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# FinCC and the National Documentation Model in EHR - User Feedback and Development Suggestions

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**Abstract.** The structure of the Finnish nursing documentation model is based on the decision-making process and a standardized nursing terminology: Finnish Care Classification (FinCC). Nearly 20,000 nurses use the FinCC although not all healthcare organizations utilize it. Development projects for the common national nursing documentation framework have been carried out, for example, in 2010–2011 the aim of a project by the Ministry of Social Affairs and Health and the National Institute of Health and Welfare was to suggest recommendations for the Finnish nursing documentation model. The final report of the project was sent to different organizations all over the country for further feedback statements. The aim of this paper is to summarize the message of the statements (n=37) from primary and specialized care, universities including universities of applied science, professional nursing associations, trade unions and national authorities. Development suggestions for the FinCC and electronic health records will be introduced.

**Keywords.** Electronic health records, nursing records, terminology as topic

## Introduction

The aim of the Finnish national nursing documentation has been to unify and standardize nursing documentation, and to connect it with the interdisciplinary core documentation of patient care. The core elements of patient records have been defined for the national code server and will be used when electronic patient records will be stored in national patient record archives [1].One of the reforms in the Health Care Act (2011) is the improvement of the mobility of patient data: every electronic patient register and patient record archive in different health centers and hospitals in a hospital district should be collated to form a joint register of patient records [2].

The nationally unified and standardized nursing documentation model was developed and piloted in Finland during the National Nursing Documentation Project (2005–2008). The structure of the Finnish nursing documentation model is based on the decision-making process and a standardized nursing terminology: Finnish Care

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Classification (FinCC). Nursing diagnoses, interventions and outcomes are documented in a structured way using the FinCC [3-5].

The FinCC consists of the Finnish classification of nursing diagnoses (FiCND), the Finnish classification of nursing interventions (FiCNI) and the Finnish classification of nursing outcomes (FiCNO). The latest version, 3.0, was launched at the beginning of 2012. Both the FiCND and the FiCNI have 17 components in the newest version. The number of main categories and sub-categories under each component varies. The FiCND has 88 main categories and 150 sub-categories, while the FiCNI has 127 main categories and 180 sub-categories. In all, there are 215 main categories and 330 sub-categories, totaling 545. The content of the FinCC is a result of a cultural validation in 2001, and it has been revised by utilizing the user feedback in 2004, 2007 and 2010. Nearly 20,000 nurses use the Finnish nursing documentation model today in different healthcare settings [6].

However, not all healthcare organizations use the Finnish nursing documentation model. Some users find it too complicated with usability problems in electronic health record (EHR) systems. As a result of these reported difficulties, the Ministry of Social Affairs and Health (STM) and the National Institute of Health and Welfare (THL) organized a project in 2010–2011 with the essential aim to advance the diffusion of the Finnish nursing documentation model by suggesting different development recommendations and their implementation. Another main task was to suggest means and actions to improve the usability and unity of the EHR systems. The final report for this project [7] was sent by the THL to different organizations all over the country for further feedback statements. In 2010–2011, the previous version, 2.0.1, of the FinCC was in use. The ultimate aim of this paper is to summarize the message of the aforementioned statements. The objective of our study is to find out:

- What are the positive effects of the FinCC-based structured nursing documentation?
- What are the negative effects of the FinCC-based structured nursing documentation?
- What are the development suggestions for the FinCC-based structured nursing documentation?

## 1. Materials and methods

A data extraction tool was used to gather the data. Statements (n=37) were returned from different healthcare settings, representing both primary and specialized care (n=24), universities including universities of applied sciences (n=7), and from professional nursing associations (n=2), trade unions (n=2) and national authorities (n=1). From healthcare organizations, statements from physicians, chief nursing officers or nurses were sent together or separately. All responses were analyzed in one bunch regardless of whether the responders use the FinCC-based structured nursing documentation or not. The analysis process was done in groups of two researchers based on the research questions, and the discussion section was completed with all members of the research team.

## 2. Results

### *2.1. FinCC-based structured nursing documentation and its positive effects*

Positive effects and aspects of the FinCC-based documentation were found in 86 % (n=32) of the statements. The suggestions regarding the positive effects of the FinCC based structured nursing documentation can be classified in five major categories: 1) effects on patient care recording, 2) impacts on patient care/treatment processes, 3) effects on decision-making and data reuse, 4) findings of the classification's knowledge base, and 5) general comments.

