Patient online services in Estonia
National level – action plans

Peeter Ross, MD, PhD; eHealth expert

Estonian eHealth Foundation

Tallinn University of Technology, Estonia

23.01.2013, EPF eHealth Seminar, Brussels, Belgium

Content

- eHealth services in Estonia
- Main drivers behind the promotion of large-scale deployment of eHealth services in Estonia
- 4 years experience of on-line patient portal usage – access to country-wide **Patient Portal** and hospital managed patient portal called **iPatient**
- Patient groups involvement in policy discussions around eHealth in Estonia

Facts about Estonia

- Basic facts:
    - Population is 1,3 million inhabitants
    - Area 45 227 km²
    - Capital is Tallinn, first mentioned 1154
    - Member state of the European Union since 2004
    - Native language is Estonian
    - Currency – EURO
    - Income tax 21% (flat tax)
- Health Care System
    - Compulsory health insurance payed by employers; 13% of payroll tax
    - Health care costs make up to 7% of GDP
    - Healthcare providers are private, municipal or governmental.
    - Family practitioners are private entrepreneurs
    - Hospital system – publicly owned private hospitals:
        - 3 regional hospitals, 4 central hospitals, 8 local hospitals
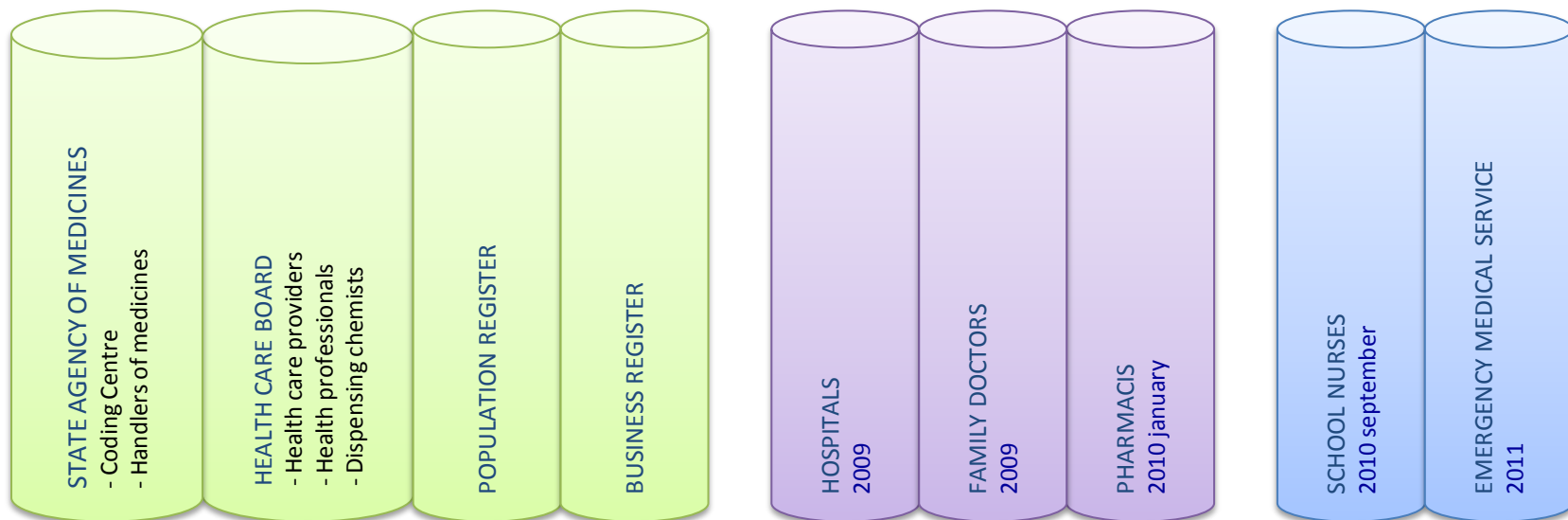
eHealth services in Estonia

