



avain

TECHNOLOGIES

Smart solutions for eSociety

CEO Pekka Kuosmanen

E-Health Standard Forum

**Finnish National ePrescription and
eArchive services**

Finnish areal wide healthcare service

Mr Pekka Kuosmanen

- **Founder and Chief Executive Officer of Avain Technologies Oy**
- **General Manager of Avain Hangzhou (China)**
- **Over 30 years experience in Healthcare and Banking ICT**
- **Member of Finnish national health and social care specification project group – leader of national archive and digital signature subgroup**
- **Member of health care national and areal architecture specification group**
- **Member of healthcare eService to citizens specification group**
- **Project leader in several areal wide archive and information sharing projects**

E-Health Standard Forum

Organizational structure of healthcare in Finland

Ministry of Social Affairs and Health is responsible for legislation and co-ordination of eHealth

National Institute for Health and Welfare is responsible for ICT co-ordination on national level (under Ministry of Social Affairs and Health)

Special Unit for the Operational Management of Health and Welfare Information (OPER) was incorporated for the co-ordination work in 2011

Kela, National Social Security Authority is responsible for ICT implementation of ePrescription and eArchive services

E-Health Standard Forum

Ministry of Health and Social Affairs: law, strategy, financing

THL

Information Department

OPER

Planning, Control &
Monitoring Implementation
& Use, and Defining
Information Content

**Information Structures and
Classifications Unit**

Organisation-OID & Valveri-
registry information
for SOTE organisation
registry

Kela

Record holder of the
national Prescription
centre
Archive service(s)
Technical definitions

VRK

Certification
services

Valvira

Valveri-registry
Terhikki-registry
Attribute services
and VRK support

Pharmacies
SAL
YA

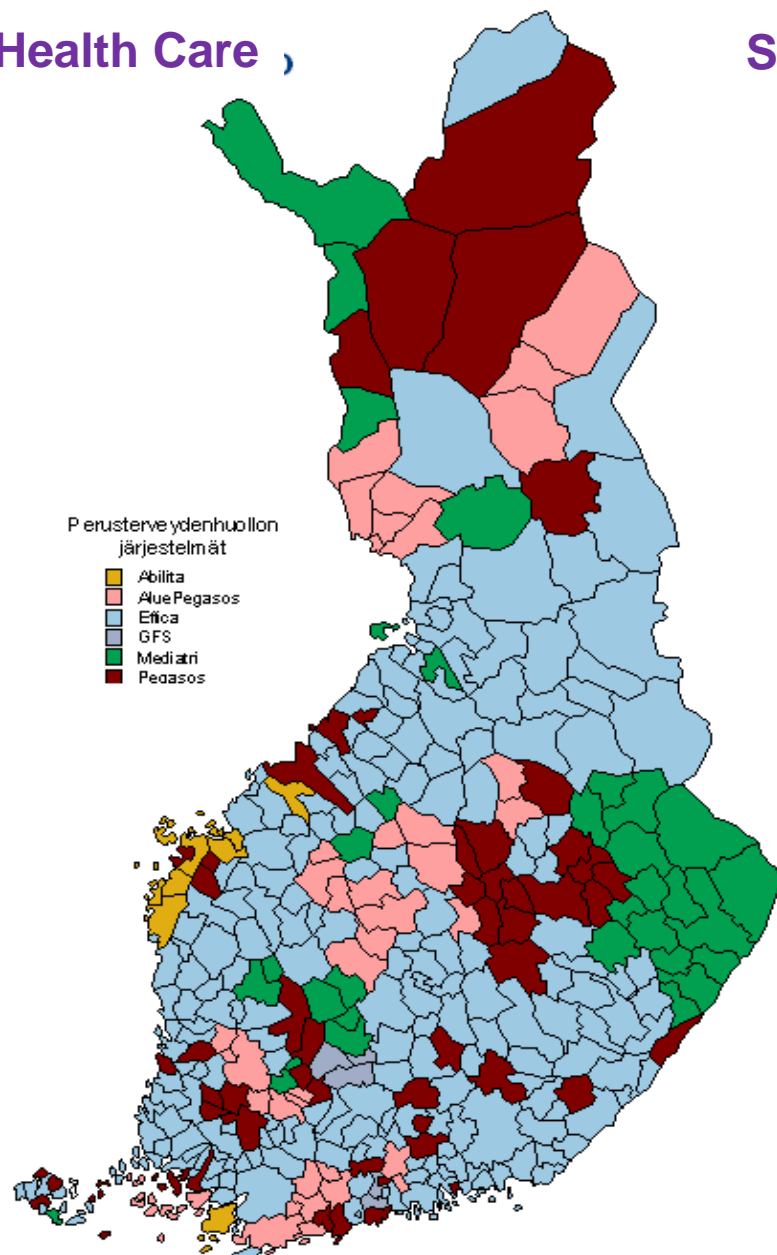
Fimea

Medication
database
Control of
pharmacy
operations

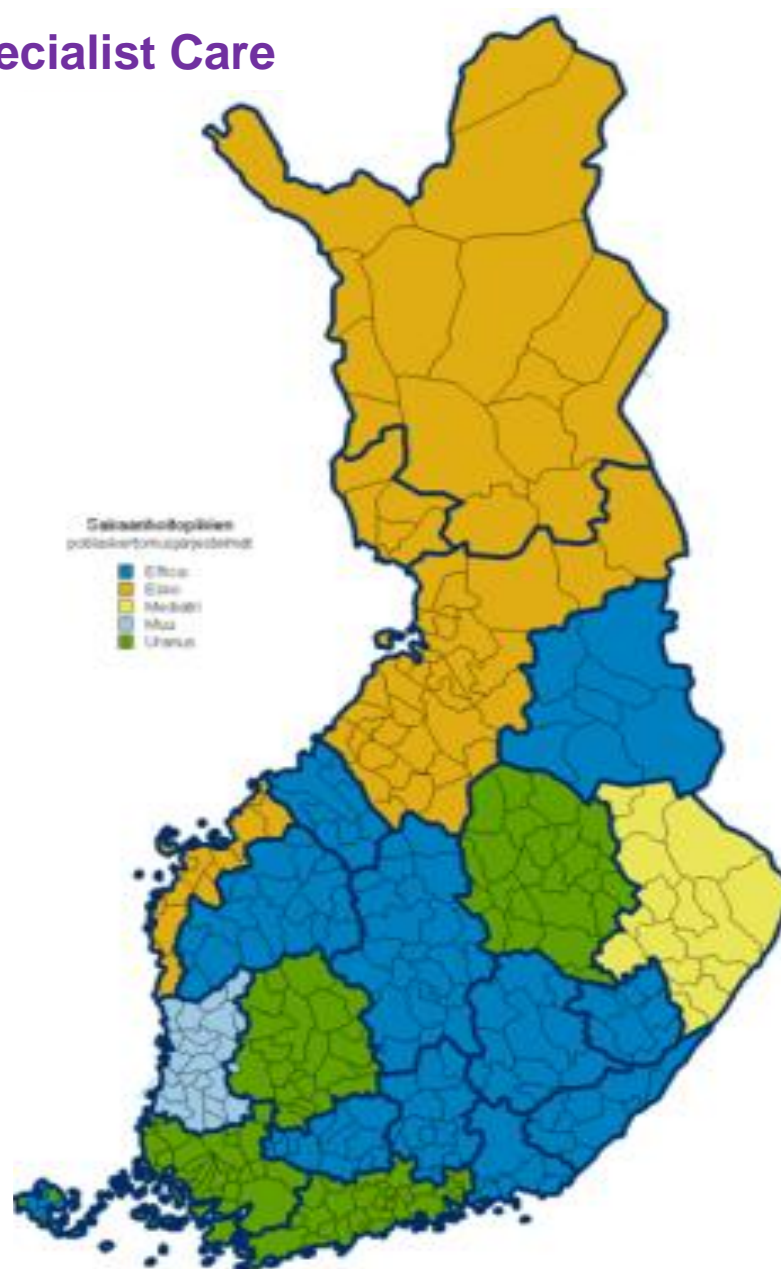
Public & Private healthcare service providers

