

# eHealth in Estonia

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# Facts about Estonia

## Estonia



**45 227 km<sup>2</sup>**  
**1.29 mio**

area of Estonia  
inhabitants

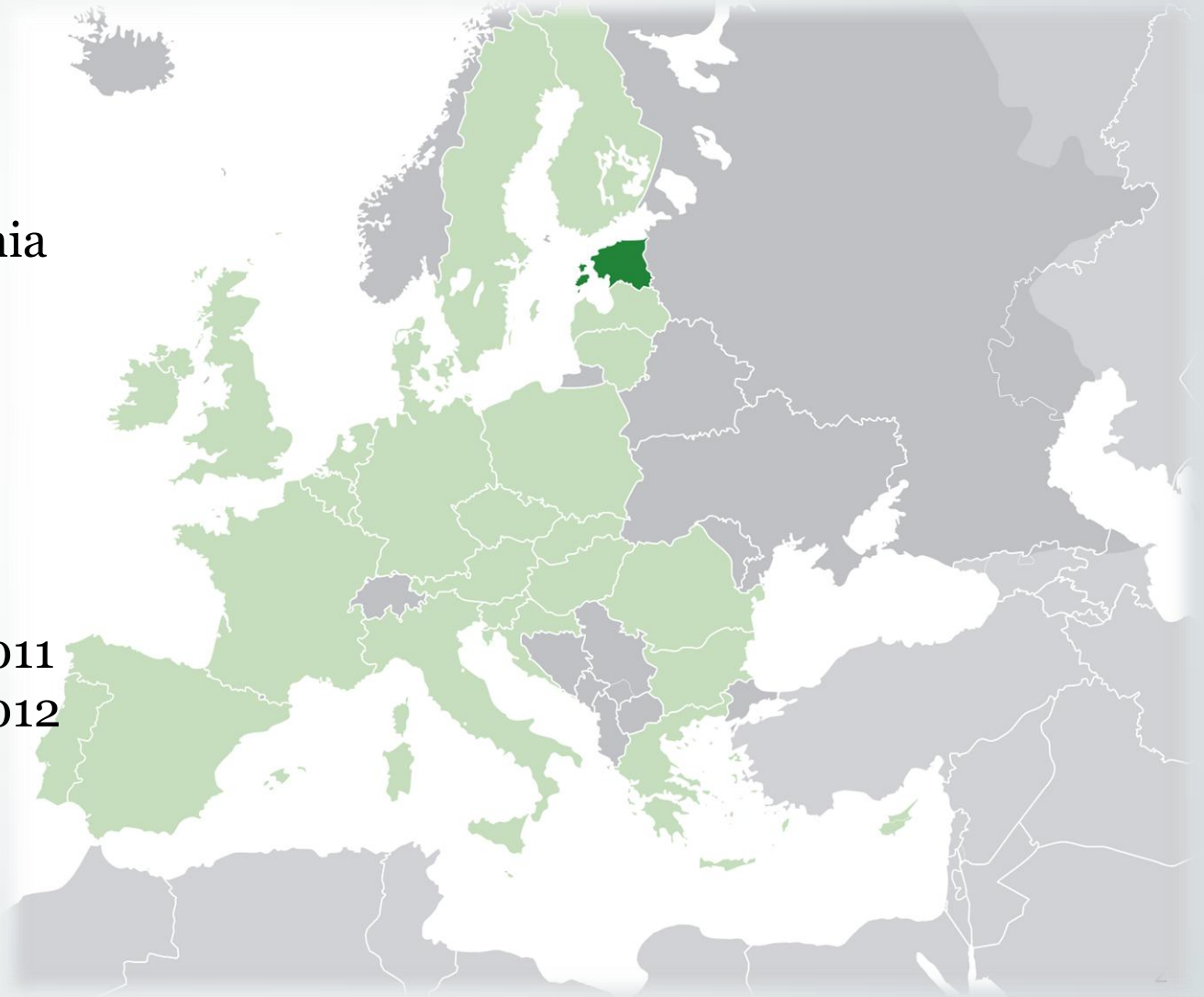
**60**  
**464**

hospitals  