- Nation-wide health information system
  - Available documents
    - Medical files
      - Time critical data (allergy, chronic diseases)
      - General practitioners and hospital visits
      - Summary of ambulatory and stationary case
      - Link to medical images
      - Referral letter
- ePrescription
- Digital images
  - Available all over the county
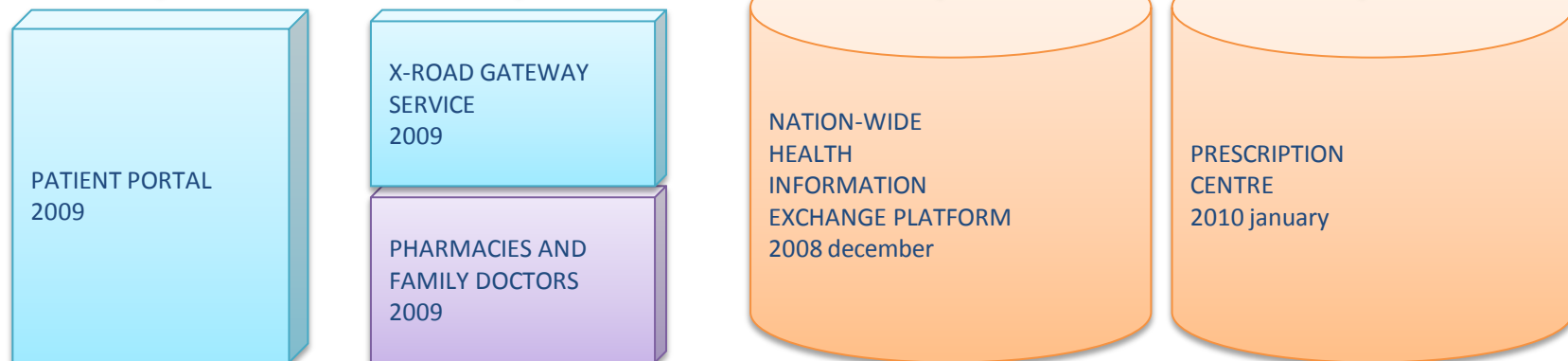- eReferral
- eAmbulance

Estonian eHealth architecture

E-TERVIS EESTI E-TERVISE SIHTASUTUS

STATE AGENCY OF MEDICINES
- Coding Centre
- Handlers of medicines

HEALTH CARE BOARD
- Health care providers
- Health professionals
- Dispensing chemists

POPULATION REGISTER

BUSINESS REGISTER

HOSPITALS
2009

FAMILY DOCTORS
2009

PHARMACIS
2010 january

SCHOOL NURSES
2010 september

EMERGENCY MEDICAL SERVICE
2011

Secure data exchange layer provided by the state

PATIENT PORTAL
2009

X-ROAD GATEWAY SERVICE
2009

PHARMACIES AND FAMILY DOCTORS
2009

NATION-WIDE HEALTH INFORMATION EXCHANGE PLATFORM
2008 december

PRESCRIPTION CENTRE
2010 january

Still missing eHealth services in Estonia

- Telemedicine
  - Only pilot projects have been conducted
  - No permanent financing for home monitoring or other telemedicine services by Estonian Health Insurance Fund
- Secondary use of archived data
  - Decision support system
- On-line patient health declaration forms
  - Filing subjective complaints
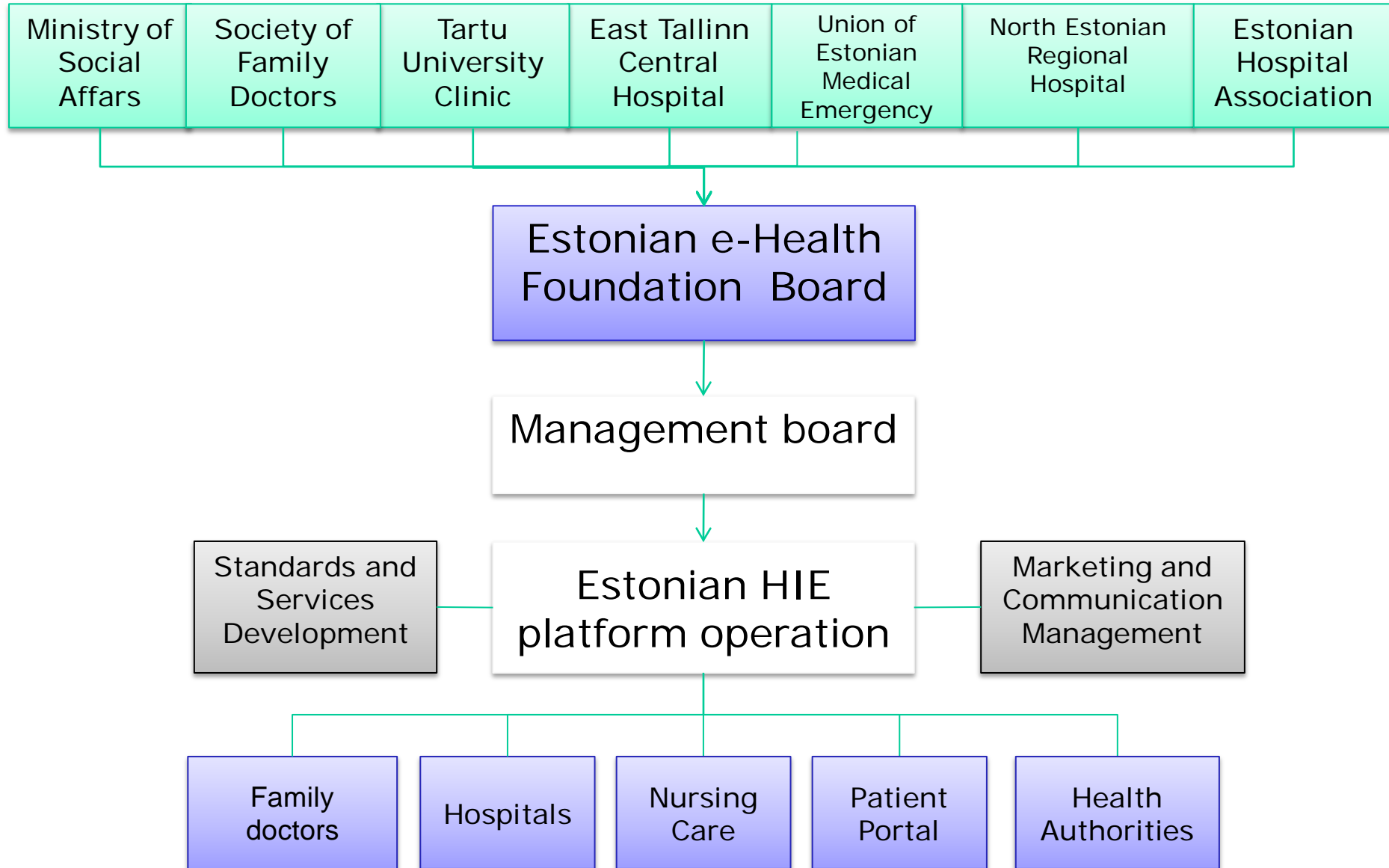 - Reporting self monitoring data