Patient & Pharmacy information system makers

Primary Health Care ,

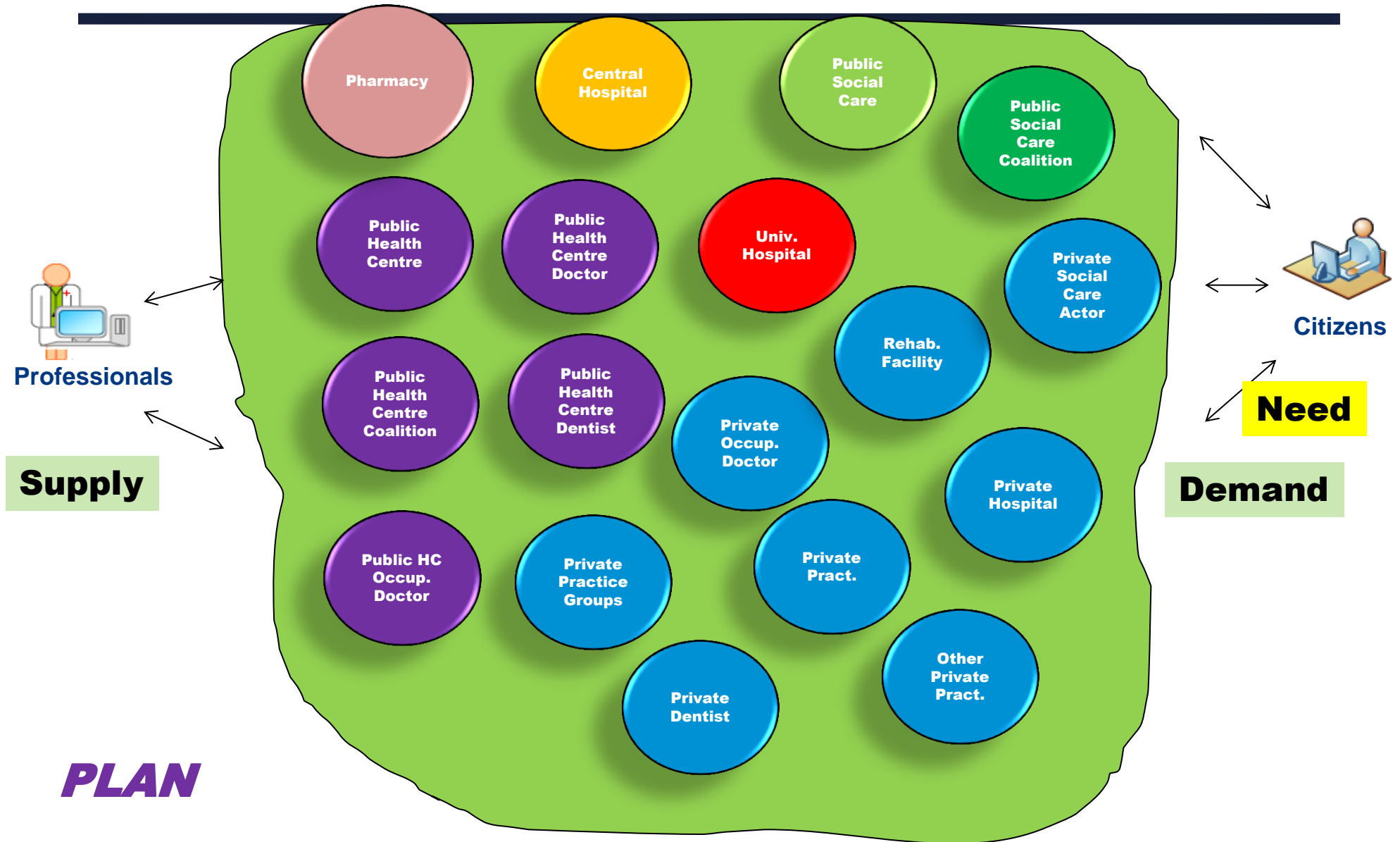


Specialist Care



RESULTS

E-Health Standard Forum



PLAN

Transmits Standardised Data from Actor to Actor

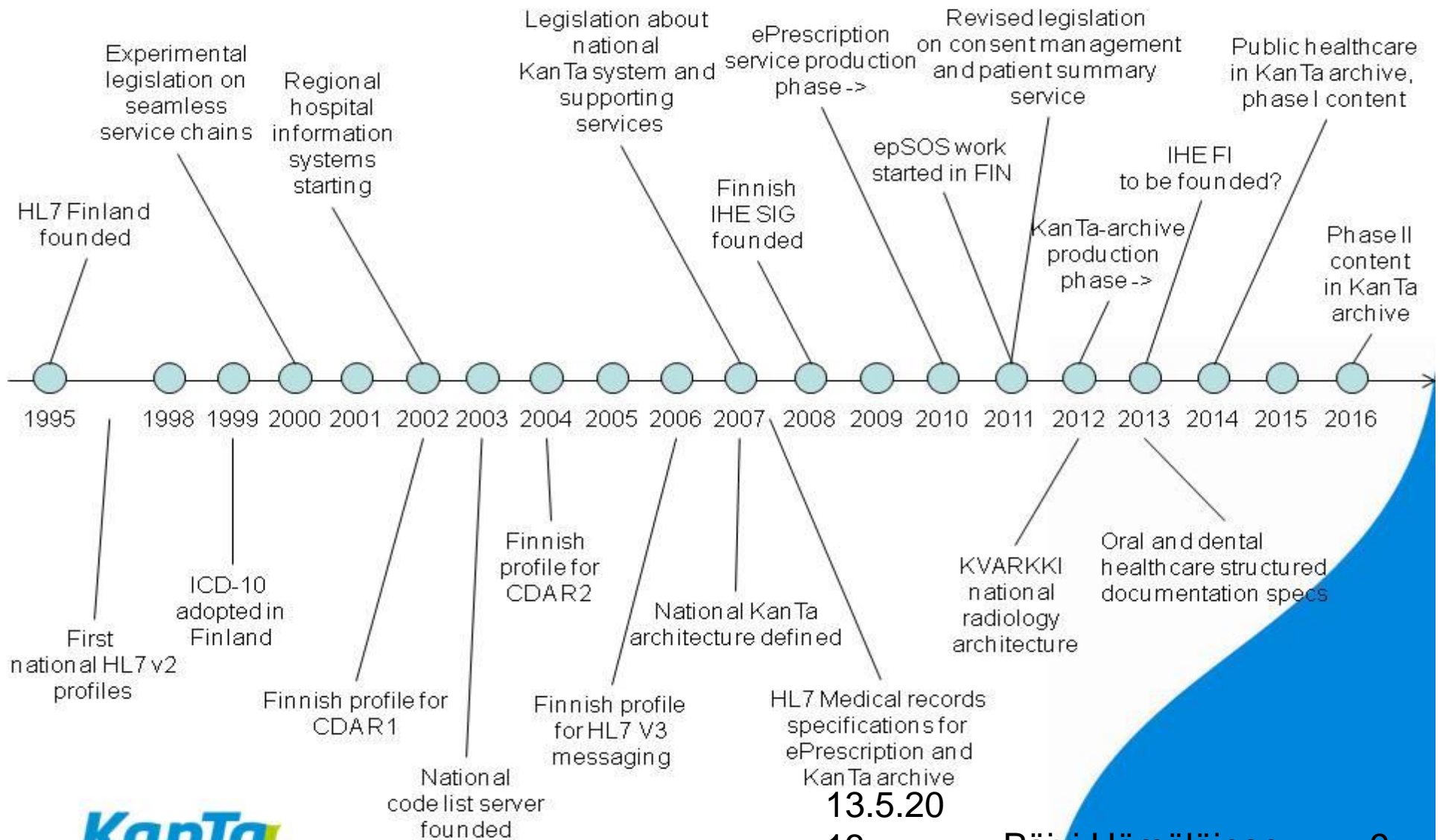
E-Health Standard Forum - standards

Digitalization of health care started in 1970-1980 in Finland

First Electronic Healthcare Record applications taken into use in hospital and healthcare centers

We made a big mistake when started to digitalize healthcare

Timeline of Finnish Health Care ICT Standardisation for Interoperability



13.5.20

E-Health Standard Forum - standards

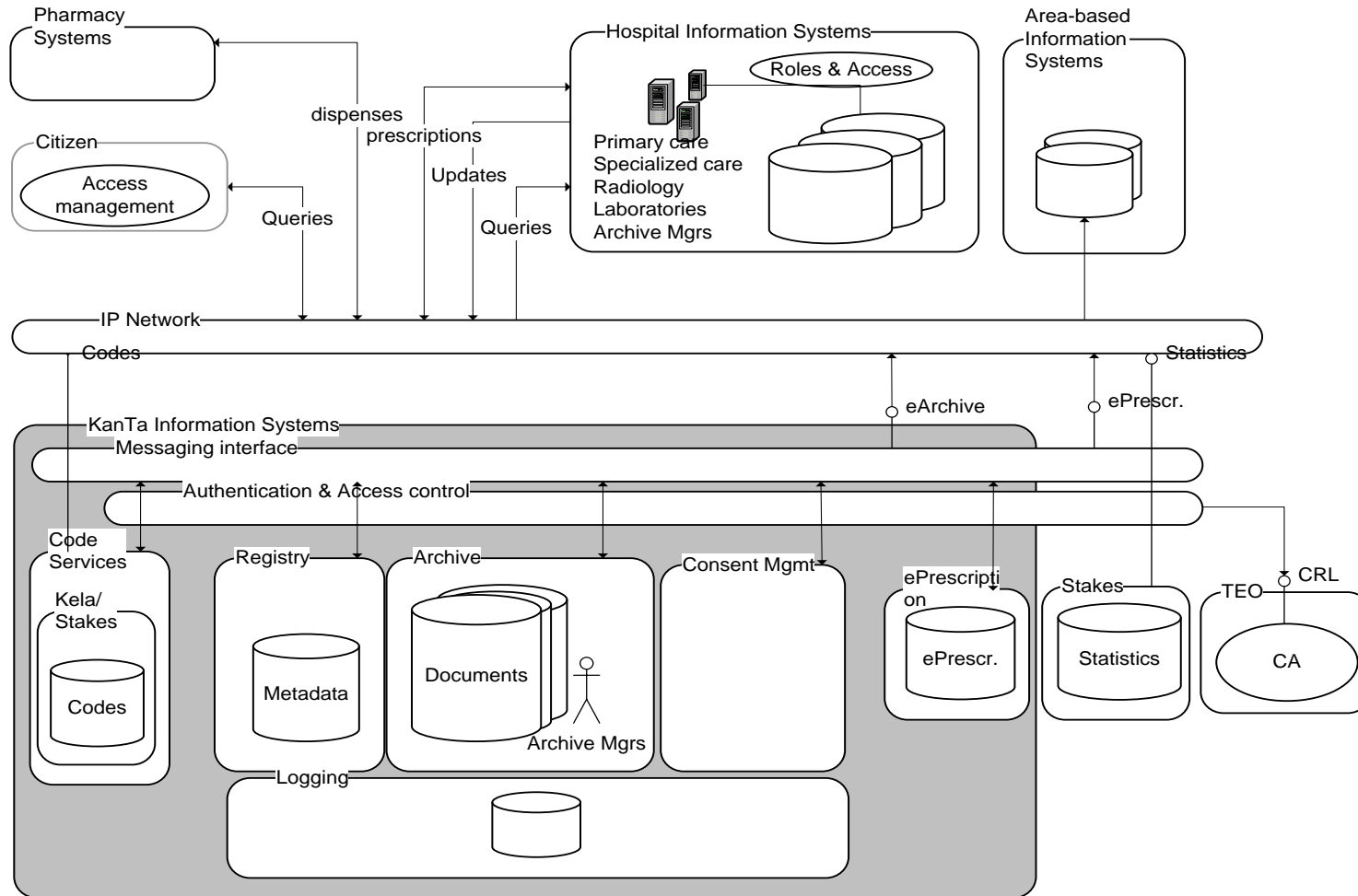
HL 7 association is responsible to create and maintain healthcare standards in Finland

Members: ICT vendors, hospitals, Kela, THL, Ministry and consultancy companies

Proposals about new standards and changes are done in technical committees and accepted in the Board of Directors

Financing: Membership fees (variate based on the size of organization), government subsidies.

