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## The national SotePeda 24/7 project develops future professional competencies for the digital health and social care sector in Finland

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### Abstract

The SotePeda 24/7 project, financed by the Finnish Ministry of Education and Culture, aims at increasing competencies in developing digital services in the health and social care sector, and to create digital pedagogical solutions to support multidisciplinary learning. The national project, encompassing practically all the relevant universities of applied sciences educating health and social care workers, and two universities in Finland, defines the required eHealth skills and develops educational material, pedagogy and learning environments for the participating organizations. The project covers also eHealth service design skills, management skills, co-developing and the ethical aspects in the new digitally supported health and social care environments.

**Keywords:** health informatics, social care informatics, digital skills, education, nursing informatics, learning by developing

### Introduction

There are three important change trends in the Finnish health and social care system now. Finland is in the process of combining public health and social care services into a single organization at the provincial level [1]. The reorganization of the care processes aims at increased productivity in which the use of information technology is expected to have a central impact. The second change is the growing role of the patients in the improvement and maintenance of their health. This includes the patients' access to their own health records and their contribution to the production of their personal health information using home health technology and electronic communication with the care personnel. This third trend, the digitalization of care, is expected to provide the required health and social care productivity gains for the aging population which have

been obtained in the other sectors of the society with information and communications technology (ICT).

The ICT related productivity gains cannot, however, be realized if the health and social care personnel are unable to use the ICT systems and manage data and information in their daily work as intended. It is not enough just to reach a working skill for a single application at a time because the systems are continuously changing. For this reason, it is important for the health and social care personnel to reach higher-level understanding about the ICT systems. It would be even more desirable if the personnel could reach such a competence level that they can actively contribute to the development of the ICT systems they are using in patient care. On the other hand, the ICT professionals and service developers should get a better understanding of the health and social care sector.

## Starting points and objectives for the project

A recent survey indicated that there are significant gaps in the ICT education of the care personnel in their degree studies in Finland [2]. The respondents in the study had obtained most of their eHealth skills during their training periods at work places. These skill shortages need to be addressed at the curriculum planning level first. The second challenge is the implementation of the reformed curriculum. The educators need education and support themselves to be able to educate the eHealth skills to their students. In order this education to be effective, the most suitable pedagogic methods should be applied to teach the various required skills.

As the degree curricula of the health and social care personnel are already full of relevant care related substance, it is essential to select the health ICT topics to be educated carefully for the small ICT slot in the new curriculum. There are international recommendations for this [3, 4] and they can be used as an input to form the nationally adapted eHealth education package. There is currently only one International Medical Informatics Association (IMIA) accredited health and human services informatics master's degree program in Finland, at the University of Eastern Finland [5].

The SotePeda 24/7 project [6] was established with the goal to raise the health and social ICT and service design related education to a new level primarily in the universities of applied sciences which educate 80 per cent of the care personnel in Finland. The main objectives of the project are to

- define the competencies related to the digital health and social care services
- determine what the required pedagogical skills are in the digital health and social care education and what are the new pedagogical models to be used in digital skills education in health and social care
- envision what will be the new functional models of digitalized health and social care in Finland

In addition to these main objectives, the project is supposed to produce ready-for-use educational content

material for the participating universities of applied sciences. The project will also take new educational learning environments into use. One of the new skills to be developed is related to the service design of digitally assisted health and social care services where multiple actors co-operate. Finally, the project is supposed to define the ethical principles for digitally supported health and social care work and contribute to their education.

## Implementation and results

The project organization, led by Laurea University of Applied Sciences, consists of a consortium of the 22 universities of applied sciences which offer education mainly in health and/or social care sector in Finland and the two Finnish universities, the University of Eastern Finland and Tampere University which educate students in health and social care informatics. This wide participation in the project ensures that the project results are also widely disseminated in the relevant educational organizations in Finland.

The implementation is divided to work packages which have specific goals and time tables. The work packages are

- WP 1 The definition of digital skills in health and social care
- WP 2 The pedagogical solutions for digital health and social care and the facilitation of learning pilot projects
- WP 3 Digital health and social care service, and knowledge management skills and competencies
- WP 4 Service design – human centered and innovative service development
- WP 5 Multi-actor service co-development
- WP 6 Future work and ethical skills

The project wants to avoid the silo effect between the work packages by using an open digital discussion forum (Slack) for the project. Although the work packages have their own discussion channel, they are open for all the project participants. The files produced in the project are similarly open for all project participants in the project file repository. The project makes use of web

meeting tools in project meetings, also to develop a digital work culture within the project.

In addition to the development activities, the project has a research aspect as well. The research questions are largely the same as the development objectives. The research plan adds, however, additional tasks to the project. These include questionnaires, interviews and workshops of which the materials are used as input to the research. Both quantitative (questionnaires) and qualitative methods are used to analyze the materials, adhering to the typical ethical rules of such research. Still, the goal is to make the research material open for other researchers as much as possible while preserving the anonymity of the subjects and responders.

The project has a few important linkages to other concurrent projects. The national research and development project (YleSHarviointi) to develop standardized competency evaluation for generalist registered nurses (180 ECTS) [7] will also contain a section of digital skills. SotePeda 24/7 can provide valuable input for that project. The MEDigi project [8] is designing the digital content and pedagogy to medical students and there are possibilities to co-operate. A national cybersecurity project can provide input for the cybersecurity education in SotePeda 24/7. The recently ended EU-US eHealth Work project [9] has produced a lot of educational presentation slides which can be translated into Finnish and adapted to the national context.

After the six first months of the project, only preliminary results have been obtained. The first version of the digital skills for health and social care has been provided for the project internal review and feedback. Educational material has been produced in the form of presentation slides of such topics as cybersecurity which will be a part of the curriculum. Six development workshops have been held in the area of future health and social care work scenarios. Additionally, the project has prepared questionnaires of project related topics for the main target groups, students and teachers. Project work continues until the end of the year 2020 and the results will be published in multiple articles.

## Discussion

The project has potential to raise the health and social care digital competencies education in the Finnish universities of applied sciences to a new level. The participation of practically all relevant universities in the project ensures that the results are recognized and can be taken into the daily use in the organizations. Participation in the development work also educates the teachers who work in the project.

In addition to the expressed project objectives, the project will also result in a formation of an informal co-operation network in the digital health and social care education among the participating teachers. This will make future co-operation easier as well. As the development of health and social care ICT does not stop at the end of the project, continuing informal or organized co-operation will be necessary to maintain the developed educational material up-to-date at the national level. When this material is kept openly available, it can also contribute to the continuing education of the existing health and social care workforce.

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## Conflict of interest statement

The authors are researchers in the project that is described here but they have no conflicts of interests with the producers of the equipment or producers of the data used in this study.

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