Foundational eHealth Curricula for the health care workforce

Alpo Värri, Johanna Tolonen, Tampere University of Technology, Finland

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No. 727552

Tampere University of Technology

Established in 1965
Approx. 1,700 employees and 8,300 students study
Started operating as the form of a foundation in 2010

Tampere University of Technology collaborates withapprox. 230 universities around the world.
Quality assurance system audited by The Finnish Higher Education Evaluation Council in 2014
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Tampere3 University Fusion

The following three universities in Tampere will unite on 1.1.2019:

- Tampere University of Technology
- University of Tampere
- Tampere University of Applied Sciences

These will form a new foundation university to be called Tampere New University

Tampere3 University Fusion

Ideas and viable solutions at Tampere3 health seminar

The EU*US eHealth Work Project

Our Mission:
- map skills and competencies
- provide access to knowledge, tools and platforms, and
- strengthen, disseminate and exploit success outcomes for a skilled Transatlantic eHealth Workforce

Our overall Goal: to measure, inform, educate and advance eHealth and health information technology skills, work and workforce development throughout Europe, the United States and globally.

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TUT in EU*US eHealth Work Consortium

Alpo Värri, Project Team Lead
Johanna Tolonen, Researcher
Milla Jauhiainen, Research Assistant

Key Project Deliverables on the Horizon

- Survey of Current State of Needs
- Foundational Curricula
- Instructional eHealth Simulator Module
- Interactive Web Platform
- eHealth Skills Assessment and Development Framework

TUT Education in Health Informatics

Intended primarily for engineering students

Minor in Health Informatics, 25 cr

Learning Outcomes

Establishing the health IT education baseline in Finland – a local survey

- Interviews and a literature survey
- Results to be presented by Johanna Tolonen
Survey of health informatics education in Finland in 2017

The objective:
• Identify the existing IT related education to the health care workforce in Finland.

A secondary objective:
• Get an impression of the experience and attitudes of the members of this workforce about health IT education.

1. Literature survey: the study guides of many major health care professional education organizations,
2. 24 telephone interviews of health care professionals in different fields in Finland.

Literature survey

• Curricula from
  — 5 Universities (medical doctors)
  — 9 Universities of Applied Sciences (registered nurse)
  — 3 Vocational Schools (practical nurse) and a national guideline
  — 6 organizations for continuing education

• The literature review covered all the universities giving physician education, 9/23 universities of applied sciences
• The practical nursing education is most tightly controlled by the national plans of the ministry

Survey framework

Literature survey:
• Basic IT skills (added widened theme)
• Information confidentiality and security
• Documentation
• Patient record systems
• Use of technology in patient care
• Information and communications technologies
• EHealth services
• Social media

Interviews:
• Background information
• 9 questions about health IT education

Results

• Given education varied considerably during studies
  — Basic information technology education is often available at every level of education
  — IT skills often part of other courses
  — Registered nursing education appeared to contain more IT related education than the physicians’ and practical nursing education

• The amount and quality of on-the-job information technology education varies
  — Learning to use the health information systems during their training periods or later in working life
  — Health care personnel seemed to have the basic knowledge of the patient record systems but they often thought that they want to have more education to use the programs

Conclusion

• The national recommendation of 2015 had not been implemented fully to the curricula yet
  — Educational organizations may still need support in putting the recommendations into practice

• Different roles in the health care demand different operations to be done with the IT

• Education of the use of the applications was considered more like working place specific knowledge, not as a part of the basic education given
  — This is challenging in trying to provide European-wide common educational content for the health IT field

• The results lead to suggest:
  — Health professional degrees should contain at least a minimal amount of relevant health IT education tested with an exam
  — Present health care workforce should receive ear-marked in-service training for health IT (supplementary education not necessarily contain any IT related content)
  — Education of the necessary IT-skills should be covered by the employer
  — Surviving with the IT-skills
    • Potential to use the IT systems more efficiently if the skills were better

