



Centre for Health and Technology



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**Current state in e-Health applications in Finland,
Kalevi Virta University of Oulu,
Center for Health and Technology, Finland**

Centre for Health and Technology Innovation center

Background

Current situation

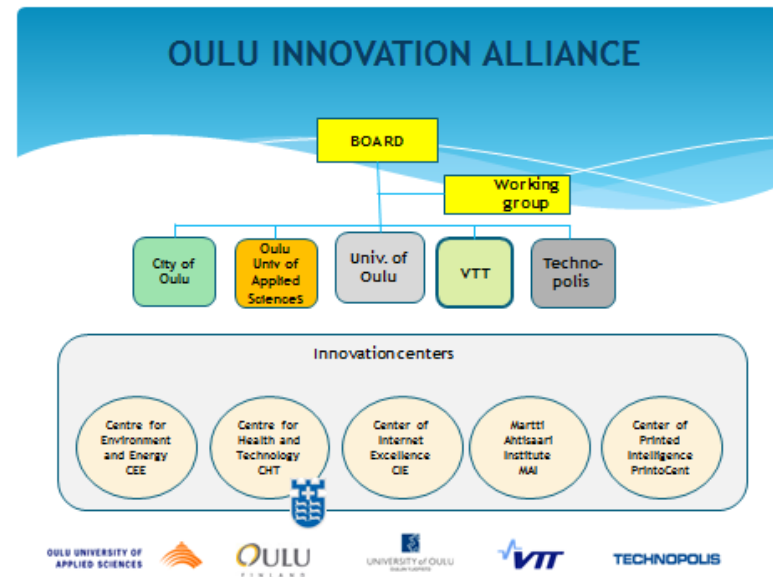
Current activities

Thoughts - discussion



Centre for Health and Technology Innovation center

- * Specifies the future needs of the health and wellness sector
- * Allows direct access to high level research and innovations for industry and society
- * Fostering collaboration in RD between organizations and different sectors
- * Builds strategic international networks



Basics of health care organization in Finland

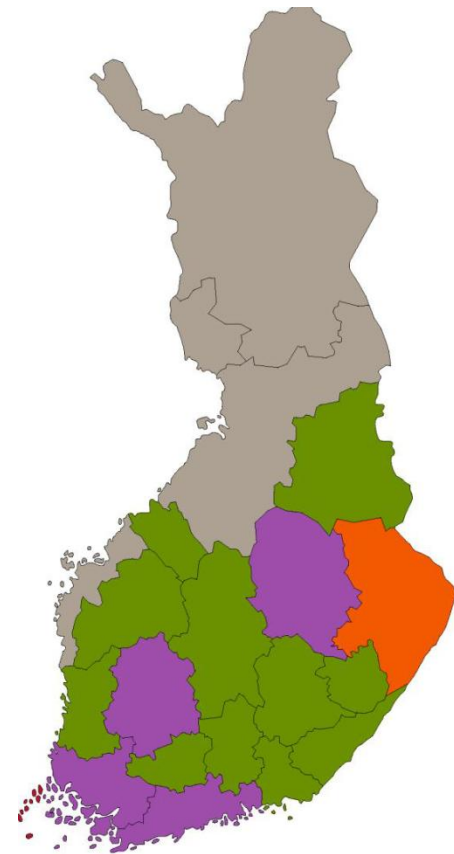
Population **5,4 million**

Public sector covering about 85 % of health care

Specialized health care:
21 hospital districts (5+16)
about 70 public hospitals

Primary health care
161 health care centres
provided by **municipalities**

Private sector covering about 15 % of HC



Telemedicine, early 70`s

- teleradiology, tele EKG

- 90`s TELE

 - radiology, dermatology, pathology, education...