National eHealth architecture

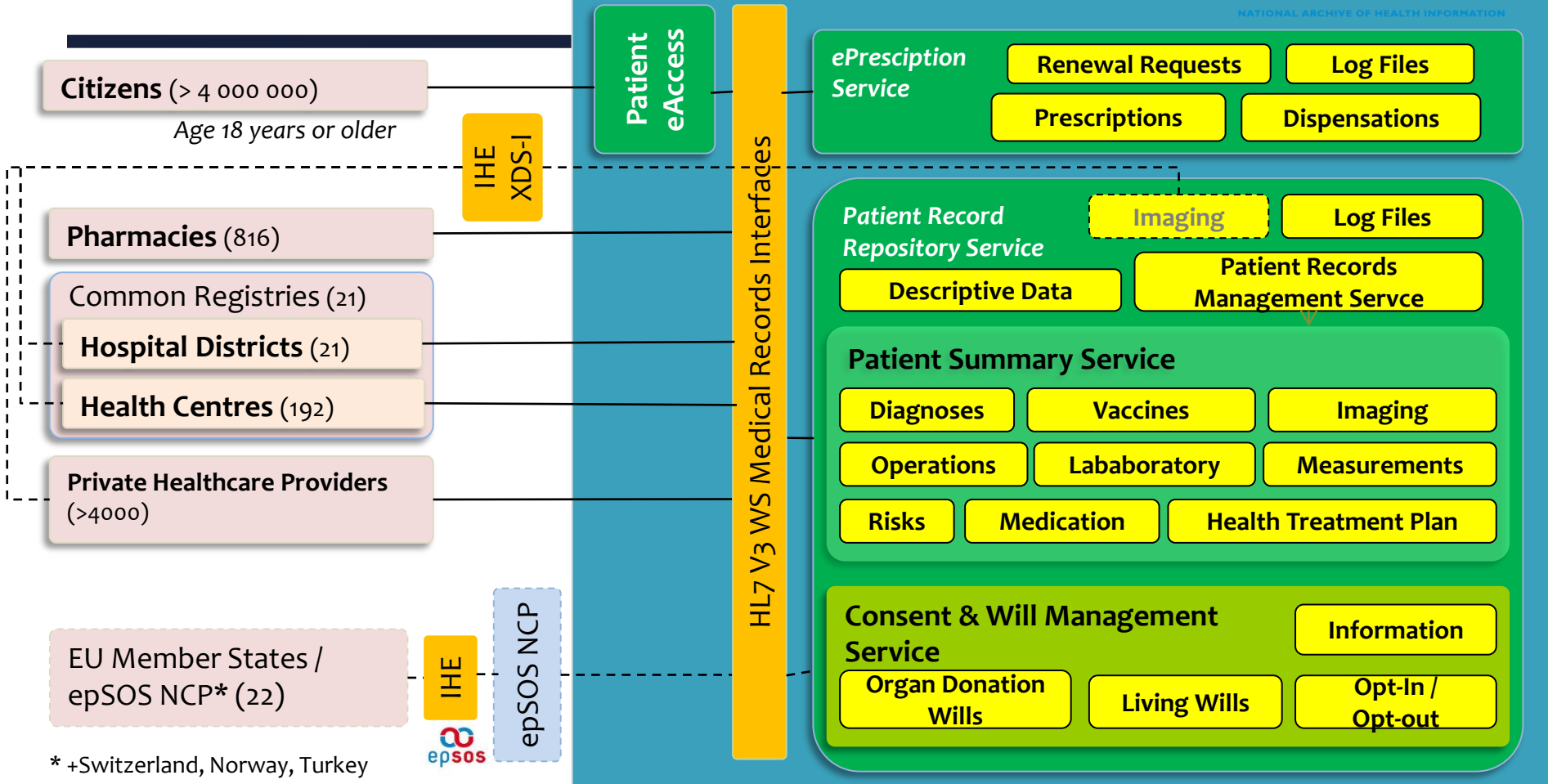


RESULTS

National Kanta Services

Kanta
NATIONAL ARCHIVE OF HEALTH INFORMATION

Kela[®]



* +Switzerland, Norway, Turkey

Main Standards

- HL7 V3: CDA R2 Level 3 and Medical Records
- IHE IT-I Profiles
- W3C XML-Signature
- WS Addressing, WS-I
- TLS, X.509



Other National Services

National Code Server

- Code Lists, Terms
- Document Structures
- SOTE Organisation Registry
- Registry of Pharmacies

Registry of Healthcare Professionals



Certification Services



Medication Database

Kela[®]

E-Health Standard Forum - Citizens

SADe

OPER

2015+

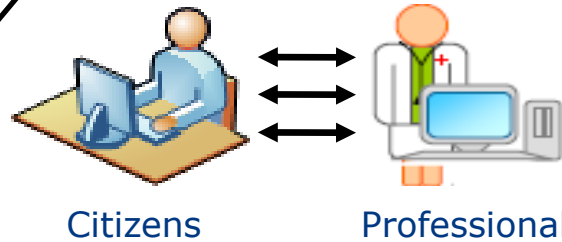
National Project for eServices
for Citizens and Patients
2010–2015

KanSa

OPER

2012

National Project for eSocialWelfare
Services



KanTa

OPER

2011

NATIONAL ARCHIVE OF HEALTH INFORMATION

ePrescription Service
National Repository for Patient Records
User Interface(s) for Citizens
User Interface(s) for Professionals

PLAN

E-Health Standard Forum - Legislation 1.1.2011

1

Act on the National Institute for Health and Welfare (668/2008)

Section 2 Tasks

The task of the THL is:

...

4b) to be responsible for the planning, control and monitoring of the electronic processing of client data in social and health care, data administration connected with it and the use and implementation of the nationwide information system services; (1231/2010)

...

2

Act on Electronic Prescriptions (61/2007)

Section 24 Control, Monitoring and Supervision

...

THL shall be responsible for electronic prescriptions, as well as the design and control of the nationwide information systems services referred to in this Act (1229/2010)

...

All national solutions are based on legislation concerning both private and public healthcare organizations

RESULTS

3

Act on the Electronic Processing of Client Data in Social and Health Care (159/2007)

Section 6 Data Structures of Health Care Patient Information Systems and Patient Documents

...

THL may provide more detailed regulations on the data structure of patient information systems and patient documents

...

Section 14 Nationwide Information System Services

...

THL task is to define the information content, concept models and the data structures that support operational processes and which are required for the implementation of nationwide information system services. Additionally, THL is responsible for the content of the codes service.

...

Section 20 Control, Supervision and Monitoring

...

THL is responsible for designing, controlling and monitoring the use and implementation of the electronic processing of client information in social welfare and health care, information administration relating to this, the nationwide information services referred to in section 14 (14 §) and the shared administration-specific information databases

...

Unofficial translations

E-Health Standard Forum timetable 2010–2016

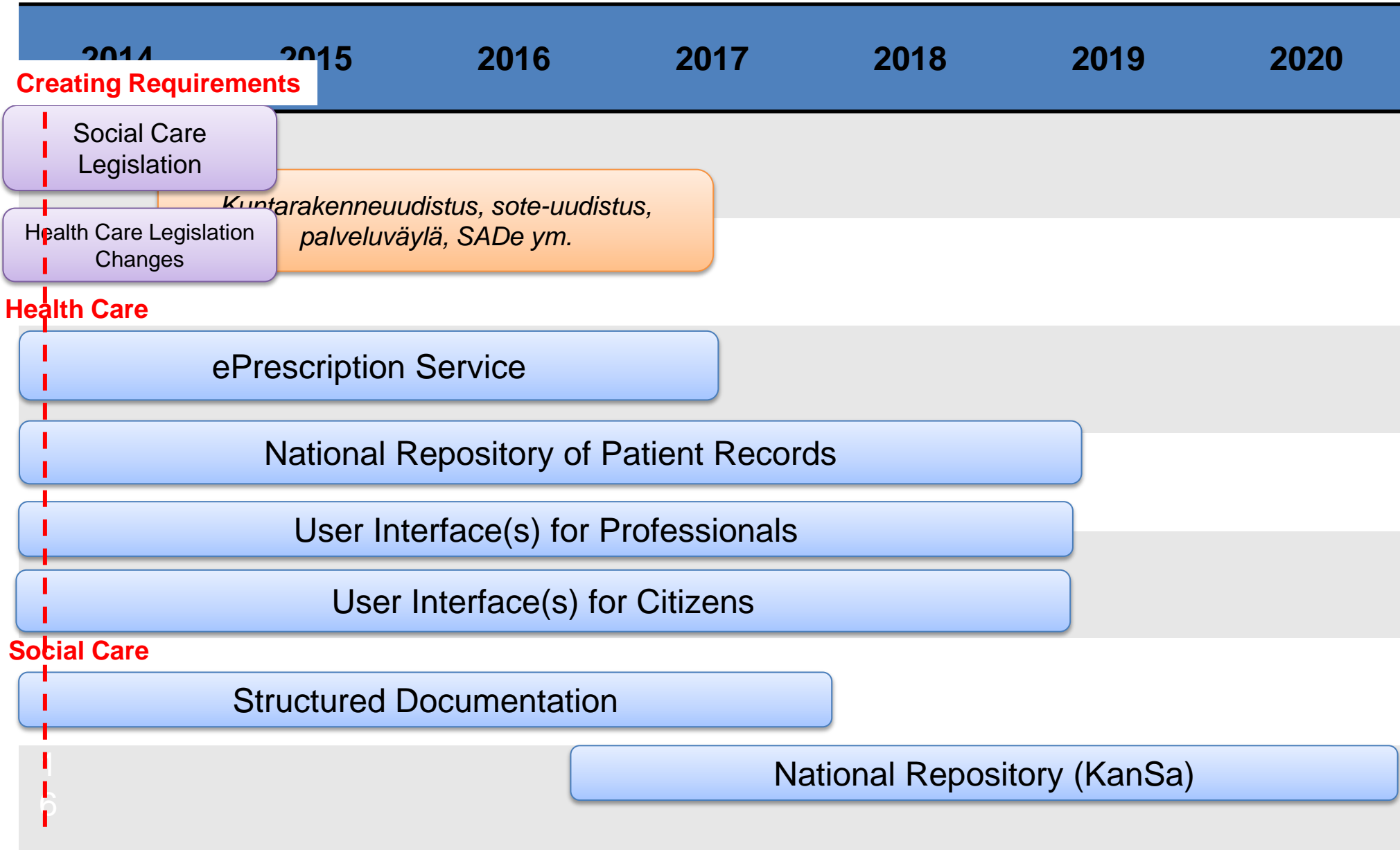
Act on Health Care 2nd Phase

Patient Directive Implementation

OPER

	2010	2011	2012	2013	2014	2015	2016
National ePrescription Service		(31.03.2011)	31.03.2012	31.03.2013	31.03.2014	31.08.2015	31.12.2016
Pharmacies: obligatory to connect (100%)	19.05.2010	-----	31.03.2012	-----	-----	-----	-----→
Public Health Care: obligatory to connect (100%)	20.05.2010	-----	-----	31.03.2013	-----	-----	-----→
Private Health Care: obligatory to connect				22.04.2013	31.12.2014	-----	31.12.2016
National Repository for Patient Records		(31.03.2011)			31.08.2014	31.08.2015	
Public Health Care: obligatory to connect		15.11.2011	-----	02.11.2013	31.08.2014	-----	-----→
Private HC: obligatory to connect			-----	-----	-----	31.08.2015	-----→
User Interface for Citizens		(31.03.2011)					
ePrescriptions: eAccess service open for use	19.05.2010	-----	-----	-----	-----	-----	-----→
eArchive: eAccess service open for use		15.11.2011	-----	-----	-----	-----	-----→
User Interface for Healthcare Professionals					31.08.2014		31.08.2016
Phase 1: obligatory			-----	-----	31.08.2014	-----	-----→
Phase 2: obligatory			-----	-----	-----	-----	31.08.2016

E-Health Standard Forum - Avenues of Development



National ePrescription Service

E PRESCRIPTION BENEFITS

You can get a summary of all your electronic prescriptions, showing all their details in one place. A new service is the option of renewing a prescription through a pharmacy.

