How the Unique Digital National ID delivers full engagement in the eHealth Ecosystem - the Estonian Experience

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a modest country that extends beyond its borders

+ population: 1.3 million
+ area: 45,339 km2
+ currency: Euro
+ member of: EU, NATO, WTO, OECD, DIGITAL 5
+ 23.14 billion US dollars in 2016
+ ICT sector 7% of GDP, Health Sector approx. 6.3% of GDP
+ Life expectancy 77.1 years (EU 88.1 years)
essential

Best secret weapons.

+ internet is a social right
+ every Estonian resident has an electronic ID
+ 99% of services are online
+ Estonians trust e-solutions
Estonia is a digital society

- 99% state services are online
- Digital signature saves 5 days a year
- 100% providers are digital
- 100% of citizens have nationwide digital health record
- 99% of prescriptions are digital
- ...

A stack of paper saved each month
300 meters
e-services in Estonia

- Internet banking (99%)
- E-school
- E-Business registry
- Digital signature
- ID-ticket
- E-court & justice
- E-travel
- E-voting (30%)
- E-state service portal
- E-pensions account
- E-residency (135 countries)
- E-health record (99% population)
- E-land Registry
- E-police
- E-tax and customs service (97% income tax)
- E-pensions account (99% population)
- E-self-services
- M-parking

Tehnopol estonia.ee
empowering

Easiest life: only getting married or divorced and selling real estate cannot be done online.

Yet.
health

The healthiest system.

+ digital health data
+ digital prescription
+ personalized medicine in the work
+ e-Ambulance Solution
4 whales of Estonian health system

- **Earmarked social insurance tax**
  - 13% flat rate top-up to all salaries

- **State responsibility for insurance coverage**
  - Single public purchaser of services (Health Insurance Fund)

- **Decentralized provider network**
  - Private operators governed mostly by public entities

- **Strong primary care**
  - Universal free access;
  - Every citizen has a family doctor
  - >50% of outpatient contacts
goals of eHealth strategy

• Current level of health care service is possible to offer more efficiently

• Expenditure in healthcare will become outcome- and value based and within the same budget the services can be offered with better results

• Research and development activity, as well as entrepreneuriship in health domain has increased
elaborated

Clear and honest principles.

+ once-only
+ digital by default
+ truth-by-design
+ open internet
exchange

The busiest highway of e-Estonia – **X-Road** from 2001.

+ saving 800 years annually
+ over 900 connected organizations, databases
+ over 500 million transactions per year
+ exported to Finland, Azerbaijan, Kyrgyzstan, Namibia, Faroe Islands
electronic ID

The strongest identity.

+ 94% of e-ID – celebrating 15 Years!
+ 7% of mobile-ID
+ 15% of smart-ID
+ e-Residency
authentication & authorisation

- **Who are you?**

- **Constant** anywhere & anytime

- **Solution = Unique ID**
  (plus robust technology: ID-card, mobile-ID)

- **What can you do?**
  (read, write, delete etc)

- **Dynamic** in space & time (same individual can have multiple roles)

- **Solution = classification or roles**
  by profession, facility, service etc
eHealth services in Estonia

- Health status summary for medical commission of Ministry of Defence 2017
- Collecting health service reimbursement invoices ~1995
- Health insurance information ~2000
- Digital picture archiving services 2005
- EHR services for physician and patient 2008
- Digital registration services 2008
- ePrescription Services 2010
- Health status summary for medical commission of Ministry of Defence 2017
- Drugs' adverse interaction detection (2016)
- Services for dental care (2015)
- eAmbulance services (2015)
- Medical certificate services (2014)
- Statistics services (2013)
- Cross-border Patient Summary (epSOS 2013)
- eConsultation services 2012
- Health status summary for Social Insurance Board 2012

Collecting health service reimbursement invoices ~1995

Drugs' adverse interaction detection (2016)

Services for dental care (2015)

eAmbulance services (2015)

Medical certificate services (2014)

Statistics services (2013)

Cross-border Patient Summary (epSOS 2013)

eConsultation services 2012

Health status summary for Social Insurance Board 2012
some statistics

- Investments:
  - Until 2014 – 15 million EUR was spent (source: state audit 2014)
  - Maintenance approx. 4 million EUR per year (source: TEHIK, only central costs included)

- HIS: 1,900,000 queries by doctors every month

- Close to 100% of patients have countrywide digital record, 34,000,000 different documents

- E-prescription (100%): The use of medicines with the same active substance has increased from 50% to 90% - i.e. over 13 million EUR savings for patients
digital leadership

The strongest leadership brings enlightenment.

+ Technology or money is not the solution
lessons learnt

• Plan and develop **full service cycle** (not only the central data exchange component).
• IT is not the service! Define **clear business-goal** before IT-development and stick to it.
• Make use of agile approach – **stepwise approach** with rapid quantitative feedback for learning.
• **Data quality** measures should be there from the beginning - close the feedback loop early.
• Robust data and information **standard management governance** across health sector is a must to manage the complexity.
• **Usability!** Developing process has to include medical competence – the users.
• Collect **“low-hanging fruits”** fast – make users happy.
start from here!
We connect you with the Estonian health innovation ecosystem: IT and biotech companies, startups, R&D partners and more.

68 members from 6 areas of focus

Biotech (15)  Business Support (3)  Health IT (17)  Health start-up (27)  Healthcare providers (8)  Universities (3)