Lesson learned on Embedding Digital Skills in all Medical Professions’ Curricula

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Contents of the presentation:

• Why we need eHealth / mHealth competence for health care personnel?
• Design of the special competence programme for Finnish medical doctors and dentists.
• Success of the programme and results this far.
• University of Oulu extends eHealth to basic medical studies.
• Status of eHealth studies for nurses
Human capacity building – prerequisite for successful eHealth / mHealth

- Currently eHealth and mHealth are recognized tools to promote the necessary patient oriented digital transformation in healthcare.
- Information exchange, individual patient specific care and quality and efficiency improvements require the use of medical informatics.
- Until recently, medical personnel, especially medical doctors have not received the necessary digital skills in their formal education.

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eHealth / mHealth is a strategic tool – the users should get involved

- First wave of digitalization (D1) gave us the basic electronic medical records and connectivity.
- However, many studies have shown the dissatisfaction of medical doctors with their tools.*
- Collaboration in R & D with the vendors would bring better results into practice.
- The users are the best experts of the real needs. Detailed knowledge about the work process is required for best results.

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Usability problems do not heal by themselves: National survey on physicians' experiences with EHRs in Finland
Johanna Kaipio, Tiina Lääveri, Hannele Hyppönen, Suvi Vainiokari, Jarmo Reponen, Andre Kushnirov, Elizabeth Borycki, Jukka Vänskä
The concept of care is changing, 
The second wave of digitalization (D2) is here

• eHealth / mHealth is a tool to change the process of care and renew the roles of patient and health care personnel. “From a caregiver to a coach”
• There is a great need of knowledge of new possibilities:
  • How to involve patients, how to include more intelligence information systems, how to utilize decision support tools, AI, Machine learning?
  • How to receive support from IOT devices, how to standardize care, how to break the barriers of distance,...?
eHealth/mHealth capacity building

Both advanced and basic studies are needed
Finland as a forerunner: Special eHealth competence for medical doctors

- Finnish Medical Association has in 2012 established a “Special competence of healthcare information technology” for physicians. Finnish Dentists Association joined in 2015.
- Finnish Society of Telemedicine and eHealth is in charge of its further development.
- **Basicly it is a full two year study program after medical specialist exam.**
- The program is targeted to medical specialists, with already gained experience in medical work.
- In exceptional cases a non-specialist can apply for enrollment, but has to possess an equal professional work history and special skills.
Both practical and theoretical studies are needed

- Expertise is presented in a learning portfolio, which the student maintains throughout the studies.
- When the student applies for the programme, a mentor is nominated and the individual study plan is accepted by the competence committee.
- Target: The graduate will achieve an extended perspective of ICT serving health care and is capable of guiding eHealth development, including future EHR solutions and digital transformation of services.
Examples of accepted practical studies (at least two different topics)

• "Learning by Doing"
• ICT project officer in technology implementation projects (e.g. EHR, new technology)
• eHealth services development projects, process development
• Medical advisor in local, regional of national ICT/eHealth working groups
• Research projects (an academic thesis = 6 months)
• Working in commercial enterprises
• Must be salaried work or working hours verified

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Examples of accepted theoretical studies

- Theoretical study topics are divided into:
  1) ICT / eHealth / medical informatics studies,
  2) administrative studies and
  3) free choice studies.
- Formal courses provided by universities and universities of applied sciences are recommended.
- Study hours can be collected from individual conferences and short seminars, too.
- Should include international conference participation.
- Should have a balanced contents.
Finalization of the competence

• No written exam, but based on the portfolio.
• After consultation with the mentor, the fulfilled portfolio is sent to the competence committee.
• Two external experts give their peer review opinion.
• If accepted, the competence committee give its recommendation.
• Finnish Medical Association or respectively Finnish Dental association gives then the formal certificate.
Results of the programme (by 31.12.2016)

• 81 physicians and 5 dentists cumulatively accepted to the program, 8 waiting for next meeting. **61 special competence certificates given.**

• (There are 2200 special competencies in other 30 medical topic areas in Finland, also 12 000 specialists out of 28 000 MDs).

• Some examples of positions after fulfilling the requirements: Administrative chief physician, Medical chief information officer, Professor, Business development manager, Departmental chief, Managing director, Leading expert.
But how do we take care of the young generation?
eHealth / mHealth as a part of basic medical education

- University of Oulu is in a process of renewing its curriculum for medical students.
- The idea is to equip the medical students with the necessary eHealth / mHealth skills during their studies.
- The eHealth / mHealth contents will be interweaved into the ordinary studies.
- The spectrum extends from practical and clever use of EPR systems to product development with companies to those interested in additional studies.
Medical students tested new e-health solutions in Oulu

- 100 fifth class medical students of the University of Oulu assembled to the Oulu University Hospital’s TestLab environment on March 29th 2016 to test in practice digital health care solutions developed by 25 companies.
- First lectures by top e-health experts.
- Then they tested solutions related to remote monitoring, diagnostics and wireless support for care, among others.
- Also devices which aim to promote citizens’ own management of their health and wellbeing were tested.
- Idea: Collaboration in research and development with companies/vendors from early on.
- Will continue for every annual fifth year course now!

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What about the multidisciplinary team: digital skills for nursing staff?
Current experiences from universities of applied sciences / nursing schools*

- Virtual learning environments as cloud service.
- Personal Learning Environment principle, extensive use of social media as a tool.
- The nursing staff have basic skills to communicate and provide digital services to the patient.
- According to speciality digital tools as a part of curriculum (e.g. teleradiology for radiographers).
- Not yet specific training in digital healthcare.
- Savonia Univ. of Applied Sciences is starting a **Master Programme** in Digital Health in 9 / 2017.

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Thank you!

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