When all the patient's prescriptions are entered in the Prescription Centre, the doctor can, with patients' consent, check their overall medication regimens and prevent possible adverse drug interactions and overlapping. At patients' request, a pharmacist can also check their overall medication.

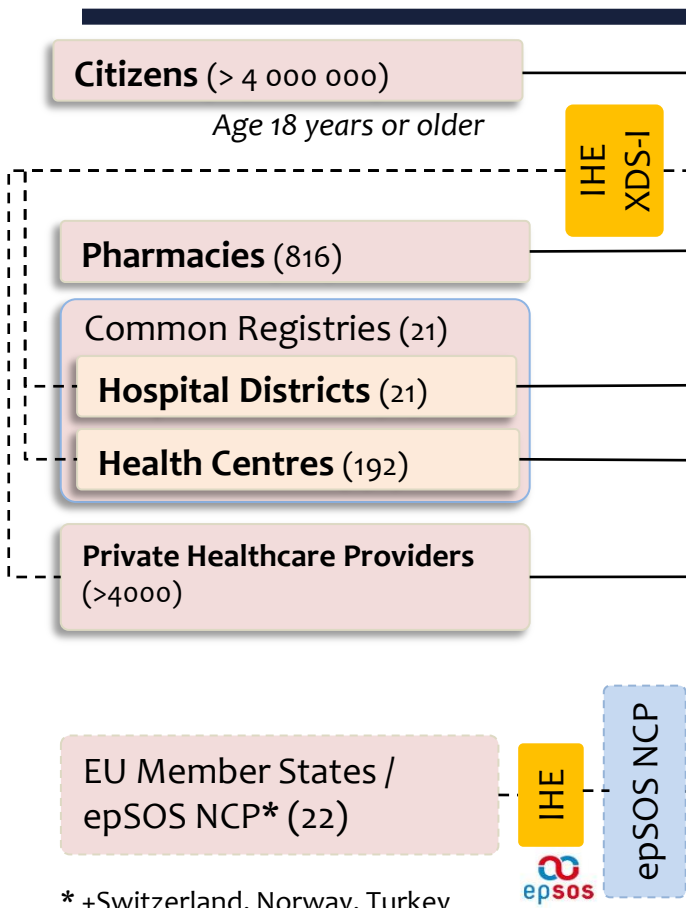
After deployment of electronic prescriptions, all healthcare units and pharmacies will be using information based on the uniform Pharmaceutical Database. The Pharmaceutical Database contains the information necessary for prescribing and dispensing a medicine, its price and eligibility for reimbursement, as well as medical preparations that are interchangeable. The database also has information on reimbursable base creams and clinical nutrition preparations.

RESULTS

National Kanta Services

Kanta
NATIONAL ARCHIVE OF HEALTH INFORMATION

Kela[®]



Other National Services



- Main Standards**
- HL7 V3: CDA R2 Level 3 and Medical Records
 - IHE IT-I Profiles
 - W3C XML-Signature
 - WS Addressing, WS-I
 - TLS, X.509



E-Health Standard Forum – timetable plan



*Pharmacies:
Obligatory to Connect
1.4.2012*

*Public Healthcare
1.4.2013
Private Healthcare
1.4.2014*

E-Health Standard Forum – timetable

Q2/2010
Q1-2 / 2011

Varsinais-Suomi (Turku)
20.05.2010–

Kymenlaakso(Kotka)
06.04.2011–

Itä-Savo
09.06.2011–

Länsi-Pohja
16.06.2011–

Q3-4 / 2011

Päijät-Häme
15.-19.09.2011–

Kanta-Häme
24.11.2011–

Lappi 1 (Pello)
15.12.2011–

Q1-2 / 2012

Varsinais-Suomi

17.01.2012–

Etelä-Karjala (EKSOTE)

18.01.2012–

Keski-Uusimaa (Kuura)

30.01.2012–

Pohjois-Karjala

17.03.2012–

Kymenlaakso

20.03.2012–

Itä-Uusimaa 1 (Loviisa)

26.03.2012–

Lappi 2

26.1.2012–

HUS HYKS 1

30.04.2012–

Vantaa / Kerava

02.04.2012–

Tuusula

11.04.2012–

Pirkanmaa 1 (Tampere)

02.04.2012–

Etelä-Savo

02.05.2012–

Q3 -4 / 2012

Pohjois-Karjala 2

29.08.2012–

Itä-Uusimaa 2

03.09.2012–

HUS 2

03.09.2012–

Pohjois-Savo 1

7.9.2012–

Kauniainen

29.09.2012–

Espoo

11.10.2012–

Etelä-Pohjanmaa 1

01.10.2012–

Keski-Pohjanmaa

09.10.2012–

Vaasan seutu 1

23.10.2012–

Pohjois-Pohjanmaa 1

31.10.2012–

Helsinki

1.11.2012–

Länsi-Uusimaa 1

1.11.2012–

Keski-Suomi 1

3.12.2012–

Pirkanmaa 2

12.12.2012–

Varsinais-Suomi 3

12.12.2012–

Q1/ 2013

Etelä-Pohjanmaa 2

01.01.2013–

Pohjois-Savo 2

02.01.2013–

Pohjois-Pohjanmaa 2

07.01.2013–

Satakunta

07.01.2013–

Pohjois-Karjala 3

16.01.2013–

Vaasan seutu 2

29.01.2013–

Keski-Suomi 2

04.02. 2013–

Pirkanmaa 3

13.2.2013–

Kainuu

18.2.2013–

Länsi-Uusimaa 2

4.3.2013–

Länsi-Pohja

27.3.2013–

Lappi 3

27.3.2013–

Pharmacies (100 %) ready 10/2012

Public HC 01.04.2013

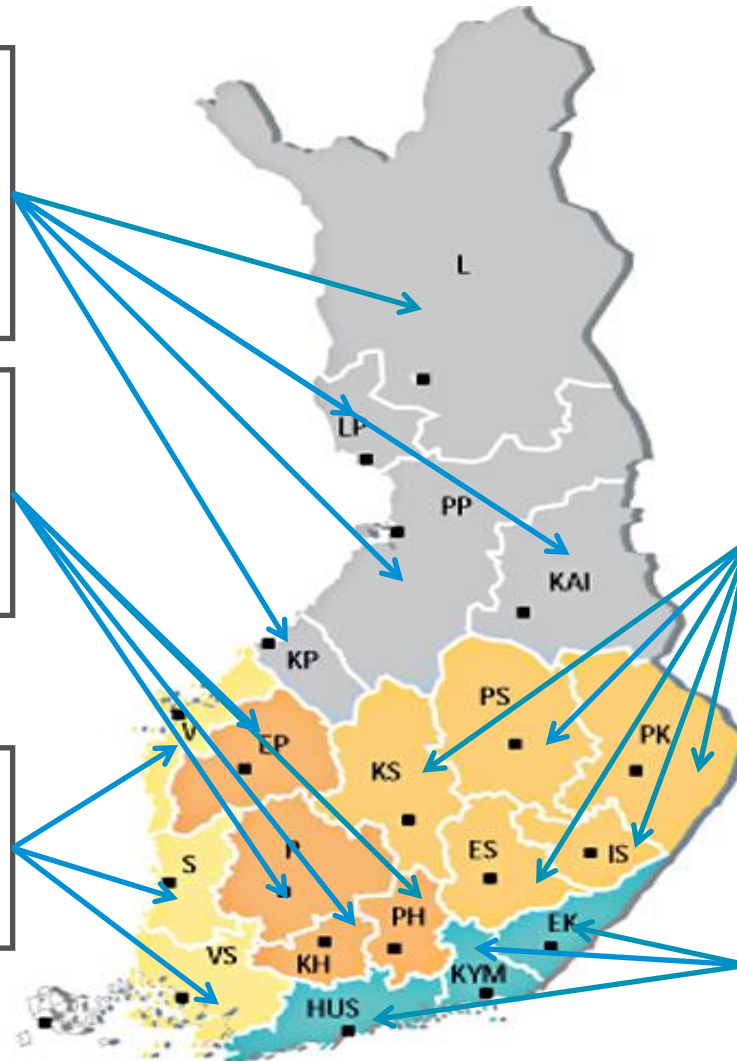
RESULTS

Mean Utilisation (%) of ePrescription Service in Public Health Care by Hospital District in March 2014

North Finland	
Lappi	85%
Länsi-Pohja:	84%
Pohjois-Pohjanmaa:	83%
Kainuu:	94%
Keski-Pohjanmaa:	88%

West Finland	
Etelä-Pohjanmaa:	94%
Pirkanmaa:	89%
Kanta-Häme:	86%
Päijät-Häme:	89%

South-West Finland	
Vaasan seutu:	71%
Satakunta:	91%
Varsinais-Suomi:	95%



Finland in mean 87%

Middle & East Finland	
Keski-Suomi :	88%
Pohjois-Savo:	88%
Etelä-Savo:	85%
Itä-Savo:	96%
Pohjois-Karjala:	95%