GPs

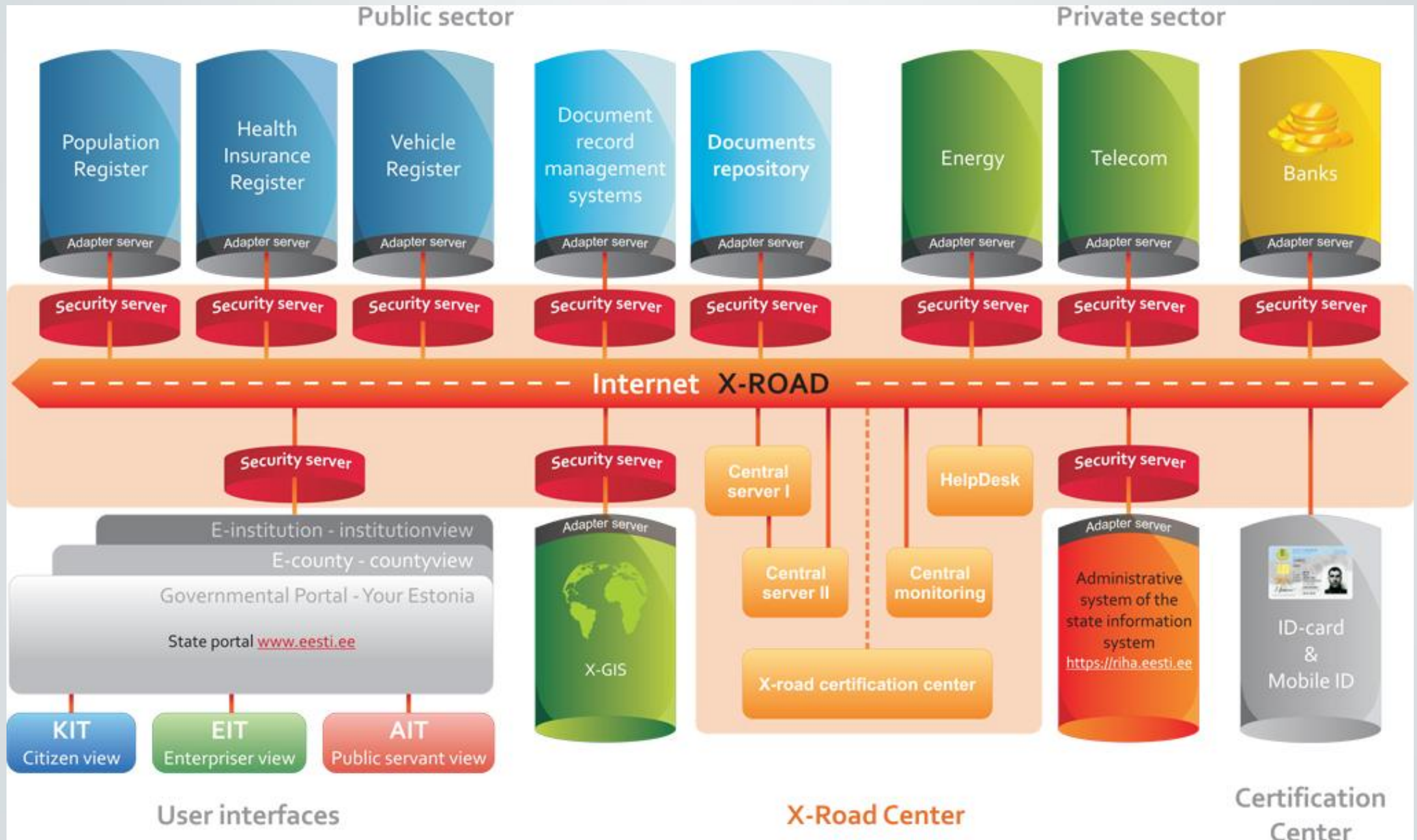
### Healthcare expenditures

**5.9%**  
**6.3%**

from GDP 2011  
from GDP 2012



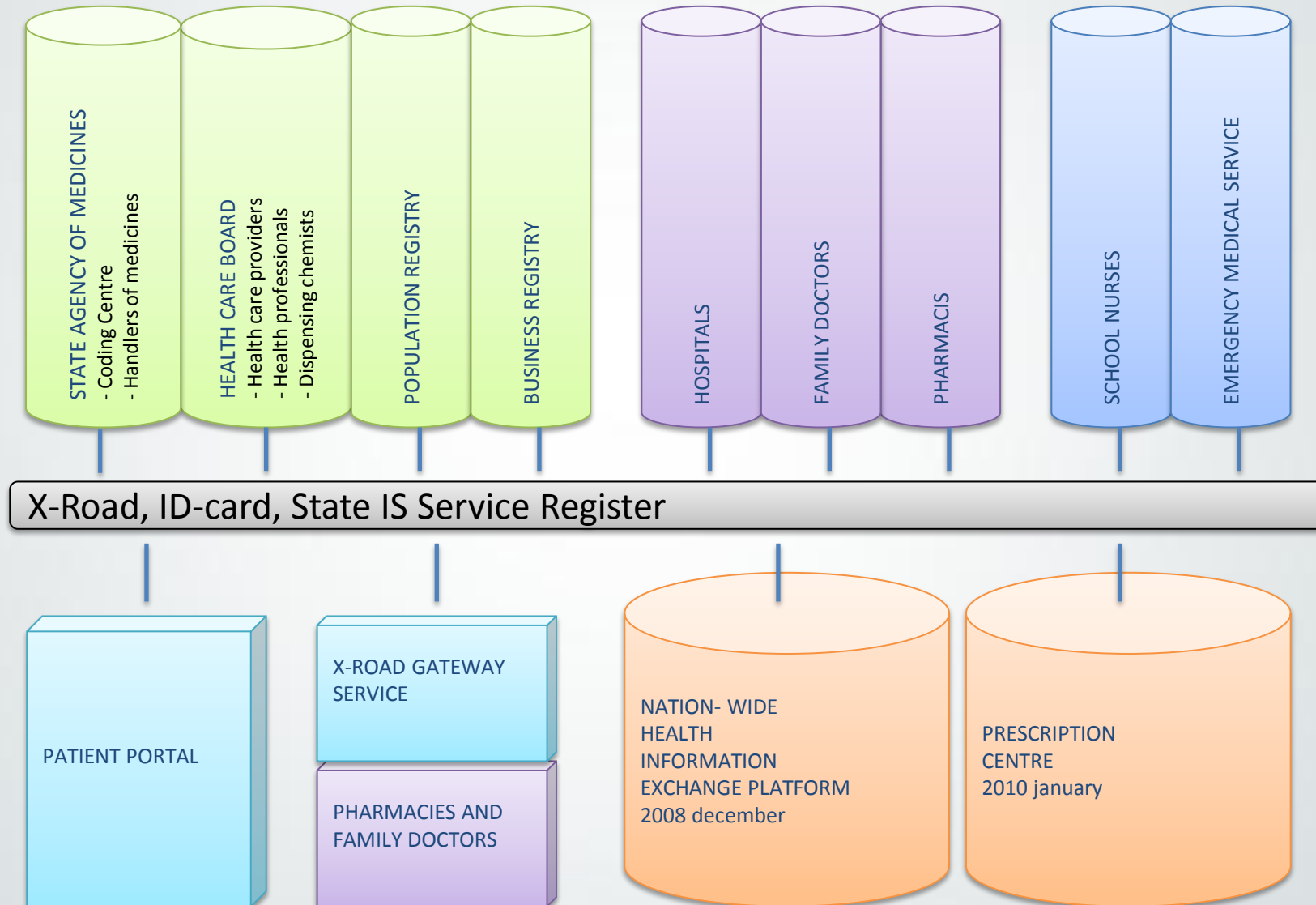
# Estonian information system platform



# eHealth systems in Estonia

- Health Information System
- Digital Prescription
- Health Insurance Information System
- Administrative and Product Registries
- Public Health and Quality Registries
- Telemedicine Tools used in health sector
- Service providers information systems