Main drivers

- Clear governacne of Estonian eHealth services
  - Estonian E-Health Foundation
- Legal clarity
- Mature ecosystem for e-services in Estonia
  - Secure data exchange platform provided by the state
  - Established on-line identification methods
    - ID-card
    - Mobile-ID
- Agreement about access rights
- Standardization
  - Medical data
  - Data exchange

Governance. Organisation

E-TERVIS
EESTI E-TERVISE SIHTASUTUS

Ministry of Social Affairs	Society of Family Doctors	Tartu University Clinic	East Tallinn Central Hospital	Union of Estonian Medical Emergency	North Estonian Regional Hospital	Estonian Hospital Association

Estonian e-Health Foundation Board

Management board

Standards and Services Development	**Estonian HIE platform operation**	Marketing and Communication Management

Family doctors	Hospitals	Nursing Care	Patient Portal	Health Authorities

Legal environment of eHealth

- The Health Services Organisation Act regulates the development and maintenance of the health information system
    - Lay down the necessary requirements to the patient, health service provider, document standards, etc.
- All healthcare providers must send certain health data to national HIS
    - The set of documents is defined by the law
- Access only to licensed medical professionals
    - The attending doctor concept
- Patient has the right to close own data (*opt out*)
- The ethical committee was created to lead the discussions of patients´ rights and to select the proper system for the HIS
- Citizen can
    - Access their own data
    - Declare intentions and preferences
    - Monitor logs

Security and electronic authentication

- The access to HIS is secured by using the electronic identity card (ID-card) solution issued by the state
- ID-card is a compulsory and primary document for the purposes of personal identification in Estonia
- All attempts to view health care data are monitored both by patients and Estonian eHealth Foundation
- In case of the suspicions of the unlawful access to the data the necessary actions are taken immediately