South Finland	
Etelä-Karjala:	92%
Kymenlaakso:	84%
Helsinki-Uusimaa:	79%

Statistic of use of national service

ePrescription

Issued ePrescriptions by HC organizations 23.000.0000

Delivered medicines from pharmacies 36.000.000

Delivered medicines to 3.600.000 people

Kanta archive

Number of stored medical records: 2.500.000 patients

My Kanta authentications: 2.500.000

My Kanta is used by 800.000 citizens

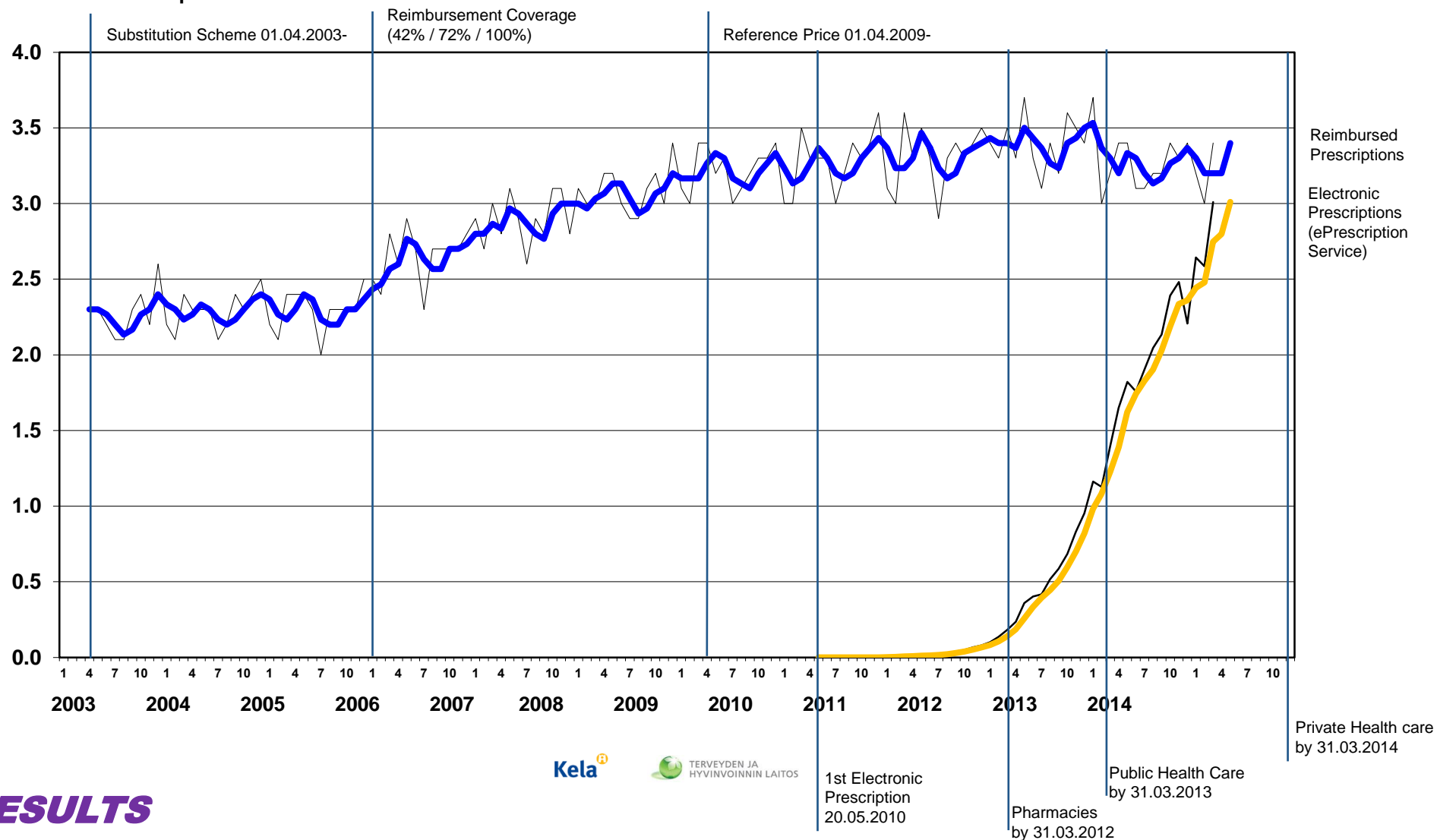
Daily volume of messages

ePrescription 1.000.000

eArchive 2.000.000

Reimbursed and Electronic Prescriptions by Calendar Month since April 2003 in Finland (3 months' moving average trend curves)

Millions of Prescriptions



RESULTS

Kela

TERVEYDEN JA HYVINVOINNIN LAITOS

1st Electronic Prescription
20.05.2010

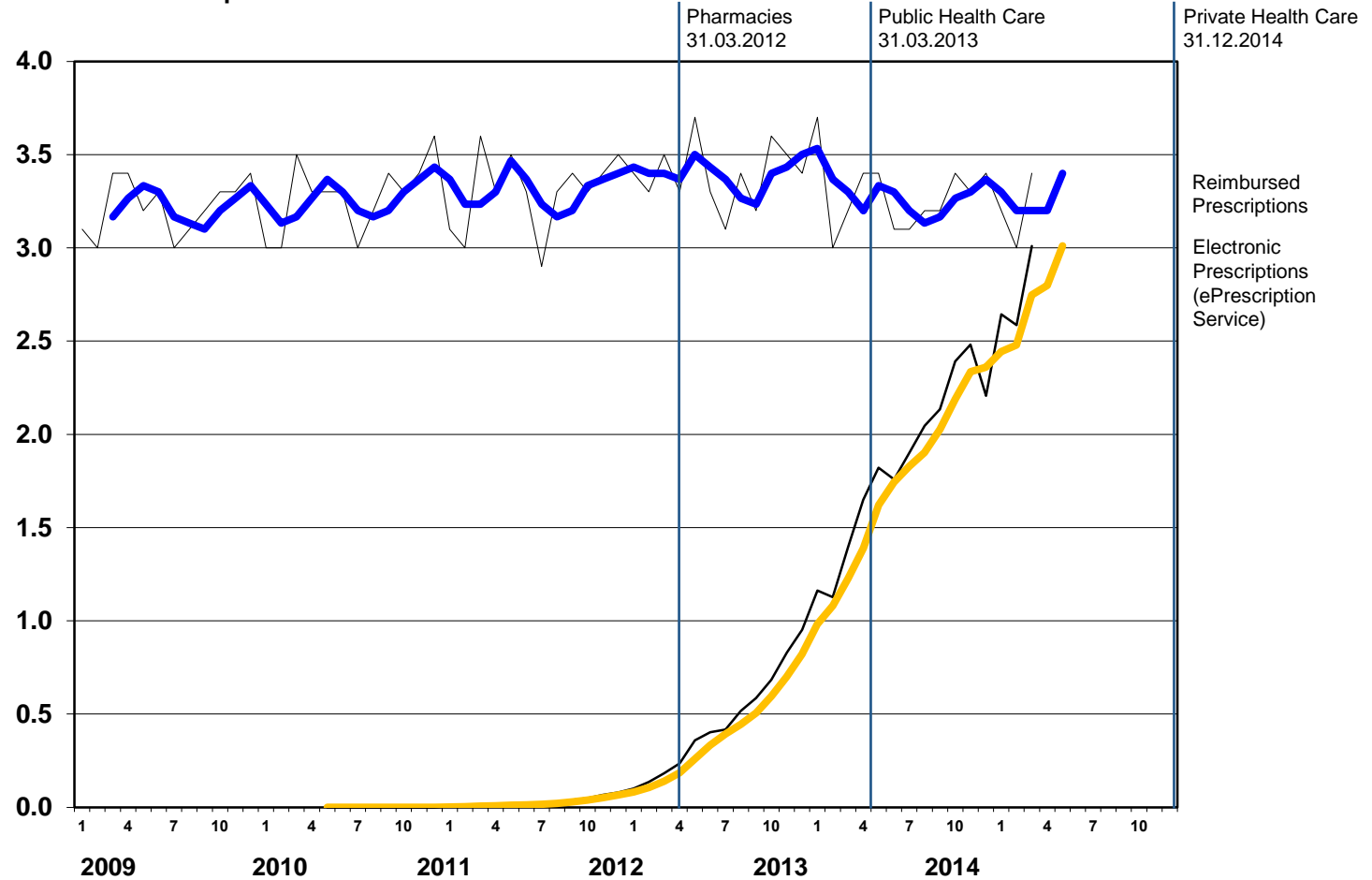
Pharmacies
by 31.03.2012

Public Health Care
by 31.03.2013

Private Health care
by 31.03.2014

Reimbursed and Electronic Prescriptions by Calendar Month since 2009 in Finland (3 months' moving average trend curves)

