing hours. The collaboration with the FNA and joint writing as a group method helped the experts to do abductive thinking of what kind of strategy is best for the nursing association. The experts used various information sources and formed a future-oriented and realistic base of the strategy. **The fourth phase** of knowledge creation was an open web based questionnaire to all members of the FNA and other specialists, such as association’s professionals and Board of Directors, to comment on the strategy

electronically (n =13). The e-questionnaire had qualitative questions covering every part of the strategy. **The final strategy** was revised based on the feedback. The process of creating the eHealth strategy for nurses has taken one year. After intense group working the content of the strategy is presented with the mission and vision statements as well as a short description of the strategy themes.

### 3. Results

eHealth strategy for nurses includes six themes 1) client participation, 2) nurse's daily work, 3) ethical aspects, 4) eHealth competency requirements, 5) nursing management and 6) knowledge management, research and development. In publishing on the web every theme has three goals and five actions to achieve the objectives of the theme in question.

- **The mission:** Nurses develop and use e-Health in client' nursing care, rehabilitation, alleviating suffering, promoting health and increasing well-being of citizens.
- **The vision:** Nurses are courageous reformers of health care practices, who have the expertise to use and develop e-health utilities with multidisciplinary cooperation with the client and other stakeholders.

**Client participation.** Electronic services are an integral part of everyday life. Citizens' participation is strengthened by means of national archives of health data and different assessment tools of well-being. Citizens are increasingly using email and social media, and they also have access to comprehensive self-analysis tools that will make them more active partners during treatment. Data networks allow the nurse to be actively present in citizen's lives 24 hours a day, 7 days per week. The nurse supports and guides citizens to take responsibilities in their own functional capacity, both in care units and outside them.

**Nurses' daily work.** eHealth services are increasingly a part of every nurse's daily work. The nurse's role is to search for information and understand the importance of health information both for a patient's self-care and in nursing care. The nurse acts as the clients' partner, offers them appropriate eHealth services and encourages and supports the use of eHealth services. Nurses exploit in nursing the data that citizens and their families produce themselves and which is available in different information systems and also in national archiving services. Using social media and other communication technology tools in nursing requires that the nurse understands the differences between private and professional roles.

**Ethical aspects.** In social and health care, technology is used to support the citizens' quality of life, dignity, autonomy, and participation in human care. As the eHealth services become more common, it is important to recognize and ensure that every citizen has an equal right to utilize them. However, the quality of services, social interaction, or human aspects of care should not be compromised. It cannot be expected that every citizen is computer-literate, thus the diverse services need to be ensured. Citizens need to have information about the benefits, possibilities and risks in eHealth services and use of technology. In all situations nurses who provide in eHealth services, follow general ethical guidelines.

**Nursing management.** Nursing leaders are in a key position in developing eHealth services on an organisational and national level. Strong leadership and vision are needed to develop client-centred eHealth processes that take the individual needs

into account and to enhance the citizens' participation together with flexible working methods for the professionals. Nursing leaders need to ensure that the professionals have enough resources and the required competence so that their knowledge, skills or attitudes do not hinder the citizens' eHealth services. Knowledge-based management and active utilisation of data warehouses need to be at the core of leadership skills with the aim to ensure quality and safe care. Availability and visibility of nursing-sensitive outcomes strengthen the nurses' commitment and satisfaction.

**eHealth competency requirements.** There are three dimensions in the European Qualifications Framework EQF description of learning outcomes: knowledge, skills and competence [11]. Nursing education includes five descriptions of learning areas: learning, ethicalness, working skills, innovations, and internationalism. Generation of eHealth services is connected to all those areas. Nurses need to responsibly use ICT in their daily work effectively. They must have basic skills for technology use, information literacy, and knowledge management. Depending on the level of education, work assignments, and length and experience of work, they work in health and social care with different levels of expertise. Nurses need to have resources and a willingness to use eHealth services and the tools to support good clients care and citizens' health and welfare.

**Research and development.** The health care sector is knowledge intensive. Today eHealth is regarded as a possibility to make health care more visible, more accessible and equal for citizens. The 'Big Data' concept is connected to describe an increasing amount of data that is gathered in health care [12]. More and more data is being generated by citizens and processed by computers e.g. using wearable wireless sensors and smartphones to collect person's own health data. Using data elements reliably will allow for information to be gathered one time and reused for multiple purposes e.g. development of both nursing practice improvements and population health issues. There is a need for developing reliable and fast methodology and how to utilise large amounts of data for purposes mentioned earlier.

#### 4. Discussion

A strategy should describe and define the mission and vision of the nurse association as well as objectives and means of how to achieve them. In this strategy development our far-reaching vision is, healthier citizens and a better and more effective care to patients through ethically and technically sound modern nursing care. The development process among our expert group was rewarding with various discussions and arguments. The strategical papers from the Ministry of Social Affairs and Health as well as all EU publications guided us right from the beginning. Every theme has its own perspective to nurses' work and citizen's participation in eHealth services. The collaboration with the FNA was essential and the change of opinions enhanced strategy building. Furthermore the layout of the strategy should serve as a virtual publishing style. We decided that each group should only define three objectives and five actions for each theme of the strategy. This may have led to trivial and restricted expressions on the reality of nursing care. However our aim is also to raise international discussion related to eHealth strategies in the nursing field. The Finnish Nursing Association represents most of the nurses and has effective ways to implement this strategy via its regional and local networks, many-sided publications and via launching eHealth projects.

In Finland there is an agreement on the minimum requirements of nursing excellence. All nurse educators need to offer students the possibility to learn eHealth and health informatics knowledge, skills and competence. However, the level of education varies in practice. It is therefore important to pay attention to the educators' skills, to enable students to achieve the desired level of competence. Nurses also have the possibility to show their expertise and apply for a Nursing Informatics Certificate from the FNA. The strategy also challenges nurses to be more active in multidisciplinary teams. Especially there is a need to participate in information system development and implementation projects. Nurses have a lot of knowledge and skills to share for the development of better tools and applications in nursing practice.

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