Acceptance

- ePrescription covers 94% of issued prescriptions
- Over 90% of Hospital discharge letters are digital
- Ambulatory case summaries sending level is low
- Patient portal usage is low
  - 48 821 unique visitors (3,7% of population)
  - **1 008 329** persons have documents (76% of population)
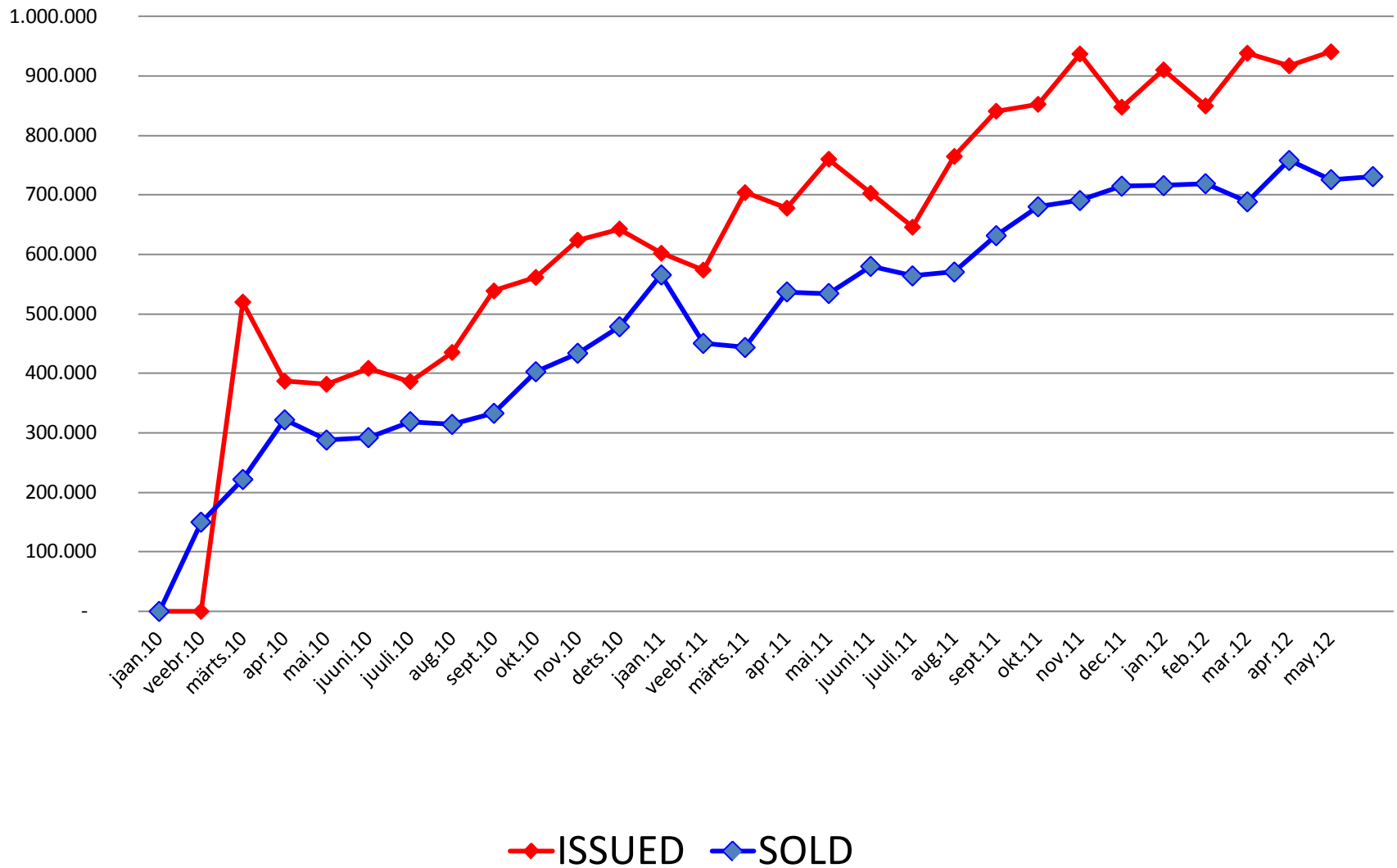
Acceptance

Retrieval of medical documents by healthcare professionals
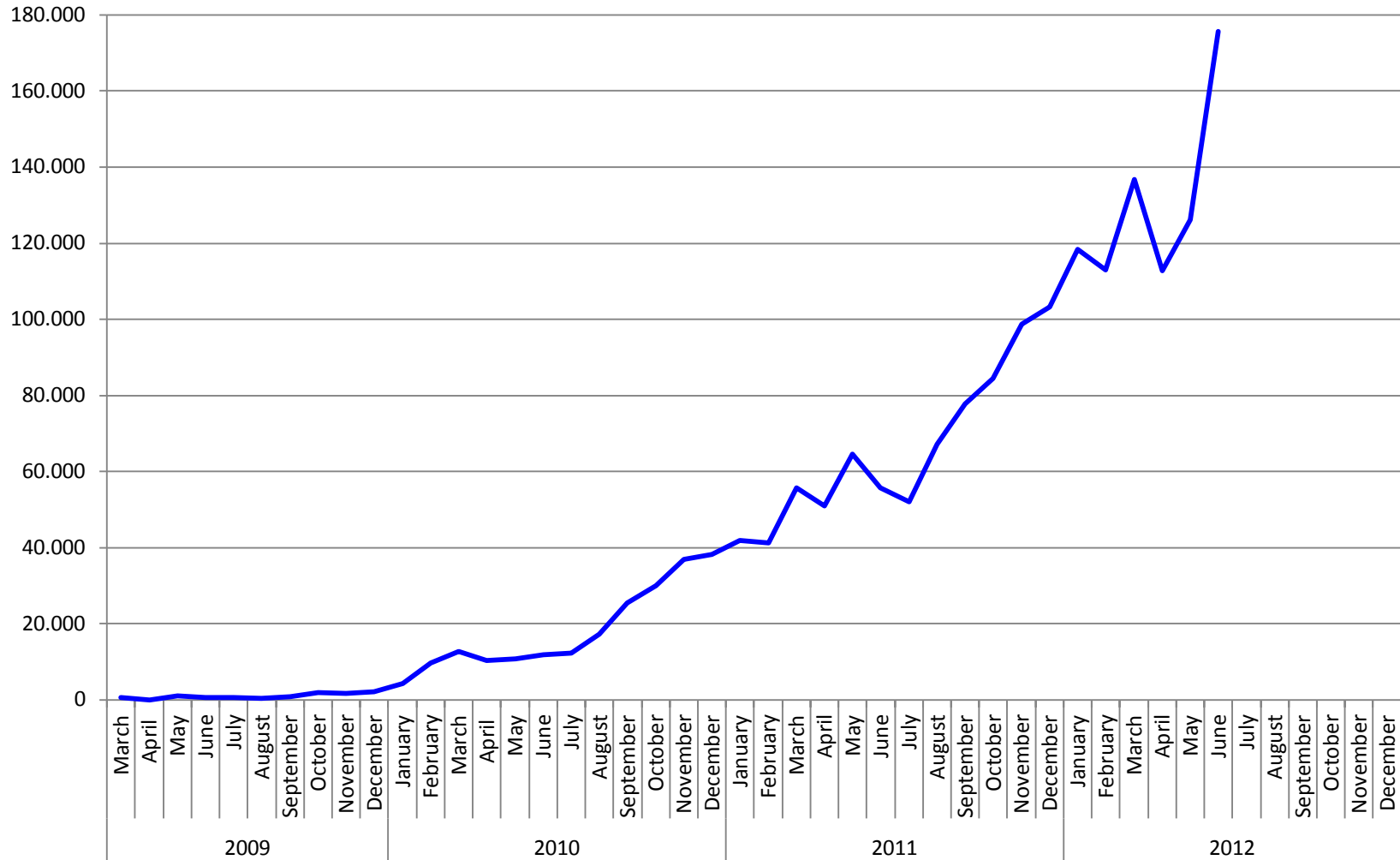
eServices in Patient Portal