Millions of Prescriptions



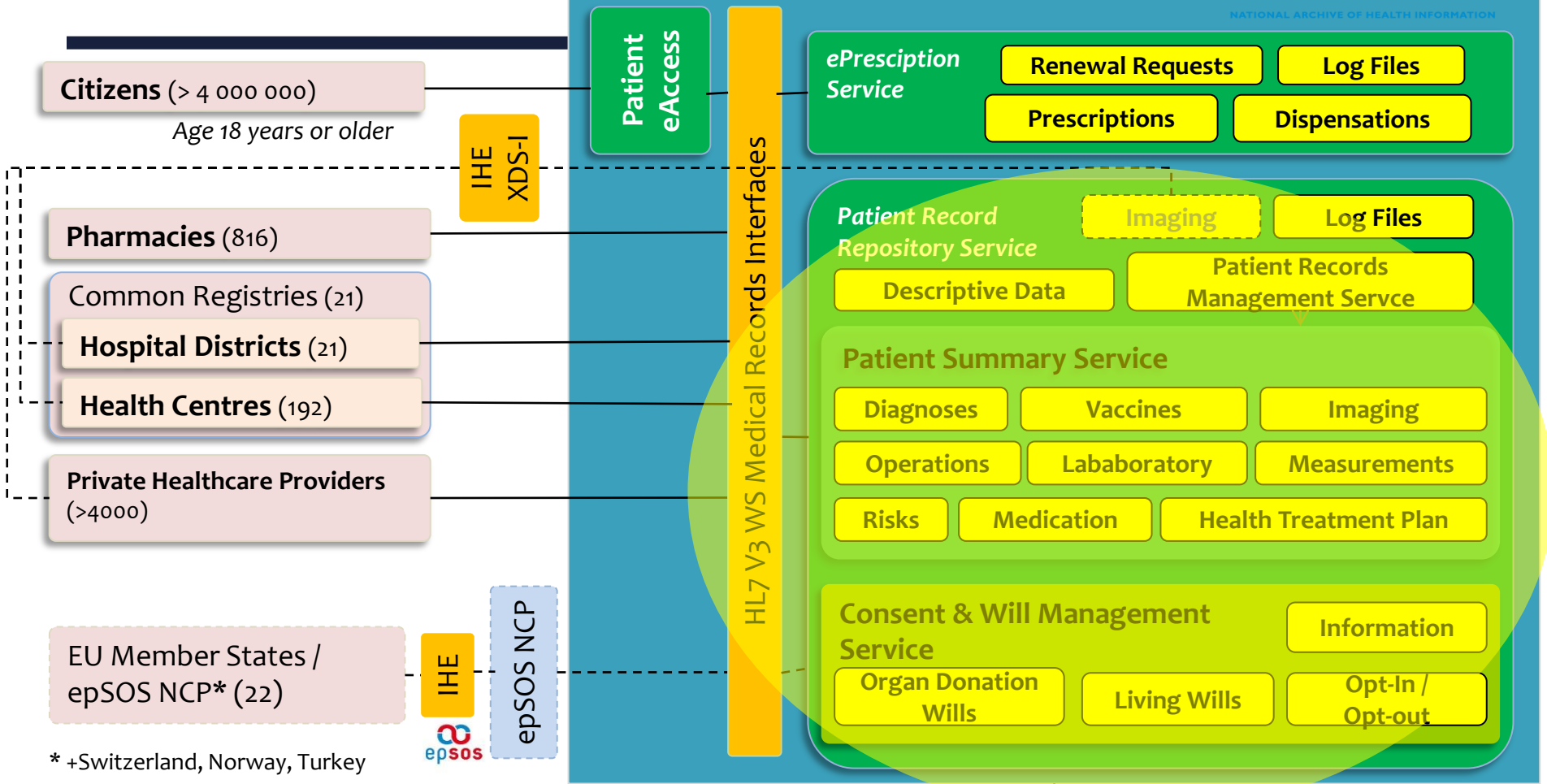
National Repository of Patient Records

RESULTS

National Kanta Services

Kanta
NATIONAL ARCHIVE OF HEALTH INFORMATION

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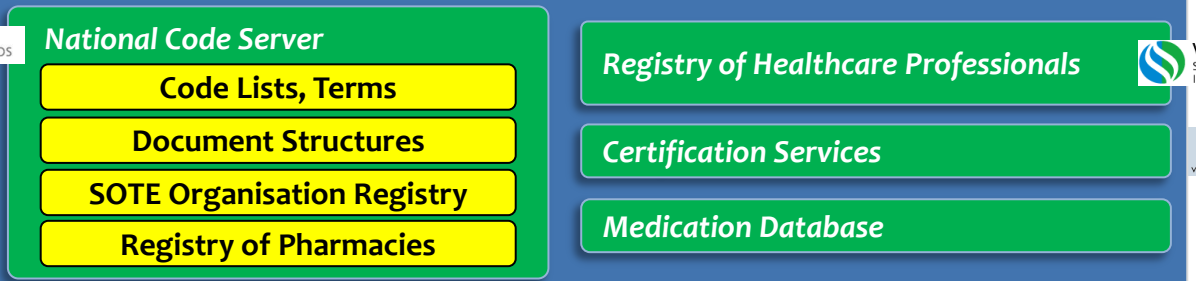


* +Switzerland, Norway, Turkey

- Main Standards**
- HL7 V3: CDA R2 Level 3 and Medical Records
 - IHE IT-I Profiles
 - W3C XML-Signature
 - WS Addressing, WS-I
 - TLS, X.509



Other National Services



Valvira
Sosiaali- ja terveysalan lupa- ja valvontavirasto



Kela[®]

National Repository of Patient Records:

Plan of Document Classes to be Archived

2014

Specialisation and Service Specific, Professional & General Healthcare Views

Maternal / Well Baby Clinic & Student Healthcare Views

Risk Data, Medications, Diagnoses, Operations, etc.

Laboratory & Radiology Requests and Statements

Consent Retrieval & Document Release Retrievals from Other Organisations

2016

Documents Based on Mental Care Act: MI-MIII & Decision on Compulsory Treatment Restriction on Contact

Personal Identification Data

Medical & Other Statements

Healthcare & Treatment Plan

Referrals & Epicrisis, Archiving

Documents of Oral Diseases

Medical & Other Certificates

Notification of Registry

2016+

Notifications to National Registries

Local Document(s)

Nursing Care Daily Markings

Organ Donation Report

Other Documents

National Repository of Patient Records: Estimated Timetable by System

System (Producer)	1st User	Timetable
Effica (Tieto)	ISSHP	11/2013
Pegasos (CGI)	Kuopio	05/2014
Acute (Acute)	Kallaveden tth	08–09/2014
Uranus (CGI)	HUS	09/2014
Graafinen Finstar (CGI)	Tuusula	10/2014
*Mediatri (Mediconsult)	Pohjois-Karjala	10/2014
*Abilita (Abilita)	Mustasaari	11/2014
*Esko (PPSHP)	PPSHP	11/2014
*DynamicHealth (Tieto)	?	?
*SoftMedic (CGI)	?	?

* No Confirmed Testing Events

User Interface for Healthcare Professionals: Patient Summary Services

User Interface for the Healthcare Professionals: Content of the Patient Summary

Summary Documents

- Diagnoses
- Risk Factors (Alerts)
- Procedures
- Radiology (Text Only)
- Laboratory
- Physiological Measurements*
- Immunization*
- Medication*

Updating Documents

- Health and Care Plan

• Will be shown patient centrically

- * In Phase 2 (2016)

Patient Summary for Professionals

- Medication
 - *Ongoing medication <
 - *Medication history >
- Diagnosis
 - *Chronic diagnosis <
 - *List of all diagnosis >
- Medical Riskfactors
 - *Critical riskfactors <
 - *Other riskfactors >
- Laboratory results >
- Imaging examinations >
- Physiological measurements >
- Vaccinations >
- Health and care plan >
- Procedures >
- Policlinical visits and hospital stays >
- Personal information >
- Instructions >

Medication							
Permanent medication							Medication history
Changes	Start	Medication	Dosage	Indication	Notice	Checked	▲
3	15.8.99	Seloken tabl, 50mg	1kaps(50mg) x 2 /vrk po	Hypertonia	May not be changed	4.4.11	
	8.6.08	Marevan tabl 5 mg	tauolla	Embolia	Paused until 6.6.2011	4.4.11	
	1.5.11	Amorion mixt, 100mg/ml	5ml(500mg) x3 /vrk po	Sinuiitis			
	15.8.10	Ex Tempore	1ml x2 / ihon alle	Pain killer	Sic!	15.4.11	
Medication on demand							
Changes	Start	Medication	Dosage	Indication	Notice	Checked	▲
...	5.12.09	Burana tabl 600mg	1tabl(600mg) x3/vrk po tarv	Pain killer		4.4.11	
...	5.12.09	Panacod poretabl, 500mg/30m	2 poretabl(1g) x4/vrk po tarv	Pain killer		4.4.11	

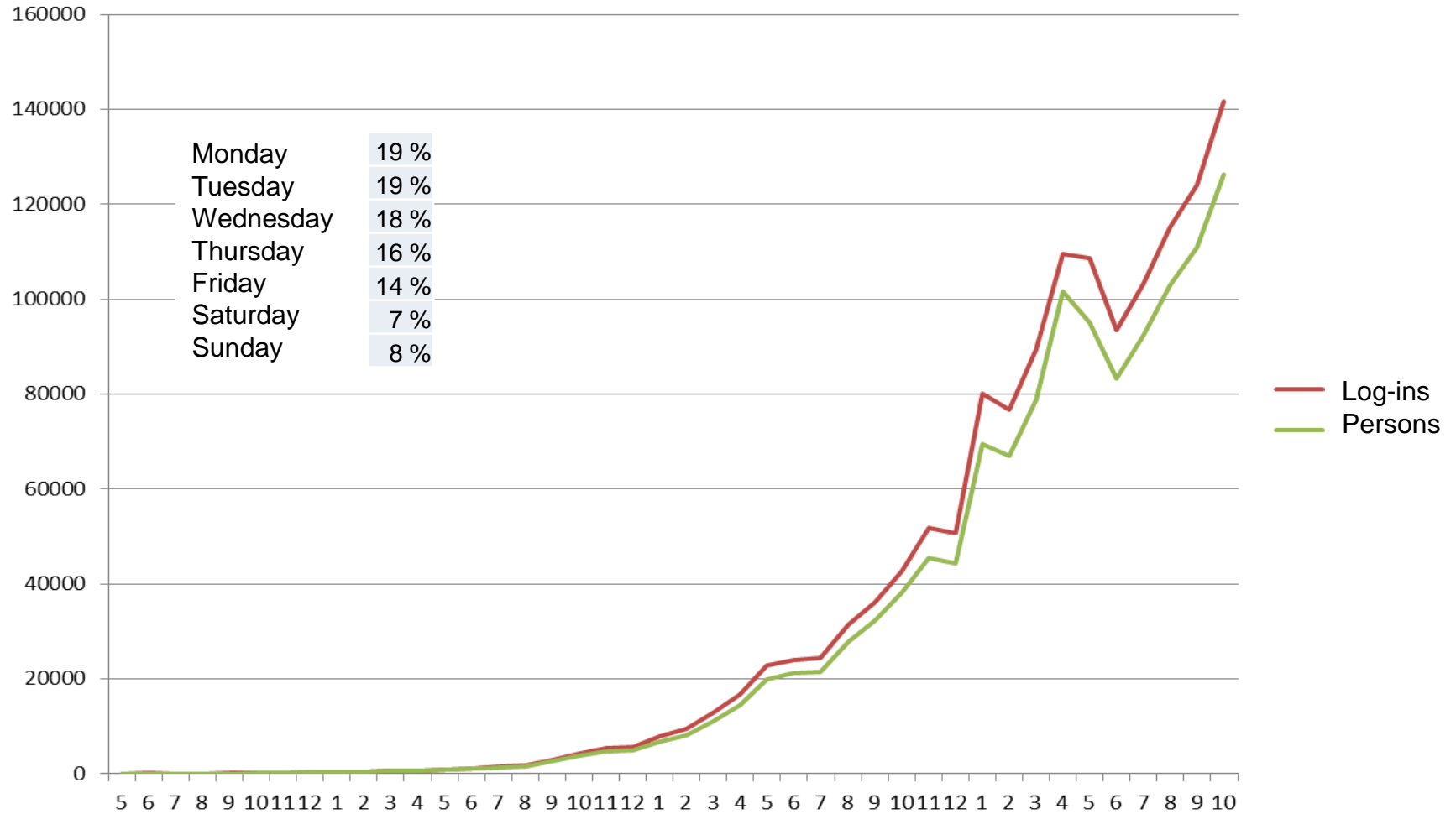
Diagnosis summary							
Chronic diagnosis				Dg-list	Old Dg's		
+	Times	Period of time	Dg-code	Diagnosis name	Ends		
...	4	22.1.07 - 15.8.2011	I10	Hypertonia arterialis			...
...	4	9.9.09 - 16.10.10	I20	Angina pectoris			...
...	2	22.1.07 - 15.8.2011	M10	Arthrosis Coxae			...