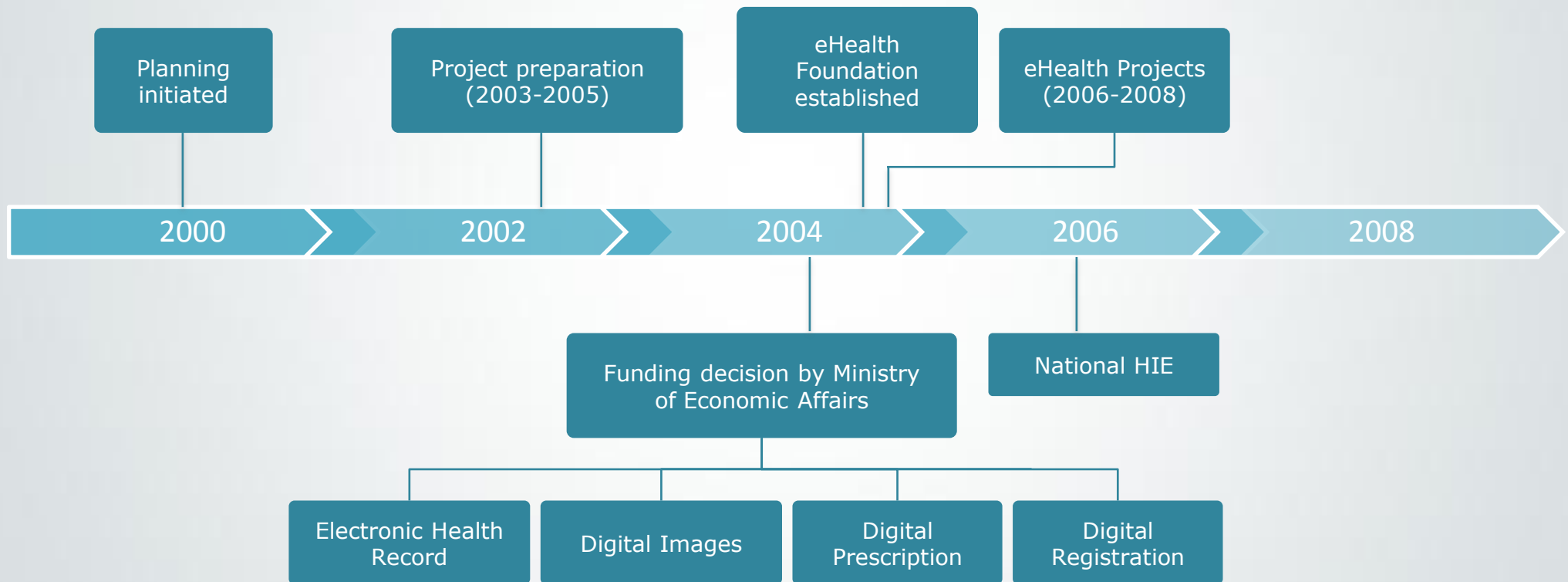
# Architecture



# Security and authentication



# HIE platform history



## Functionalities of health information system:

- Provide services to health care providers to simplify their every day work
- Provide health information to patients
- Central secure storage of health data



# eHealth in numbers

ePrescription covers 97% of issued prescriptions.