- Viewing medical documents
  - Discharge letters
  - Ambulatory case summaries
  - Results of different examinations (radiology, endoscopy etc)
  - Vaccination information
  - Children health monitoring reports
- Give informed consent for
  - Organ donation
  - Blood transfusion
  - Donating ones body after death for teaching purposes
  - Trustees to view ones medical documents etc.
- Monitor logs

iPatient.
Hospital portal for citizen

- Hospital has opened its health information system to the patients
- East Tallinn Central Hospital
  - Currently 622 beds (incl 457 active care beds)
  - Hospital covers most of the specialities (lacking only neurosurgery, cardiac surgery, nephrology, haematology, children diseases and psychiatry)
  - **31 298** patients hospitalised annually (**2010)**
  - **492 735** outpatient visits annually (**2010)**
  - 1,4 million lab test, 257 000 radiology exams annually
- Patients have access **to all of their medical data (including images) and for e-booking services** by using iPatient portal since the end of 2007

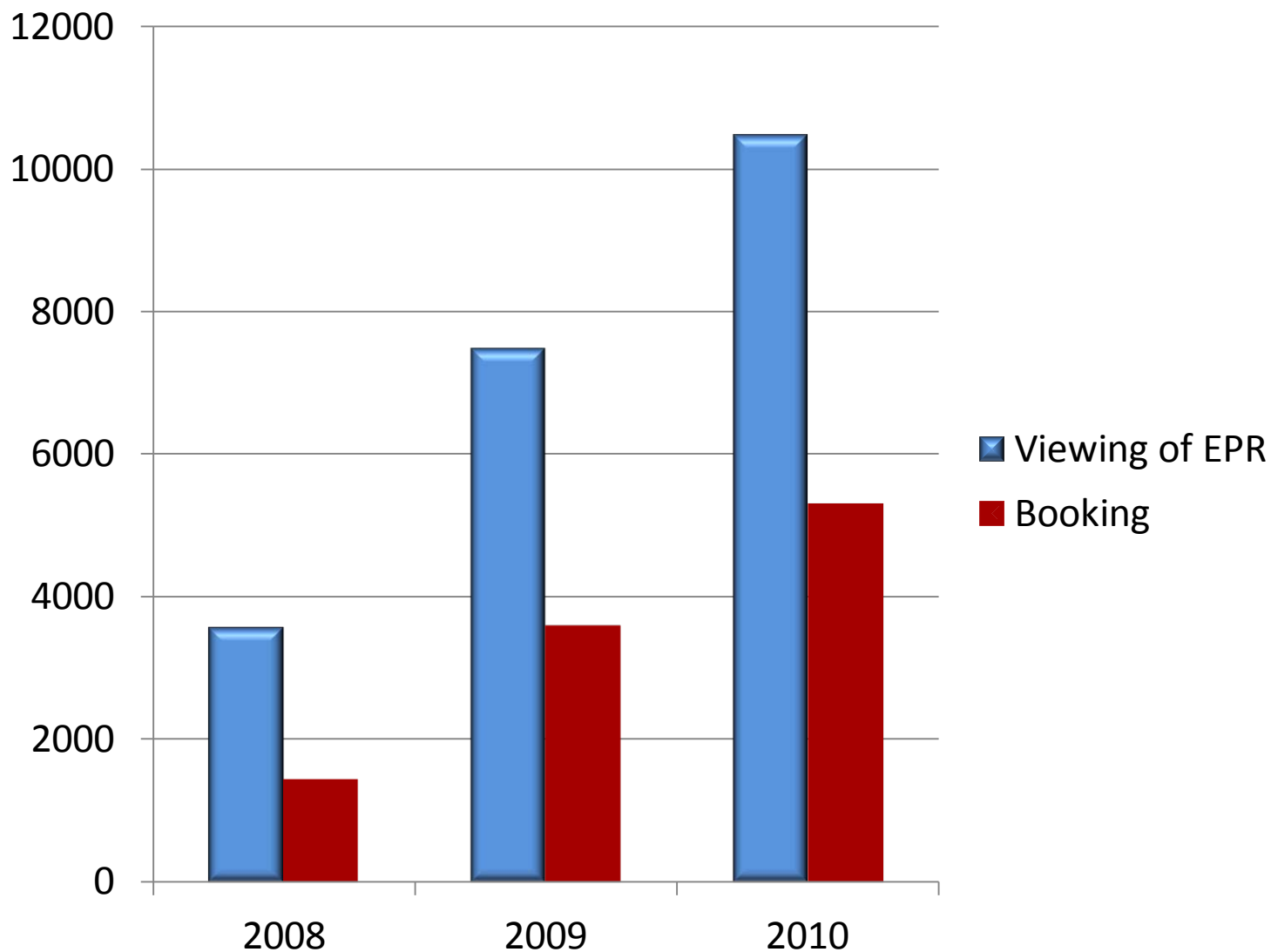# Unique patients using Patient Portal and iPatient in a year
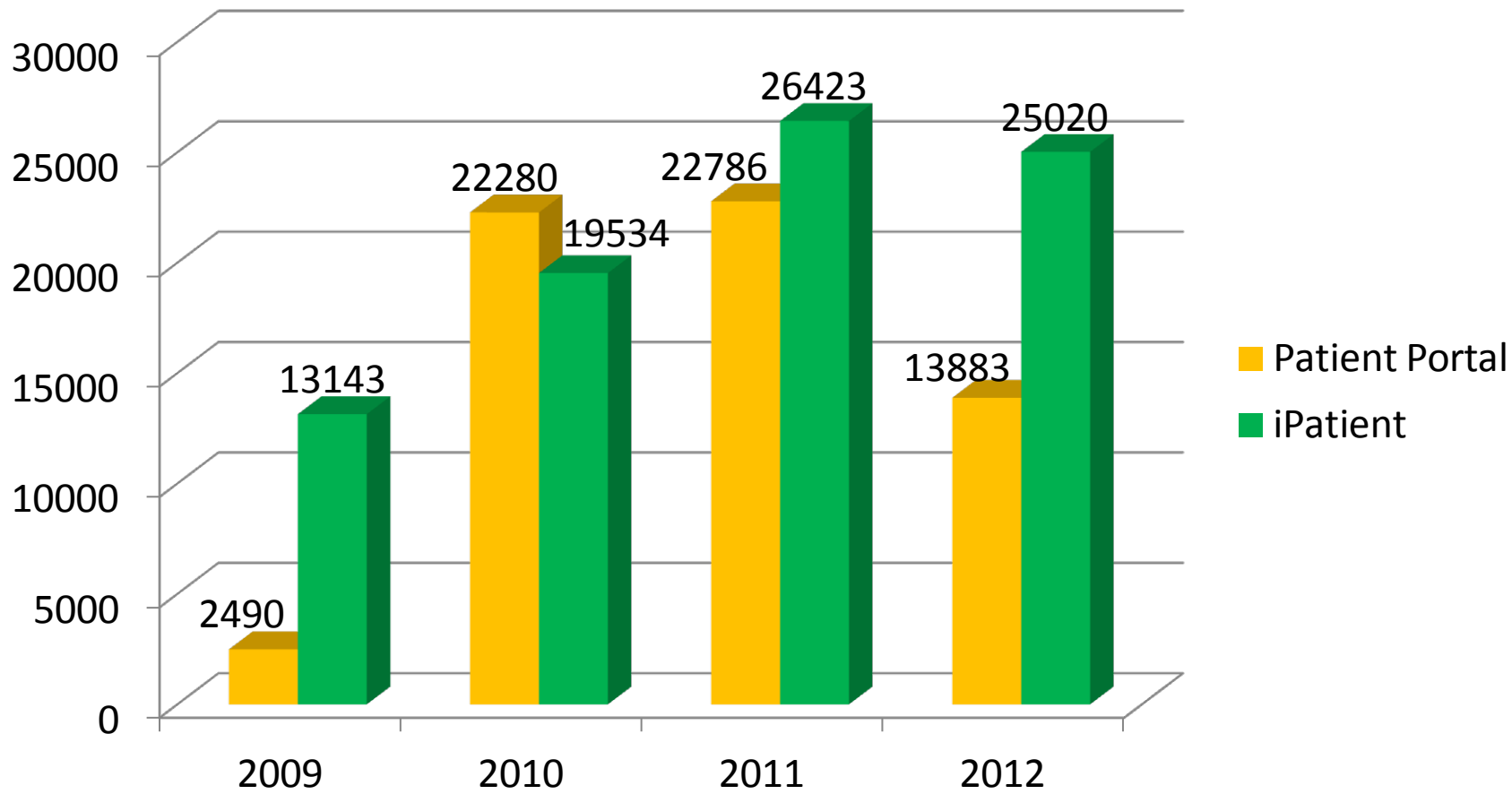
*2012 January - August
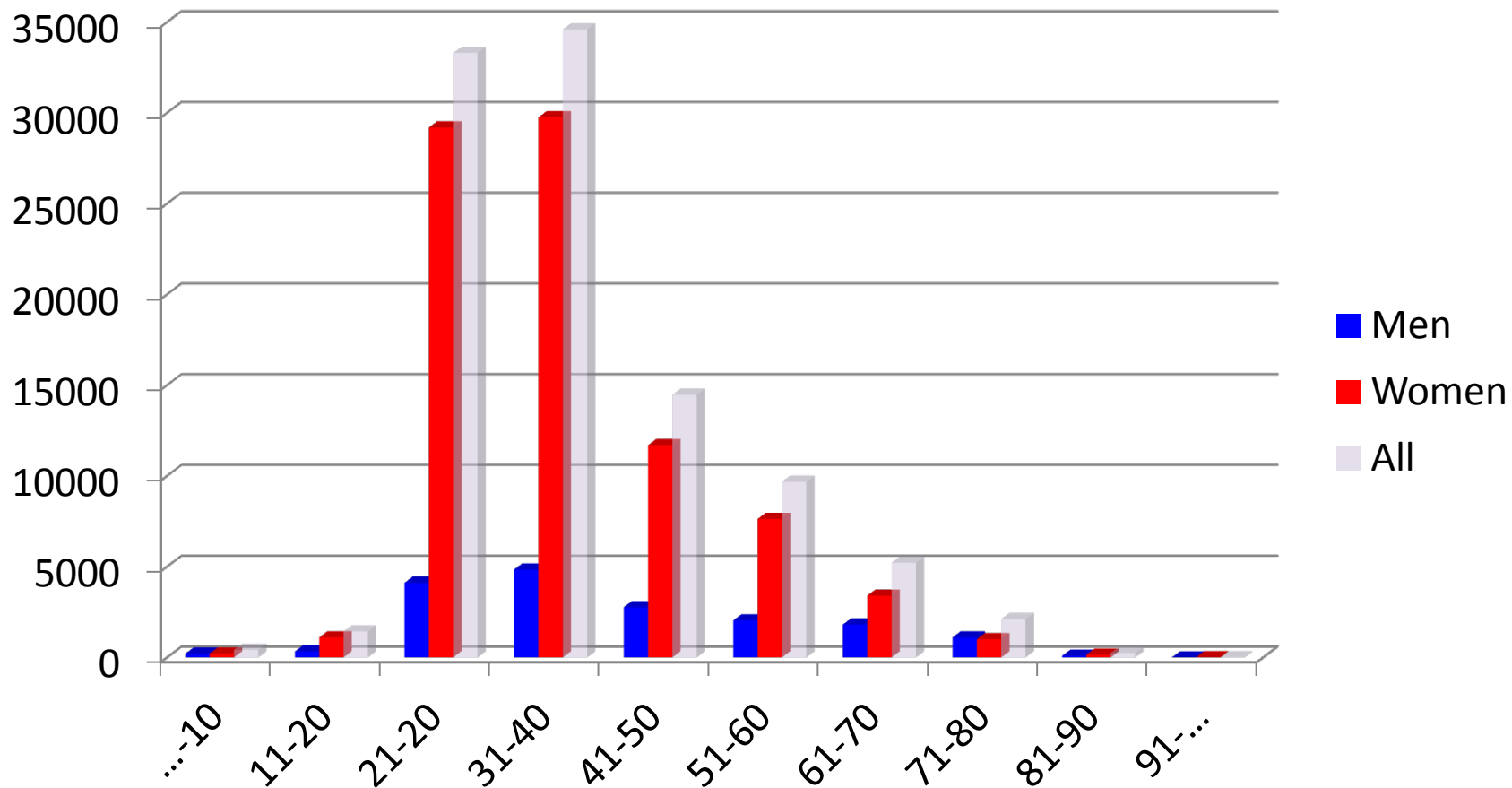
The aim of iPatient portal usage (2008 – 2010)