Medical riskfactors							
Critical riskfactors				Other risks	Old Risks		
+	Start	Risk	Notice	Certainty	Ends		
...	15.8.10	Pain killer induced asthma	Must not use anti-inflammatory drugs	Sure	...		

A visionary view!

User Interface for Citizens: My Kanta Solutions

In Active Use since 20 May 2010



Data on Personal ePrescriptions

1) ePrescriptions

[Etusivu](#) > Sähköiset reseptit

Sähköiset reseptit

Testi, Potilas [redacted]

i Sähköinen resepti on lääkemääräys, joka laaditaan sähköisesti Reseptikeskukseen. Tarkemmat tiedot reseptistä näet valitsemalla palvelussa 2,5 vuotta määräyspäivästä lukien. Resepti on voimassa, jos sen voimassaoloaikaa ole rajattu. Kun reseptillä ei enää ole lääkemääräys saamatta oleva määrä ja reseptin voimassaoloaika eivät enää...

Yhteenveto sähköisistä resepteistä

Yhteenvetoon tulostetaan alla valitsemasi vaihtoehdon mukaiset sinun viivakodin avulla nopeutat asiointiasi apteekissa.

Kaikki reseptit Reseptit, joissa on lääkettä saamatta

Määräyspäivä	Lääke
28.2.2014	DOLCONTIN 30 mg depottabletti
28.2.2014	LOMUDAL 40 mg/ml silmätipat, liuos kerta-annospipetissä

2) Data on Prescriptions & Deliveries

[Etusivu](#) > [Sähköiset reseptit](#) > Sähköinen resepti

Sähköinen resepti 28.02.2014

Testi, Potilas [redacted]

i Vaimisteen kokonaishinta on apteekin myyntihinta valmisteelle ennen mahdollisen sairausvakuutustain mukaisen korvauksen vähentämistä.

Lääke LOMUDAL 40 mg/ml silmätipat, liuos kerta-annospipetissä

Annostus ja käyttötarkoitus 1-2 tippaa 2 kertaa vuorokaudessa kumpaankin silmään. Pipetti on yhtä annoskertaa varten. Pehmeät piilolinssit otettava pois ennen lääkkeen tiputtamista, ja ne saa asettaa takaisin aikaisintaan 10 minuutin kuluttua lääkkeen ottamisesta. Allergialääke.

Määrätty määrä 4X60 x 0,3

Hoidon laatu Sairausten...

Määräaja von Markka

Määräyspäivä 28.02.2014

Määräyspaikka Terveyskeskus

Resepti voimassa saakka 28.02.2014

Läikettä saamatta 3 X 60 X 0,3

Lääkeostot:

Ostopäivä	28.02.2014
Lääke	LECROLYN
Ostettu määrä	1X80X0,25
Kokonaishinta	21,08 EUR

[Tietojen luovutukset](#)

3) Log Data

[Etusivu](#) > [Sähköiset reseptit](#) > [Sähköinen resepti](#) > Tietojen luovutukset

Yhteenveto sähköisen reseptin 28.02.2014 tietojen luovutuksista

Testi, Potilas [redacted]

i Tietojen luovutuksista voit seurata, missä apteekissa tai terveydenhuollon yksiköissä reseptitietojasi on käsitelty. Kun reseptitietojasi haetaan henkilötunnuksella, apteekki tai terveydenhuollon yksikkö saa tiedot kaikista sähköisistä resepteistäsi.

Lääke	LOMUDAL
Määräaja	Timo Markka
Määräyspäivä	28.2.2014

Reseptin tietoja on käsitelty seuraavissa terveydenhuollon toimintayksiköissä ja apteekkeissa:

Aallon apteekki	28.2.2014
Terveyskeskus testausta varten 1	28.2.2014

Data on Personal Healthcare Use

i Näytettävät tiedot ovat viimeisimmät terveystietosi Potilastiedon arkistossa. Valitsemalla ajankohdan näet kyseiseen käyntiin tai hoitojaksoon liittyviä tarkempia tietoja.

Käynnit ja hoitojaksot [\(Katso kaikki\)](#)

Ajankohta	Palveluysikkö
24.3.2014 - 24.3.2014	Kuopio
24.3.2014	Kuopio
24.3.2014	Kuopio
20.3.2014 - 20.3.2014	Kuopio
19.3.2014 - 19.3.2014	Kuopio
18.3.2014	Kuopio
13.3.2014 - 13.3.2014	Kuopio
10.3.2014 - 10.3.2014	Kuopio
10.3.2014	Kuopio
3.3.2014 - 3.3.2014	Kuopio

[Etusivu](#) > [Terveystiedot](#) > [Käynnit ja hoitojaksot](#) > [Käynti/hoitojakso](#)

Käynti/hoitojakso 27.2.2014

Testi, Potilas [redacted]

Ajankohta 27.2.2014
Palveluysikkö Testi tk

Diagnoosit [\(Katso kaikki\)](#)

Käynti/hoitojakso	Diagnoosi
25.2.2014 - 25.2.2014	M54
19.2.2014 - 19.2.2014	R56.0
7.2.2014 - 7.2.2014	J06.9
6.2.2014 - 6.2.2014	W00
6.2.2014 - 6.2.2014	S62
6.2.2014 - 6.2.2014	Y94.5

Diagnoosit

Lähteet/hoitopalautteet

[Tutkimukset](#)

Potilaskertomus

RTG
Mikkola laboratoriohoitaja
Testi aluelaboratorio
28.2.2014
Hoidon toteutus
Tutkimukset
Tutkimus: ND1AA Ranteen
Oikean käden UÄ kaatumis-
puolisuus: oikea puoli

RTG
Mikkola laboratoriohoitaja
Testi aluelaboratorio
28.2.2014
Hoidon toteutus

[Etusivu](#) > [Terveystiedot](#) > [Tutkimukset](#) > [Käynnin/hoitojakson tutkimukset](#)

Käynnin/hoitojakson tutkimukset

Testi, Potilas [redacted]

Käynnin/hoitojakson ajankohta [27.2.2014](#)
Palveluysikkö Testi tk

Laboratoriotutkimukset

Näytteenottoaika	Tutkimuksen nimi	Tutkimuksen tyhenne	Tutkimuksen tulos	Viitearvot
28.02.2014	S-ASAT tutkimus	S-ASAT	77 UI/l	10-40 UI/l

Radiologian tutkimukset ja lausunnot

Tutkimusaika	Tutkimuksen nimi	Tutkimuksen koodi
05.10.2011	Käsen ja sormien UÄ Lausunto 24.04.2009 / Mikkola laboratoriohoitaja Ei vikaa.	ND2AE
05.10.2011	Nilkan rtg, laaja Lausunto 24.04.2009 / Mikkola laboratoriohoitaja Oikeassa nilkassa ventähöys.	NH1BA
05.10.2011	Pään TT Lausunto 24.04.2009 / Mikkola laboratoriohoitaja Ei mitään poikkeavaa.	AA1AD

National eSocialWelfare Solutions

Health and Social Care Information Management in Finland

Health Care Services

- ❑ Continuous and Accumulative information
- ❑ Patient-centric information
- ❑ Summary-Oriented information
- ❑ Importance of Screening information during Health Care Processes

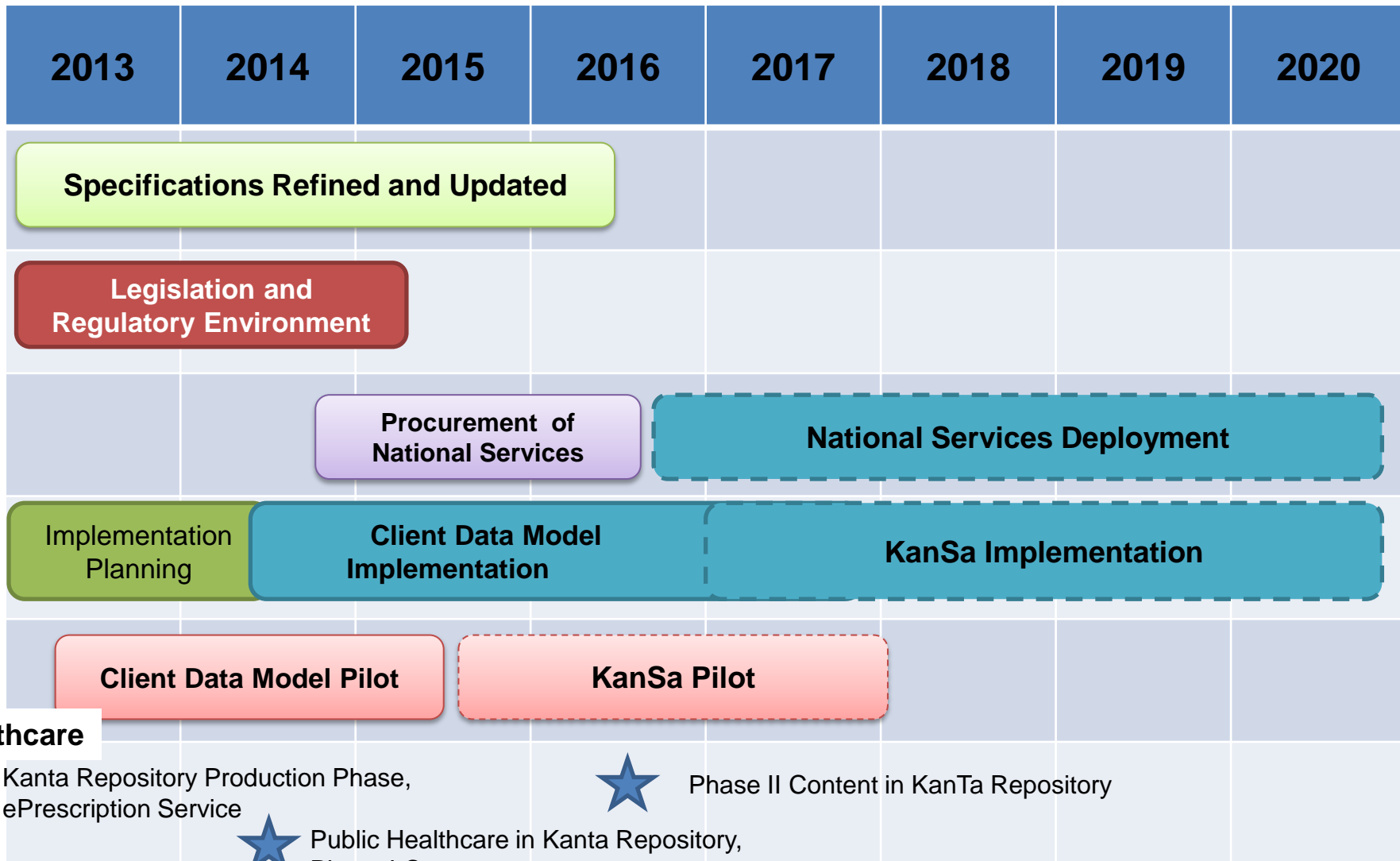
Social Care Services

- ❑ Client or Client Group Specific information
- ❑ Function Specific information (Child Protection, Day Care, Elderly Care...)
- ❑ Accumulative information Only During the Service
- ❑ Little Summary-Oriented information
- ❑ Importance of Screening information according to Information Groups / Document Types
- ❑ Preservation and Archiving According to Decision Making Level