1.2 mio person have documents (93% of population) in central system

~ 97% of stationary case summaries have sent to the central DB

# New Patient Portal released 01.07.2013

## Minu e-tervis

Portaal "Minu e-tervis" näed Sa oma terviseandmeid, saad esitada tahteavaldusi, määrata endale esindaja(d) ning teha toiminguid isikute eest, kes on määranud Sind enda esindajaks.

Kõikide tekkivate küsimuste või tehniliste probleemide korral pöördu Eesti E-tervise SA kasutajatoe poole telefonil +372 694 3943 (tööpäeviti kell 9-17) või elektronposti aadressil [abi@e-tervis.ee](mailto:abi@e-tervis.ee). Samal elektronposti aadressil ootame Sinu ettepanekuid edasiste arenduste osas, mis aitaks muuta portaali mugavamaks ning kasulikumaks.

Sisene ID-kaardiga



Sisene mobiil-IDga



### Tervise infosüsteem

Tervise infosüsteemis paiknevad terviseandmed, mis on tervishoiuteenuste osutajad esitanud Sinu kohta. Siia kogutakse kõige olulisem meditsiiniline informatsioon ning see on portaali vahendusel kättesaadav ainult Sinu arstidele ning Sulle. [Loe edasi](#)

### Turvalisus

Andmete turvalisus on ülioluline. Igast tegevusest jääb järele jälj. [Loe edasi](#)



Eesti E-tervise Sihtasutus

Ülerigilised e-lahendused tervishoius. [Loe edasi](#)

Olulised teeviidad

Veebilehed, kust leiad tervise ja tervishoiukorraldusega seotud info süstematiseeritult. [Loe edasi](#)

Õigusruum

Tervise infosüsteem ja portaali "Minu e-tervis" lähtuvad tegevuses Eesti seadustest ning Euroopa Liidu õigusaktidest. [Loe edasi](#)

SUSTAINS

SUSTAINS on portaali arendust toetav projekt, mida rahastab Euroopa Komisjon. [Loe edasi](#)



Vaheta rolli

Sisselogitud ja esindad: Katy Kuusk

Abi

Logi välja

45002280288 KATY KUUSK

## Minu e-tervis

### Minu andmed

Seitsmes Testnumber  
14212128025  
**KINDLUSTUSINFO POLE  
HETKEL KÄTTESAADAV**

Vali

### Terviseandmed

Saatekirjad  
Uuringute vastused  
Epikriisid  
Aegkriitilised andmed  
E-konsultatsioonide otsused  
Teatised

### Tahte- avaldused

Tahteavalduste  
nägemiseks ja  
koostamiseks vajuta  
kastile, lisainfoks noolele