Logins to iPatient
by age and gender in 2012

*2012 January - August

Viewing of radiology images (2010)

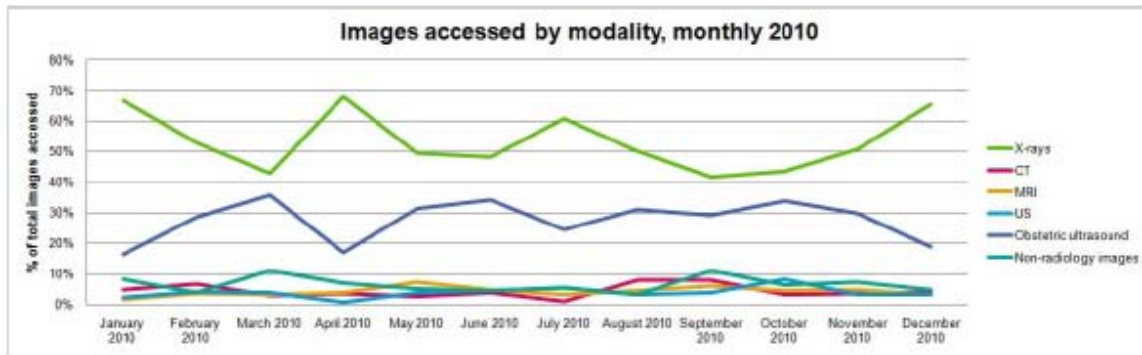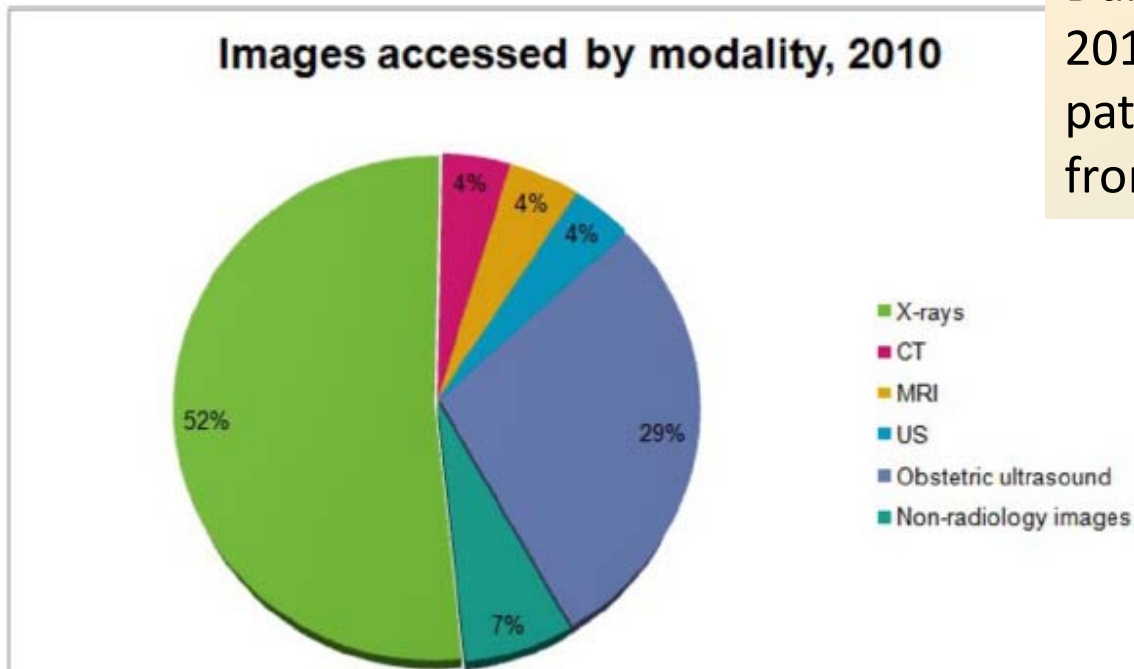**E-TERVIS** EESTI E-TERVISE SIHTASUTUS

Fig. 1: Images accessed by modality in 2010.

During 12 months (Jan-Dec 2010) there were 3750 (11/day) patients accessing their images from outside the hospital.

Difficulties

- General acceptance of hospital personnel to share medical data in patient portal with patient
- Much attention had to be paid on the security and electronic authentication of the users
- In some cases users could not log in as their ID-card software or certificates had not been updated
- Also some data saving problems during the appointment time booking were observed
- Not all internet browsers were supported

Involvement of patient groups

- Initial phase of planning of national health information system was done by Ministry of Social Affairs
  - Patient involvement was through the ministry
- The experience of patient portal usage showed that there is a need for secondary and personalised services
  - The new patient portal planning is done with close cooperation with several patient organisations

The conclusion

- Improve the communication between different parties
  - To empower patients and motivate doctors to use the gathered information and eHealth services
- It is important to motivate physicians to tell patients about the possibilities to view and to be aware of their basic health data
- It is important to inform patients about these possibilities and to support them actively inform their physicians that they know how to use their health data.

Thank you for your attention!

Peeter.Ross@e-tervis.ee