



UNIVERSITY
OF TAMPERE

Contributing to capacity building of developing and using Health Information Systems in Tanzania - eHealth research

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Technology (NM-AIST)

Finnish Christian Medical Society (FCMS)

Ministry for Foreign Affairs of Finland



SIS

SCHOOL OF INFORMATION SCIENCES



eHealth Research Group 2017 -

- Supporting and performing eHealth Research
 - MSc / PhD dissertations, shared research projects and interests, international collaboration and partnership - especially between Tanzania and Finland, exchange of students and researchers
 - Sharing 'Lessons learned' in earlier international and national research
 - Yearly project's research awards for Tanzanian students
- Work group leaders
 - Tanzania: NM-AIST Lecturer Dr. Dina Machuve
 - Finland: UTA Prof Pirkko Nykänen
- Work group members
 - Students and researchers involved in participating organizations, health professionals
 - Open to newcomers and wide collaboration



Research done - ongoing

- Development of a VPN-based approach for improving access to and sharing of patient's records across health facilities in Tanzania
 - **S Betuel MSc** (finalized 12/2017)
- Development of Discharge Summary Module on Care2X Hospital Information System
 - **W Wambura MSc** (finalized 12/2017)
- User experiences evaluation study 2016
 - Students and researchers from NM-AIST and UDSM, COSTECH, LUICO
- EU-research project proposal under exploration

Report on a Preliminary Evaluation Study of User Experiences with Health Information Systems

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Health Information System Development in Tanzania -
Collaborative Project - Preparatory Phase
Finnish Christian Medical Society



Ecosystem development and methods for procurement / acquisition of health information systems and services, 2016

- *Finnish Work Environment Fund*

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Procurement criteria:

Usability
Adaptability

Interoperability
Security and safety



Ekosysteemi ja menetelmällinen ohjeisto terveydenhuollon tietojärjestelmäpalvelun hankintaan

TSR-hanke 114160 loppuraportti

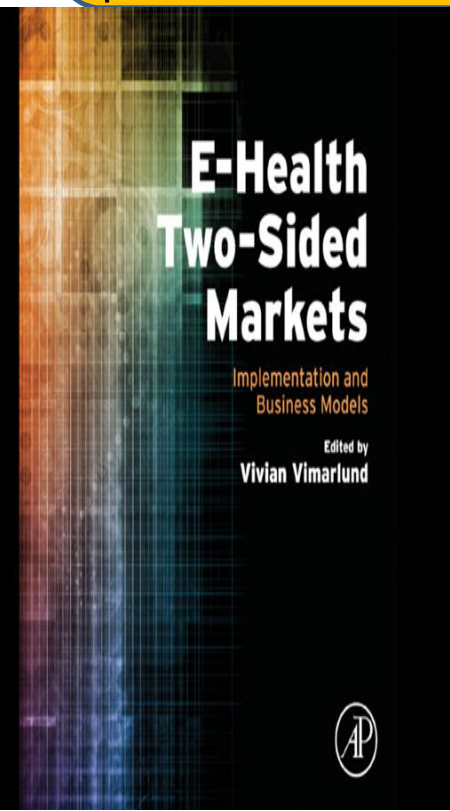
Pirkko Nykänen, Mari Tyllinen, Tinja Lääveri, Antto Seppälä, Johanna Kaipio, Marko Nieminen

Partners:

- ❖ University of Tampere
- ❖ Aalto University
- ❖ Apotti - A Finnish extensive change project of the health care and social services - aim is to build a regionally cohesive social services and healthcare system, www.apotti.fi/en



eHealth ecosystem - health care organizations, service provider professionals, customers, citizens and patients, industrial companies providing their products and services, and technology-mediated platforms for communication, and infrastructures that in collaboration provide value and services



- **Governance policies and regulations** - legislation policies and regulations addressing privacy and security
- **Financing model** – Funding for the design, development, implementation and ongoing operation of ehealth ecosystems, funding from many sources, e.g. the government or the public–private partnerships or insurance sources, reimbursement model
- **Technology infrastructure** - applications, data, and infrastructure needed to support specific services, application of open and publicly available, shared standards, communication – enabling information and empowerment mechanism
- **Services** - tailored to local needs and technological infrastructure
- **Stakeholders** – human-centric approach, involvement of all key stakeholders from both the public and private sectors into an e-health ecosystem, early support from stakeholders is crucial, incentives !



Challenges of eHealth ecosystems

- Complex situation - patients and citizens, health professionals and health service providers on the one hand and on the other hand the many industrial companies and suppliers are providing tools and systems that enable the interaction
- Role of marketing and customization is minor today, but may grow when the private healthcare providers take a more powerful position in service provision and we are progressing towards personalized health care services and tailored medicines and treatments – personalized, precision medicine

E-health ecosystem is very specific in the sense that political decision making has strong effects on how the health care services are organized and funded, and there is strong legal and normative regulation on how the services can be produced, delivered, accessed, disclosed and charged

- eHealth ecosystem platform can be any means
 - information system, mobile communication channel, Internet portal, knowledge sharing space
 - Interaction and possibility for the users to select services from various service providers using their own selection criteria such as quality, easy access, compliance with the needs, cheap price etc.



Research collaboration

- Health data science - PhD students, e.g.
 - Data-driven Approach for Predicting Student Dropout in Secondary Schools
 - An Integrated Monitoring and Evaluation Framework and quality of Maternal, Neonatal and Child Health in Tanzania
- Methodological support / framework for health information system selection/ purchase / acquisition with eHealth ecosystem approach
 - Criteria
 - Acquisition / purchase / procurement process
 - PhD /MSc-studies
- Health information systems – interoperability and integration issues
- Bioinformatics, big data research in social and health care domain
 - To be explored



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Thank you!

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