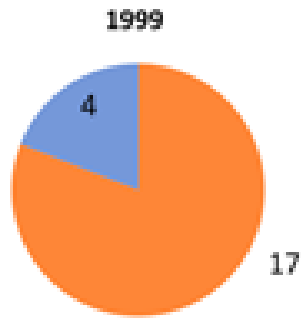
- End of 90 ´s routine –part of daily routines

- 2000 focus much on EHR and eHealth services

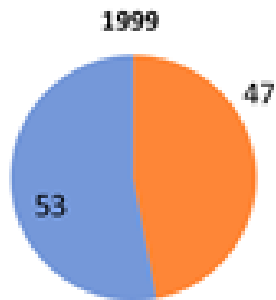
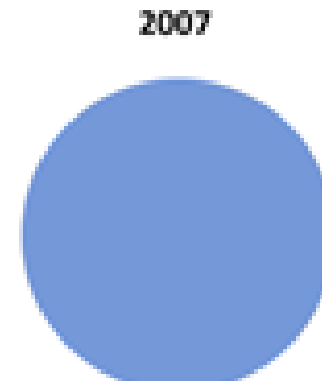


Electronic Patient Record (EPR) 5 implementation in Finland 1999-2010 (Availability)

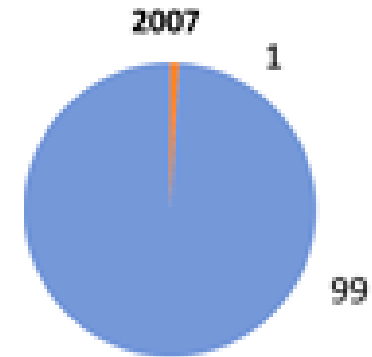
Lähteet: Hartikainen K ym 1999, 2002, Kiviaho ym 2004, Winblad ym 2006, 2008, 2011



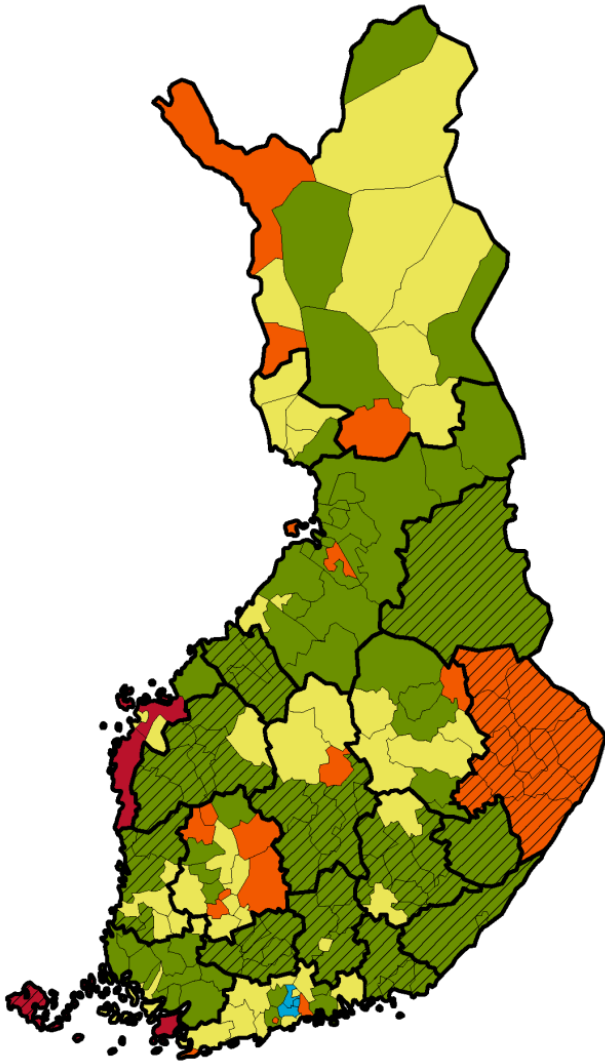
Hospital Districts



Primary Health Care



EHR systems in use



/, Sama järjestelmä *

Abilita

Efficia

GFS

Mediatri

Pegasos

Uranus

Esko

*saman merkkinen tietojärjestelmä sairaanhoitopiiriin kanssa. Toteutus erillinen tai yhteinen

A new law from 5/2011 allows all public health care providers within one hospital district to see all patient information from other institutions, provided the patient has not prohibited this!

- I can now with a click of mouse see information from all the hospitals in my district, a feature that was technically available since 2002!