### Uuringute vastused

Uuringu vastuste  
nägemiseks vajuta kastile,  
lisainfoks noolele



### Vaktsi- neerimised

Immuniseerimise teatiste  
nägemiseks vajuta kastile,  
lisainfoks noolele

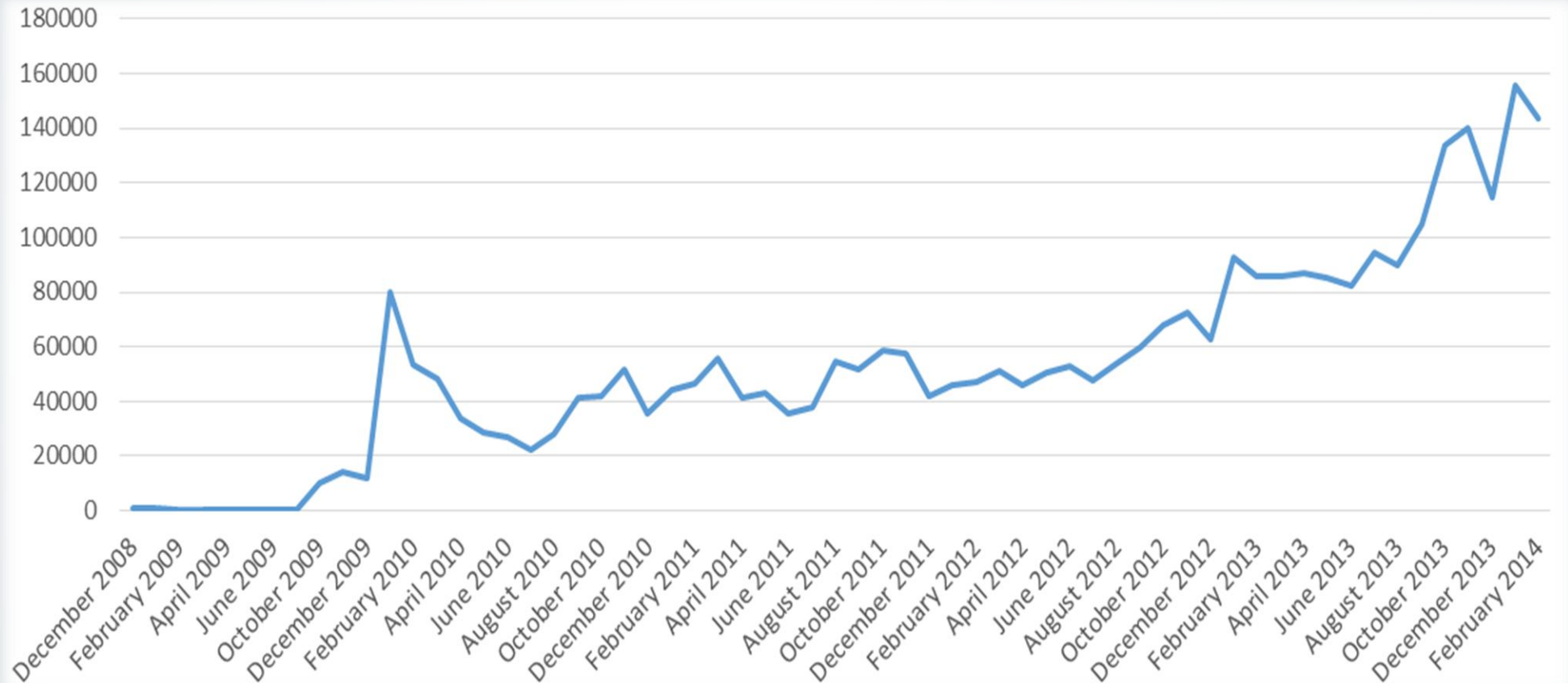
### Retseptid

Lisainfoks vajuta noolele

Broneeri  
vastuvõtu  
aeg

Logi-  
raamat

# Number of patient queries



# Possibilities for patient

In patient portal:

- View and print out medical documents sent by health care providers to the central system;
- View information about their general practitioners and validity of health insurance;
- Make informed consents;
- Provide general information about themselves for health care providers;
- Give authorisations for trustees;
- Mask data for trustees and health care providers;
- Monitor logs