**Effects on patient care recording.** Almost all the organizations that use the FinCC-based structured nursing documentation reported many positive effects. Records are patient-oriented, structured, accurate, standard, informative and reliable. Interpretation errors have been reduced. Nursing documentation is more uniform and diverse and is based on the appropriate decision-making process in real time. According to most of the statements, the content of the nursing documentation has improved and the entries in patient records are of a higher quality. Some hospitals have noticed that using the FinCC model, the recording time has decreased as only the most essentials things are recorded. Structured nursing documentation facilitates the recognition of patients' needs and nursing diagnoses which assists the care planning. The documentation layout and details are always the same regardless of where the patient is taken care of or who documents the nursing diagnoses, nursing interventions and nursing outcomes.

**Impacts on patient care/treatment processes.** According to the statements, the structured nursing documentation model renders patient care safer and more comprehensive, supports clinical care and promotes continuity of care. FinCC-based structured nursing documentation has helped nurses to structure the whole patient care process better. It has also guided the development of patient care. Electronic patient record systems facilitate constant access to the real-time data of patient care. Working hours have been freed up to be spent on direct patient care as the ordinary nursing reports between shifts have been reduced and replaced by silent reporting.

**Effects on decision-making and data reuse.** When documentation is based on the decision-making process it is possible to reuse the data when planning and evaluating patients' daily care processes, evaluating the effectiveness of treatment, in administrative and research purposes, and in the longitudinal study of the effectiveness of treatment. FinCC-based structured nursing documentation also facilitates the assessment of patient care intensity when both of these classifications are in use. With them, evidence-based knowledge for multidisciplinary decision-making is produced and available. Other professional groups including physicians are able to read the nursing care reports because they are classified in chronological entries. Also search functions in the recording systems assist with data retrieval. The possibilities for data reuse encourage both nurses and nursing administration to use the structures of the FinCC model.

**Findings of the classification's knowledge base.** Many of the opinions received consider it important that the FinCC model has a research-based background, has been developed using a scientific database, and is based on the international nursing documentation model. That is why the classification has international comparability and a terminology consistent with the International Council of Nurses' (ICN) recommendations.

**General comments.** The FinCC-based structured nursing documentation has been taught for many years in different healthcare organizations and in the universities of applied sciences. Nursing staff have learned to use the model and feel it is relatively easy and quick to use. Users of the FinCC model consider the structured documentation model to be functional and it includes the most important nursing items. It has been developed and clarified over the past few years.

### *2.2. FinCC-based structured nursing documentation and its negative effects*

Negative effects and aspects of the FinCC-based documentation was found in 57 % (n=21) of the statements. Individual terms within the FiCND and the FiCNI are sometimes ambiguous or unfamiliar to the user. Instead the terms are too detailed and they have been split into sub-sections that are too small. Several opinions pointed out the multiplicity of the terms. According to one statement, FinCC includes too many components. It takes time to learn the components and the sub- and main categories, and requires the users to remember and learn them by heart. In the FinCC, each component includes the main categories for patient guiding but some users find it too disseminated this way.

Physicians regard the FiCND and the FiCNI impractical for them, thus complicating daily work and cooperation with nurses, and even endangering patient safety. In primary care, and especially in the emergency department, nursing documentation using FinCC-based structured nursing documentation is problematic because of the unsuitable components and terminology. The same applies in dental care and public health. Altogether, according to some statements, the structured nursing documentation does not serve the patients' multidisciplinary care needs.

### *2.3. Development suggestions for the FinCC-based structured nursing documentation*

The suggestions regarding the development of the FinCC-based structured nursing documentation can be classified in three main categories: 1) development of the FinCC, 2) development of documentation practices, and 3) development of the software.

**Development of the FinCC.** According to the responses, development of the FinCC should concentrate on clarifying both the structure and the terms of the classification system. Here, the use of FinCC-based structured nursing documentation in different environments should be emphasized. The major challenge is to prove and expand the terms of the FinCC that are useful in primary care settings. The number of components should be limited, and the terms should be clearly and accurately defined. The development should be evidence-based, and follow international trends in nursing terminologies. The responses suggest that it would be preferable if the FinCC acts as a language in the nursing documentation, not the structure that needs to be followed. Both classified and narrative text in documentation is needed and it should be possible to add narratives at every level of the FinCC hierarchy.