• A two- or three-phase education:
1. Basics of the application
2. Information about the more advances features after 1-2 weeks
3. Rehearsal and new feature introduction 6-12 months after the first training

IT education serves the professional’s needs and is an essential tool in health care working environment
Foundational curricula

Two target groups
- Students of health care professions
- Health care professionals at work

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Foundational curricula

Recognize different levels of education
- Everybody needs basic digital skills (office software, e-mail, web browsing, social networks, password practices...)
- Basic Health IT skills
  - Generic
  - National flavors (e.g. HIPAA/EU Data Protection Directive)
- Job role related Health IT skills
  - Generic
  - National flavors (e.g. health care cost compensation models)

Source for skills: the HITCOMP tool, http://hitcomp.org

Foundational curricula


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Foundational curricula

Guidelines on the adoption of DigComp, Stefano Kluzer, 15.12.2015

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Foundational curricula

Many target professionals

HITComp

Localization

Many target professionals

Filter

HITComp

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Alpo Värrri & Johanna Tolonen
Foundational curricula

Many target professionals

Anesthesiologist, Attending Physician / Speciality Physician, Audiologic Aide / Audimetric Technician, Audiologist, Behavioral Medicine Technician, Behavioral Therapy Assistant, Behavioral Therapist, Bereavement Coordinator, Cardiology Technician / EKG Technician / Vascular Lab Technician, Care-Coordinator, Certified Medical Assistant, Certified Nurse Assistant, Certified Pharmacy Technician, Charge Nurse / Nurse Manager, Clinical Case Manager, Clinical Lab Assistant, Clinical Laboratory Technologist / Lab Technician, Clinical Nurse Specialist / Patient Care, Dental Surgeon / Doctor of Dental Medicine or Doctor of Dental Surgery / Endodontist / Periodontist / Orthodontist / Prosthodontist, Dentist, Department Head Physician, Dialysis Technician / Certified Hemodialysis Technician, Dietetic Technician, Dietitian / Registered Dietitian, …

Foundational curricula

Many potential competencies

Create, manage and utilize policies for accessing, collecting, entering, retrieval and storage of patient data, including single-sign-on, remote record access, access pertaining to “scribes”, and other data access issues, as part of the appropriate care management team; Assess and monitor needs and requirements for access to virtual content, collections, environments and repositories by different customers, end-users and patients, including those with visual, hearing or other impairments affecting access, and align the design of virtual environments to user and organisational needs; Define the procedures, processes and techniques for knowledge development and capture, and select those that will work best in your organisation and which can be used as part of day to day work; Design and apply health IT/eHealth survey and data collection tools in research and biomedicine/emerging medical technology, and know where to source that work effort; Determine and direct processes that identify information systems, health IT and engineering knowledge assets, leveraging their value, and evaluating duplication, synergies and gaps …

Challenges to Address

- Convincing the education administrators to recognize the importance of Health IT skills in health professional degrees
- What to remove from the basic health professional degrees to make space for Health IT
- Who wants to bear the costs of supplementary education
- Motivational issues of the personnel
- Maintenance of the foundational curricula – an organization to keep the curricula up-to-date is needed

Bringing the work to a wider context

New Skills Agenda for Europe

This new Skills Agenda for Europe launches a number of actions to ensure that the right training, the right skills and the right support is available to people in the European Union. It will also pilot leading work on the skills that are available, match people with these skills, and ensure that all levels of education are aware of the importance of Health IT skills. The Commission works with Member States, social partners, the industry and other stakeholders to work together for:
- Improve the quality and relevance of skills formation
- Make skills more mobile and comparable
- Improve skills intelligence and information for better career choices

This is set out in the Communication: A New Skills Agenda for Europe: Working together to strengthen human capital – employability and competitiveness. The Communication proposes 98 actions to be taken forward over the next ten years. A number are announced with the adoption of the new Skills Agenda for Europe on 5 June 2016:

http://ec.europa.eu/education/learnnew/skillsagenda_en
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