Get useful information and read explanations

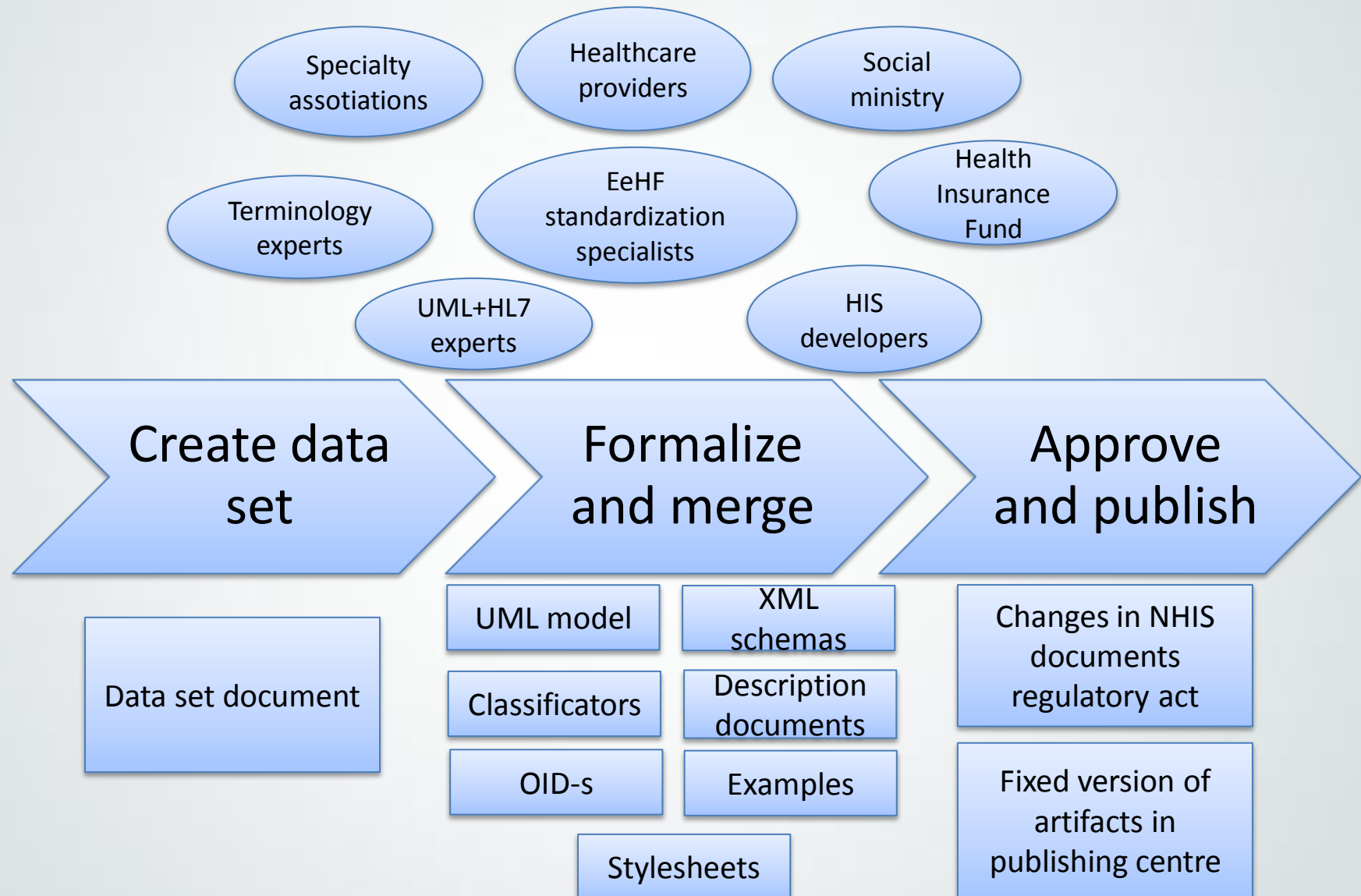
# STANDARDS



# Standards

- HL7 and DICOM (Picture Archive)
- International classification: ICD-10, LOINC, NCSP, ATC
- Estonian eHealth's OID registry
- Local eHealth classifiers
  - Published in publishing centre
  - Classifiers are regulated by government act

# Standardization process



# Major architectural decisions of HIS

- Integration through Central system (Opt-out)
- HL7 v3 (extended)
- Documents are kept in XML format (HL7 CDA)
- All structured data fields have OID-s
- Only final versions of clinical documents are sent into central system
- Reuse of national infrastructure
  - ID card for authentication and digital signature
  - Xroad for secure communication

# Benefits of eHealth Systems

- Greater efficiency
- Lower costs
- Quality of care
- Patient awareness about their health

# LEARNING POINTS



- Resources were planned only for central development.
- Usability. Developing process has to include medical competence – users
- Data quality is important
  - Complete and quality data give value.
- Balance between security and usability
  - PIN for every document ...

Thank you!