**Development of documentation practices.** In the future, the common goal should be in unified and standardized nursing documentation. As a means to achieve this goal, the need for national recommendations or regulations, a national web-based education program, and systematic evaluation of nursing documentation were mentioned. However, the need for and relevance of the FinCC-based structured nursing documentation in different care contexts should be critically assessed, e.g. in outpatient clinics and emergency rooms. The basic structure in nursing documentation should

follow the phases of the common care process: assess, plan, and evaluate the patient care. This process also includes the summary of care. It was considered important that different professions have their own platforms to document patient care. At the same time, however, it was recognized that the documentation should be patient-focused and not profession-oriented.

**Software development.** The main message regarding the software was the urgent need to improve the usability. Interface solutions should serve both profession-based and multi-professional needs in documenting and retrieving patient data. The major challenge is to create usable templates that present relevant summaries of structured patient information. The search functions need to be developed. The suggestion to create standardized care plans was supported although it was recognized that they may be a risk for individual patient care documentation. Furthermore, the documentation platforms should have functional links to national and organizational best practices. Also, the vendors were challenged in many ways, i.e. to include structured nursing documentation in the reporting features of their software, and to create the systems so that different healthcare settings can use the same structured information about the patient when needed.

## 3. Discussion

Based on our review of the statements from different healthcare settings and authorities, FinCC-based structured nursing documentation has been in use for several years. Most of the user comments were very positive, but a lot of development suggestions were put forward. It was evident from the responses that comments on the FinCC-based structured nursing documentation and its negative and/or positive effects are contradictory. It must also be taken into account that the responders were both users and non-users, and all statements were analyzed together. They all give us valuable information for further development of the FinCC; however, speculation can be made of why the comments were conflicting. Long- or short-term usage, quality and amount of education, working environment, hospital setting and administrative support or the lack of it can influence both positively and negatively.

The FinCC classification statistics have been combined with the operating statistics from the Health District and the staffing management information. Structured data allows the comparability of care between units and hospitals and the requirements for national archive [1] searchability and knowledge, as well as international comparability. Some experiences have shown that the model is very useful in different healthcare environments, not only in hospital settings but also in long-term care and home care. One statement highlighted the effectiveness of the organization's own training and a positive attitude. Some opinions mentioned that the model had launched a discussion on nursing looking at wider perspectives such as its appropriateness, quality and patient safety. The FinCC classification can be used to create quality criteria for nursing documentation and nursing in its entirety to improve patient safety.

In the report [7], one of the recommendations was to use the documentation merely on the component level. This suggestion had various viewpoints in the statements, e.g. the amount of free-text reporting will increase. The proposal means a return to a situation where the healthcare provision was before the introduction of a structured nursing documentation system. The multi-structure nature of the FinCC model reduces free-text documentation though there is still space for this information to be given. The

structured documentation model enables single documented data for many purposes, e.g. in data transmission, recording the medication, emergency data and for aggregation of nursing summary. Some hospitals have prepared several documentation templates for the most common nursing interventions to harmonize and speed up the documentation process. Some feedback mentioned that the outpatient nursing documentation has improved: it is easier and faster to complete than the documentation for the inpatients. The information about patients' previous visits is easy to read, clear and logical in structure and it also allows mobile data entry in home care and inpatient care.

According to some statements, FinCC-based structured nursing documentation clearly increases the client-based care planning, which gives the opportunity to change the way of working out of the acute care model. In the acute care model, patient care is quick, includes active treatments and is more medical and medication-oriented. Progress can be made toward a model in which the patient/client him/herself with a professional assistant assesses his/her needs for care (nursing diagnoses) and its related nursing interventions. The patient/client will be in the key position planning his/her own care. Using the FinCC harmonizes nursing procedures and works as a tool to gain specialized knowledge required by the EU and the Ministry of Education.

The limitations of this review can be criticized for some reasons. In the analysis process, research groups had some difficulties because many of the opinions in the statements were end-users' views of the EHR and not necessarily of the FinCC-based structured nursing documentation. Integration of the FinCC in different EHRs has not always been a success. There is a lack of user-friendliness and usability in many EHRs.

## 4. Conclusion

All informants agreed that the basic structure in nursing documentation should follow the phases of the common care process. The FinCC-based structured nursing documentation generates several positive effects on patient care process, on recording, on decision-making, and data reuse. Definitely developments to clarify the structure and the terms of the classification have to be done. The development must be done in cooperation with the vendors not forgetting the patients' more active participation in the future.

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