Jarmo Reponen , by EPR developed in Oulu year 2002

2011

NATIONAL activities

KanTa-hanke – National Archive by MOH –THL-KELA

SaDe-ohjelma

Sosiaalihuolto

eHealth 2012

KanTa

Regional



Personal

National

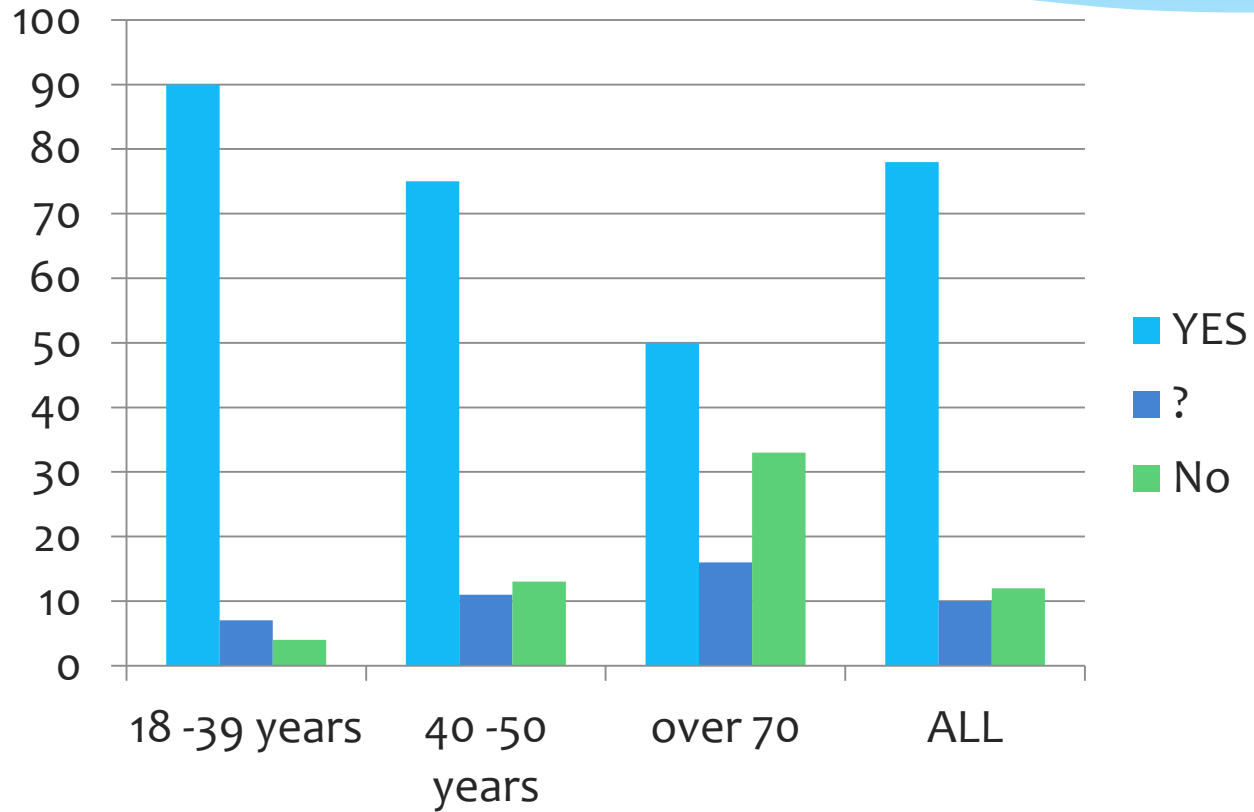
ePrescription
National Pharma database
eArchive
eView

Build up platform and core services for pre-production phase
Support usage of citizens and healthcare professionals
Create PHR ecosystem

Enable PHR services to every Finnish citizen



Interested to use eHealth services via Internet



Case: Oulu Self Care effectiveness study 2009

Digital health Service for Citizens:

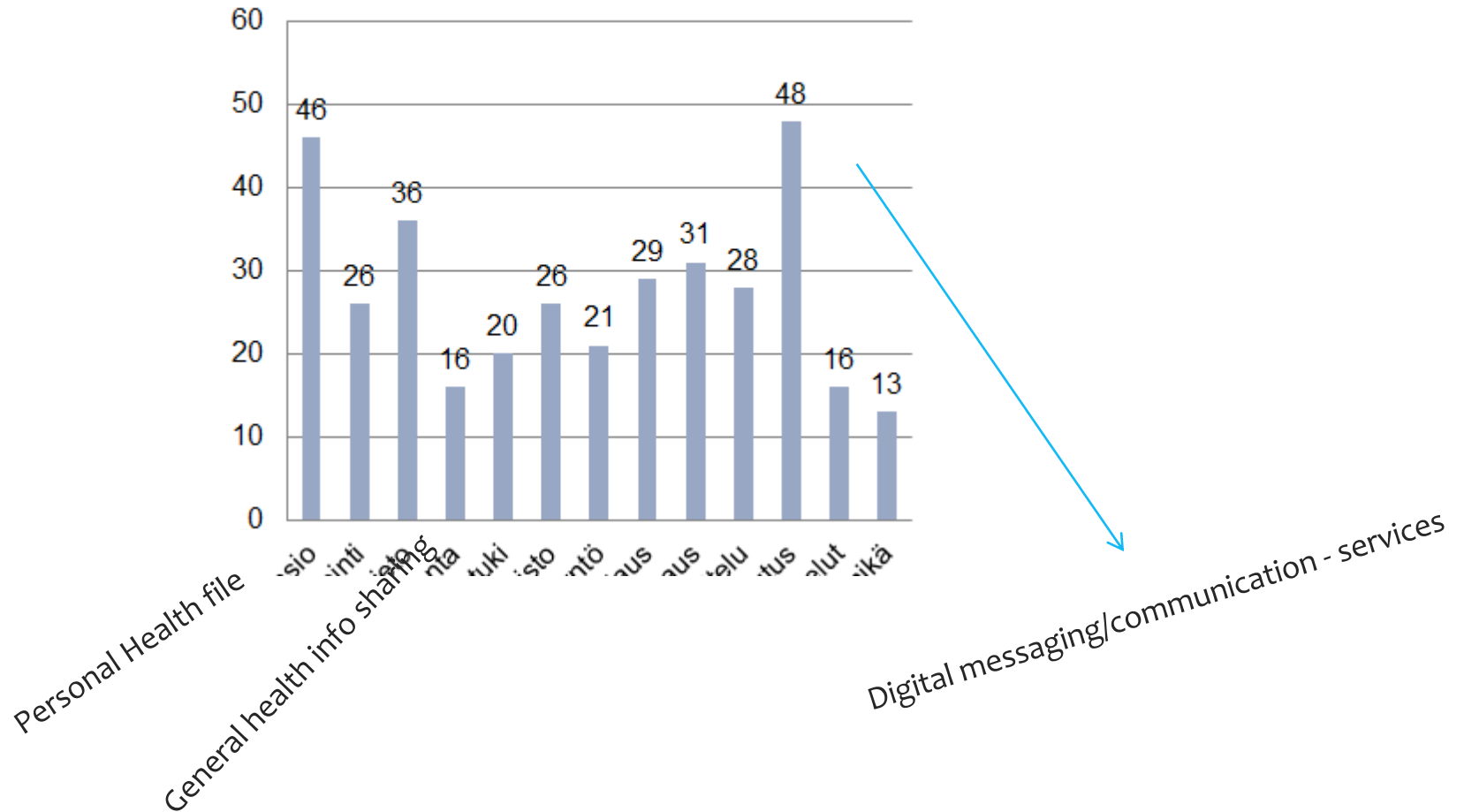
- Local/Regional organizations develop **own solutions**

Oulu Omahoito , Espoo

- **Local processes** –local products-and local systems
- Local solutions how to implement national and international **standards**
- National level health services are few:
 - terveyskirjasto.fi; tohtori.fi; terveyskeskus.fi

eHealth services for citizens – projects with public funding

Julkisrahoitteiset hankkeet





Benchmarking Finland – what do the reports say?

