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

Jarmo Reponen, MD, PhD.

-Professor of health information systems
University of Oulu, Finland

-Past President, Finnish Society of
Telemedicine and eHealth

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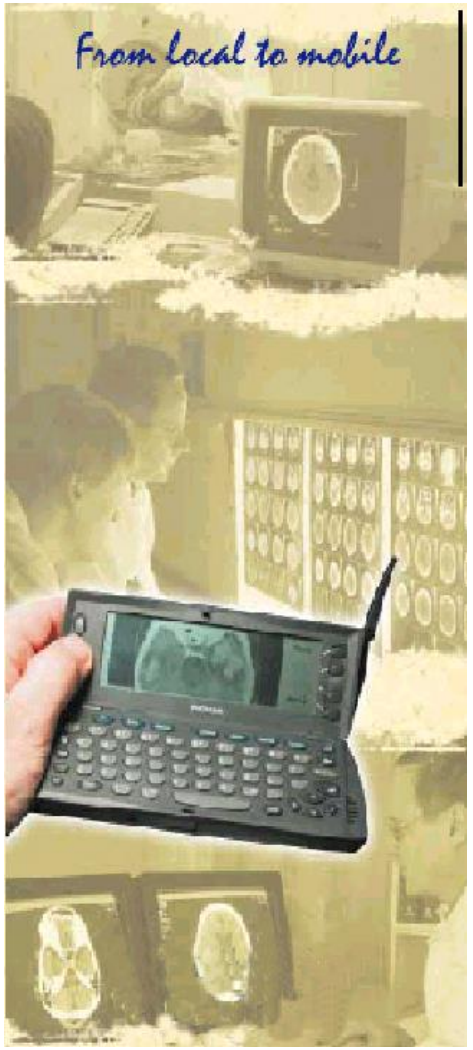
Contents of the presentation:

- 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**



First in the world Medical App for Smartphones made in Oulu 20 years ago 1997 - 2000!

Human capacity building – prequisite 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.

Continuous blood sugar monitoring

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.

*

The concept of care is changing,
The second wave of digitalization (D2) is here

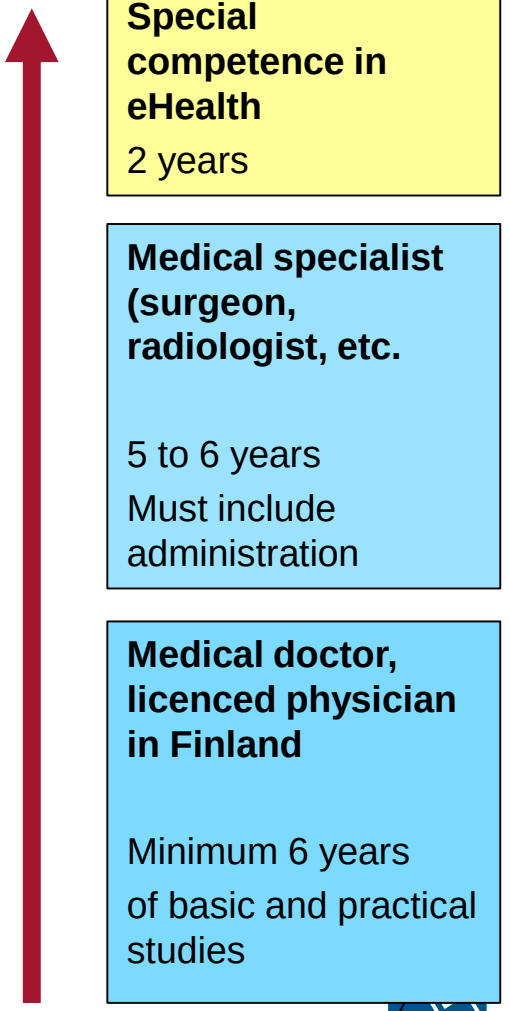
- eHealth / mHealth is a tool to change the process of care and renew the roles of patient and health care personnel. “From a caregiver to a coach”
- There is a great need of knowledge of new possibilities:
- How to involve patients, how to include more intelligence information systems, how to utilize 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

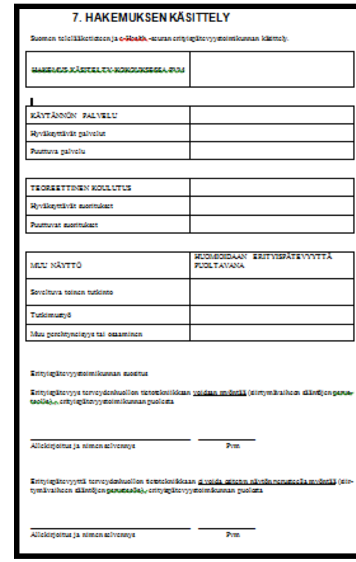
Finland as a forerunner: Special eHealth competence for medical doctors

- 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.



7. HAKEMUKSEN KÄSITTELY

Suomen telelääketieteen ja e-Health -seuran erityispätevyystoimikunnan käsittely.

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KÄYTÄNNÖN PALVELU	
Hyväksyttävät palvelut	
Puuttuva palvelu	

TEOREETTINEN KOULUTUS	
Hyväksyttävät suoritukset	
Puuttuvat suoritukset	

MUU NÄYTTÖ	HUOMIOIDAAN ERITYISPÄTEVYYTTÄ PUOLTAVANA
Soveltuva toinen tutkinto	
Tutkimustyö	
Muu perehtyneisyys tai osaaminen	

Erityispätevyystoimikunnan esitys

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Allekirjoitus ja nimen selvennys Pvm.

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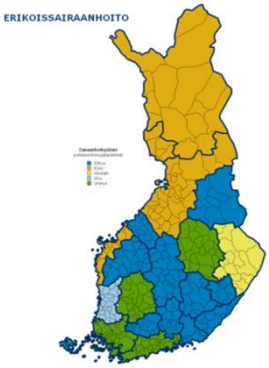
Allekirjoitus ja nimen selvennys Pvm.

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**



Examples of accepted theoretical stud

- Theoretical study topics are devided into:
  1) ICT / eHealth / medical informatics studies,
  2) admininstrative 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.

Sensors: only at ER or always on?

Source:
www.ksshp.fi/

Source:
https://ouraring.com/

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!

What about the multidiciplinary 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 ad 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!

Contact: jarmo.reponen@oulu.fi
Professor,
Health Information Systems,
FinnTelemedicum,
Research Group of Medical Imaging, Physics and Technology
University of Oulu
Finland
Twitter: @reponenjarmo