ICT use among GP level practitioners in Europe (2008)

- DK, NL, FI, S, UK emerge
- availability and use of computer 100 % FI

2011 Deloitte&Ipsos Study , based on 13 Indicators on eHealth

- Nordic countries, UK , Belgium and NL have highest scores



Where we are

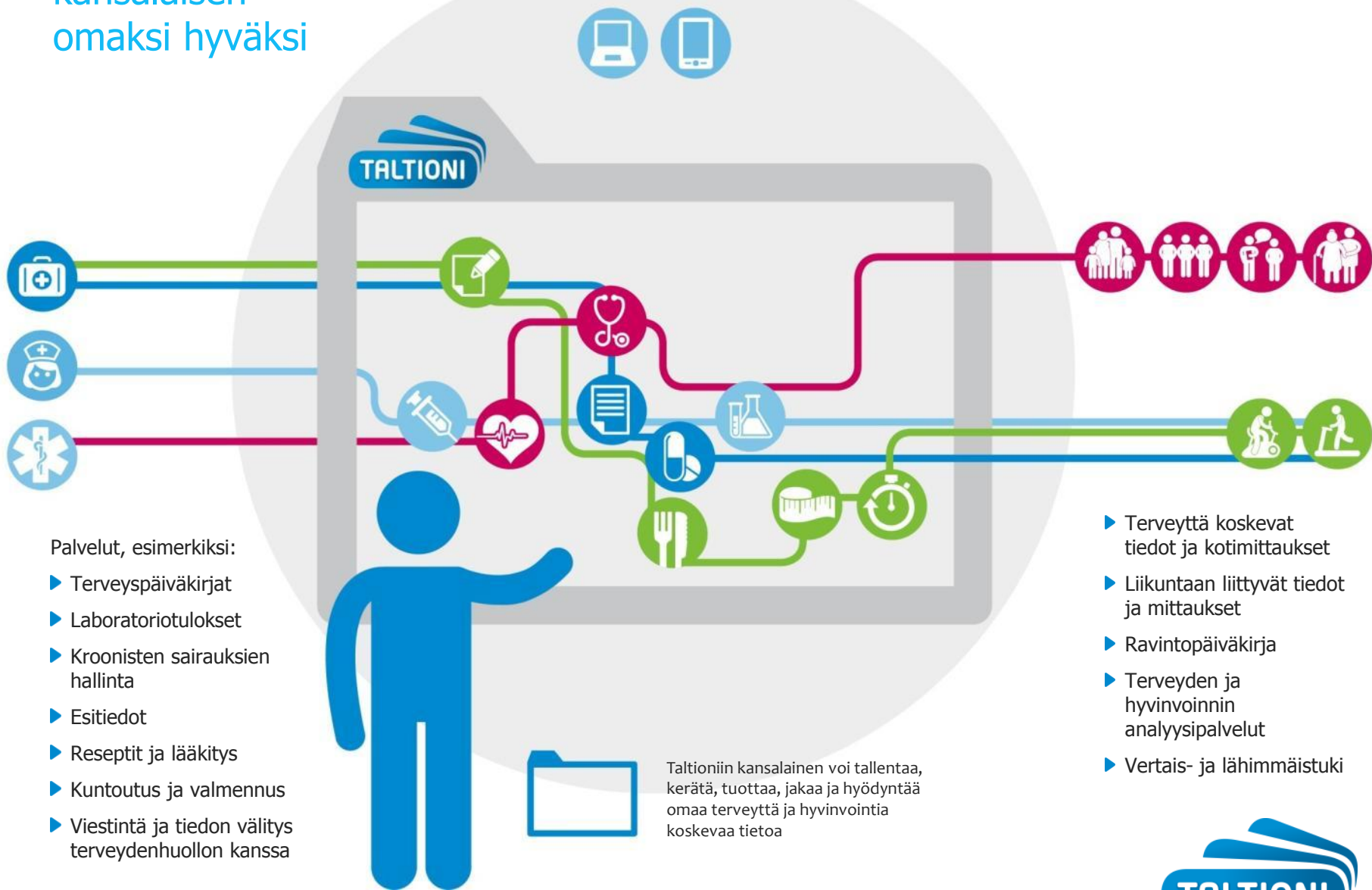
- 1) **First step is taken** – national EPR coverage reached
- 2) **Regional level** of data exchange – almost there
- 3) **National data exchange** - under construction

Next focus:

Digital services fo citizens

- basic infra OK
- Readiness among consumers is HIGH
- DECISIONS; DECISIONs !

Koottua tietoa kansalaisen omaksi hyväksi



DECISION layers!

NATIONAL

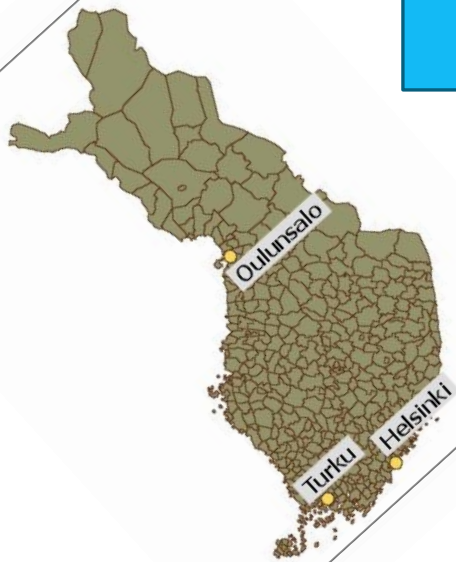
Ministry of Health, Ministry of Dinance
THL, KELA,

REGIONAL

21 Health Care Districts

Local

80 - 400 ?



Current Trends – health care in US (Eeva Kiuru OWI –collection from US reports)



tagxedo.com

1. COST REDUCTION !
2. EFFECTIVE PROCESSES
3. Digital health
4. Open, big data
5. SENSORS
6. EMPOWERED CITIZEN
7. CONSUMERISM
8. SMART PHONE ADDS

This year:

1.08 billion USD VC funding to digital health 1 -9/2012



MOBILE HEALTH TRENDS (US)

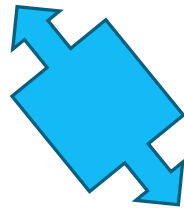
- 1.) The Adoption of Smartphones and Tablets.**
- 2.) Increased FDA Clarity**
- 3.) Consumer Devices in the Healthcare Enterprise. BYOD**
- 4.) More Efficacy Studies**
- 5.) Certification of Health and Medical Apps.**
- 6.) Focus on Behavior Change.**

- 7.) Many more app developer Challenges. Health 2.0**
- 8.) Investment Dollars Hold Steady.**
- 9.) Silicon Valley Gets Serious About Healthcare.**
- 10.) Payors offer More Substantial Mobile Services (*Insurance*)**
- 11.) Three Big Mobile Opportunities for Pharma: Marketing, Clinical Trials, Adherence.**
- 12.) A Home Health Shakeout.**

It's still one of the core markets for mobile health, lots of opportunity, but some of the weaker companies' time has run out.

MOBILE HEALTH TRENDS US VERSUS FI

- 1.) The Adoption of Smartphones and Tablets.
- 2.) Increased FDA Clarity
- 3.) Consumer Devices in the Healthcare Enterprise. BYOD



YES – in personal use
National governance and regulations?
BYOD- Traditionally just NO


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- 4.) More Efficacy Studies
 - 5.) Certification of Health and Medical Apps.
 - 6.) Focus on Behavior Change.
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- 4 . Research and projects – opportunity
- 5. No major stakeholders – general MD methodes
- 6. YES- wellbeing applications –HeijaHeija –Sport Tracker

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- 7.) Many more app developer Challenges. Health 2.0**
 - 8.) Investment Dollars Hold Steady.**
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- 7. Health 2.0 –international other forums -must for companies**
- 8. VC and Business Angels – wait for cash flow – risk taking ?**
- 9. Is the Finnish market the right one?**

- 
- 10.) Payors offer More Substantial Mobile Services (*Insurance*)
11.) Three Big Mobile Opportunities for Pharma: Marketing, Clinical Trials, Adherence.
12.) A Home Health Shakeout.



10. It isn't the money –it is the attitude for the change
11. ? Is the train already gone?
12. True – but still an open market – who makes the service system plus citizens to merge?

IT IS TIME to CHANGE the health care system!



National level

- Decisions!

Regional level

- Decisions !

Local level

- Decisions !



- Thank You
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Your networking partners in Oulu, Finland



Centre for Health & Technology

- * Co-creating sustainable connected health solutions

BUSINESS OULU

- * Driver of business and industries



Oulu
Wellness
Institute

- * From ideas to successful business in wellness



- * Delivering leadership for the development of connected and mobile health markets and practices across Europe and beyond