Social and Health Care Services

- ❑ Municipal Responsibility of Services
- ❑ Some Joint Services (e.g. Home Care)
- ❑ Interprofessional Teams
- ❑ Responsibility of Archiving Documents
- ❑ Availability & Preservation Requirements
- ❑ To Most Extent Shared Legislation and National Development Governance
- ❑ Service Provision Models Are Being Integrated to Some Extent
- ❑ **Many Shared Development Needs & Information System Requirements**

Development Roadmap – social care



Information specifications in eSocialWelfare in Finland

National Client Data Model (Social Welfare Specific)

Specifies the contents and relationships of social services documentation

About 250 client document structures in 16 main document types

More than 150 data components (elements)

More than 70 classifications, including services and service commissions

Terminologies

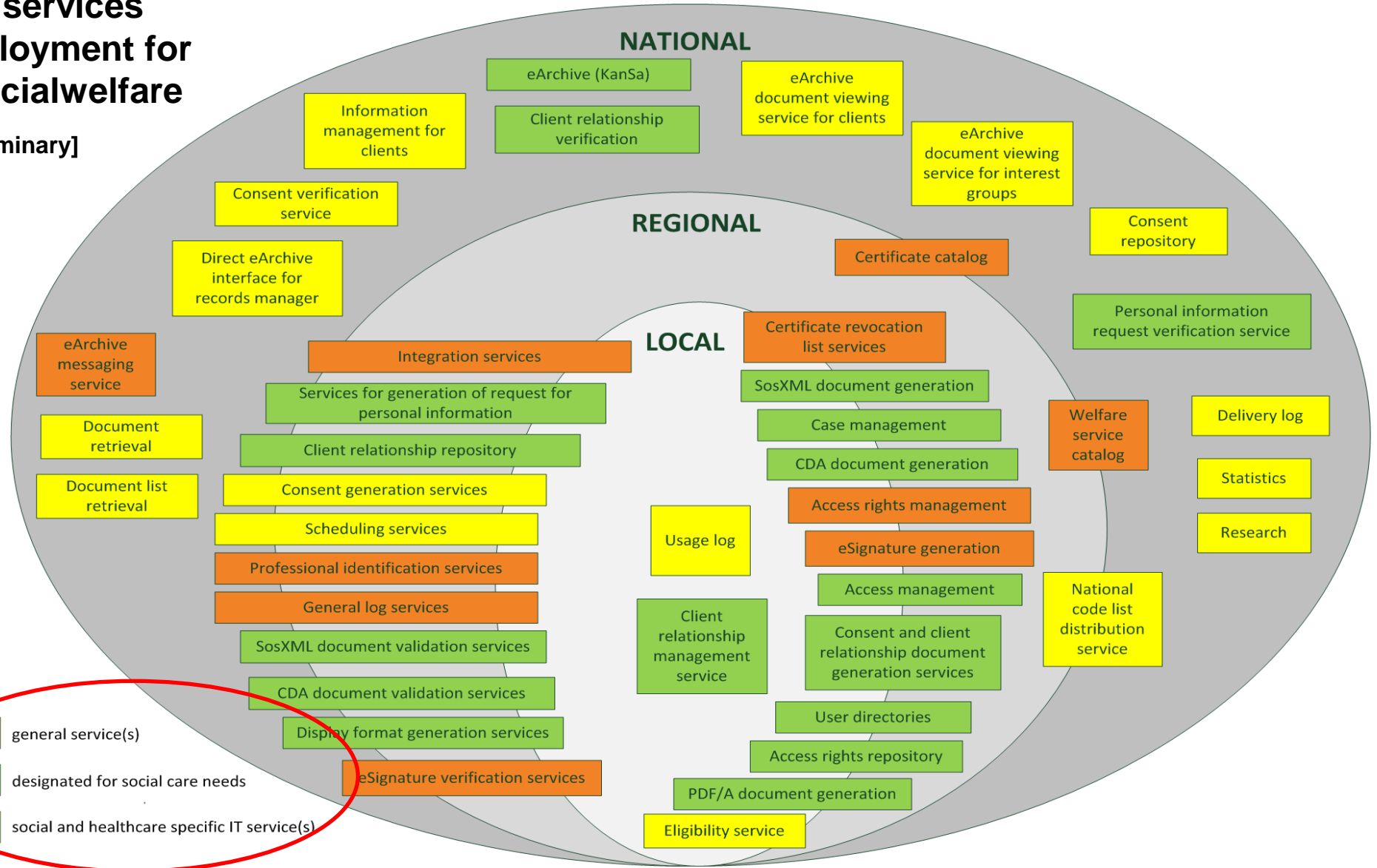
Four national terminologies to support use of data components, client documents, classification of social services, and client information systems development

Metadata Specifications for Documents

Applying national healthcare CDA R2 document metadata

ICT services deployment for eSocialwelfare

[preliminary]



Timetable 2010–2016

Act on Health Care 2nd Phase

Patient Directive Implementation

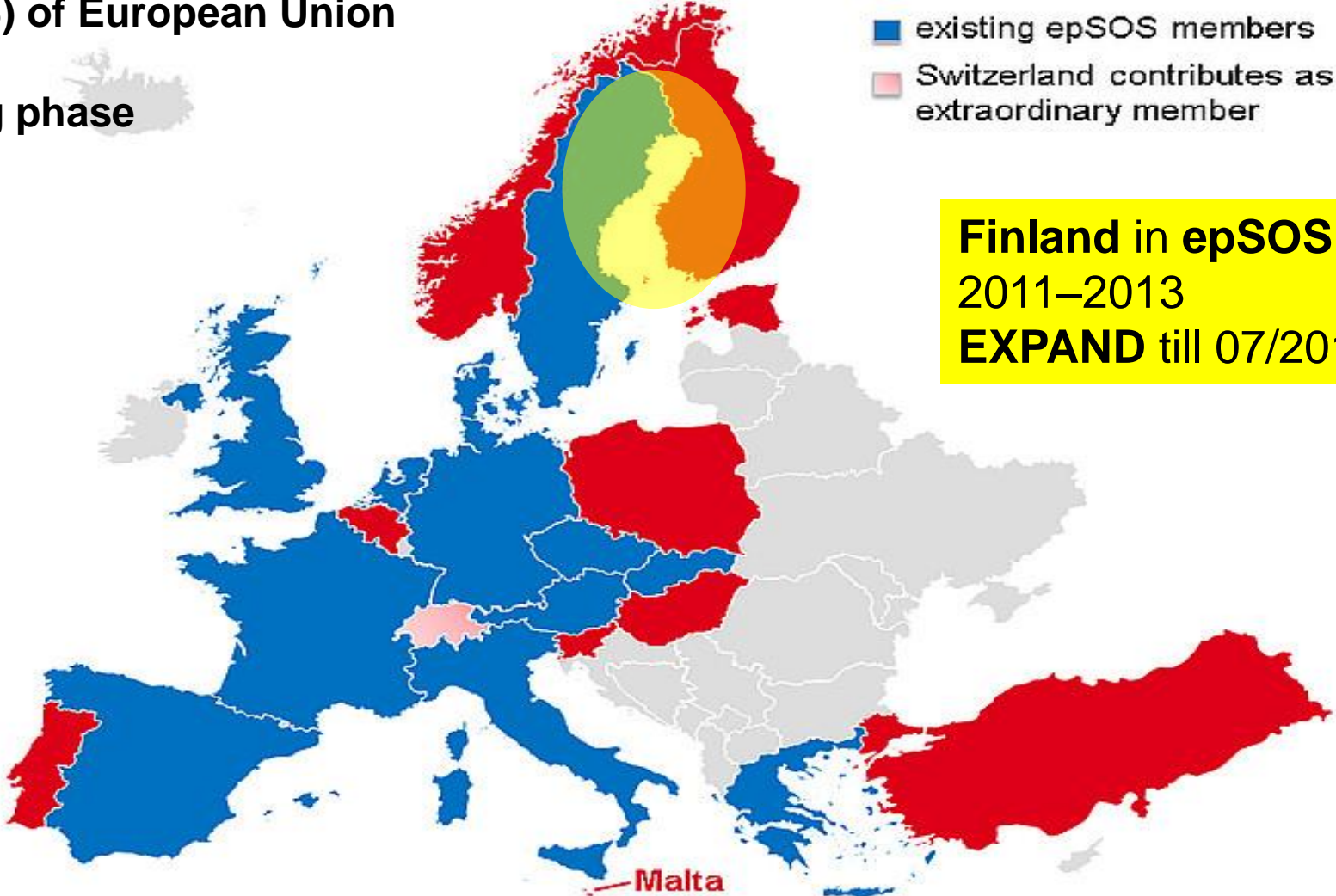
OPER

	2010	2011	2012	2013	2014	2015	2016
National ePrescription Service		(31.03.2011)	31.03.2012	31.03.2013	31.03.2014	31.08.2015	31.12.2016
Pharmacies: obligatory to connect (100%)	19.05.2010	-----	31.03.2012	-----	-----	-----	-----→
Public Health Care: obligatory to connect (100%)	20.05.2010	-----	-----	31.03.2013	-----	-----	-----→
Private Health Care: obligatory to connect				22.04.2013	31.12.2014	-----	31.12.2016
National Repository for Patient Records		(31.03.2011)			31.08.2014	31.08.2015	
Public Health Care: obligatory to connect		15.11.2011	-----	02.11.2013	31.08.2014	-----	-----→
Yksityinen th: obligatory to connect			-----	-----	-----	31.08.2015	-----→
User Interface for Citizens		(31.03.2011)					
ePrescriptions: eAccess service open for use	19.05.2010	-----	-----	-----	-----	-----	-----→
eArchive: eAccess service open for use		15.11.2011	-----	-----	-----	-----	-----→
User Interface for Healthcare Professionals					31.08.2014		31.08.2016
Phase 1: obligatory			-----	-----	31.08.2014	-----	-----→
Phase 2: obligatory			-----	-----	-----	-----	31.08.2016

Smart Open Services for European Patients (epSOS) of European Union

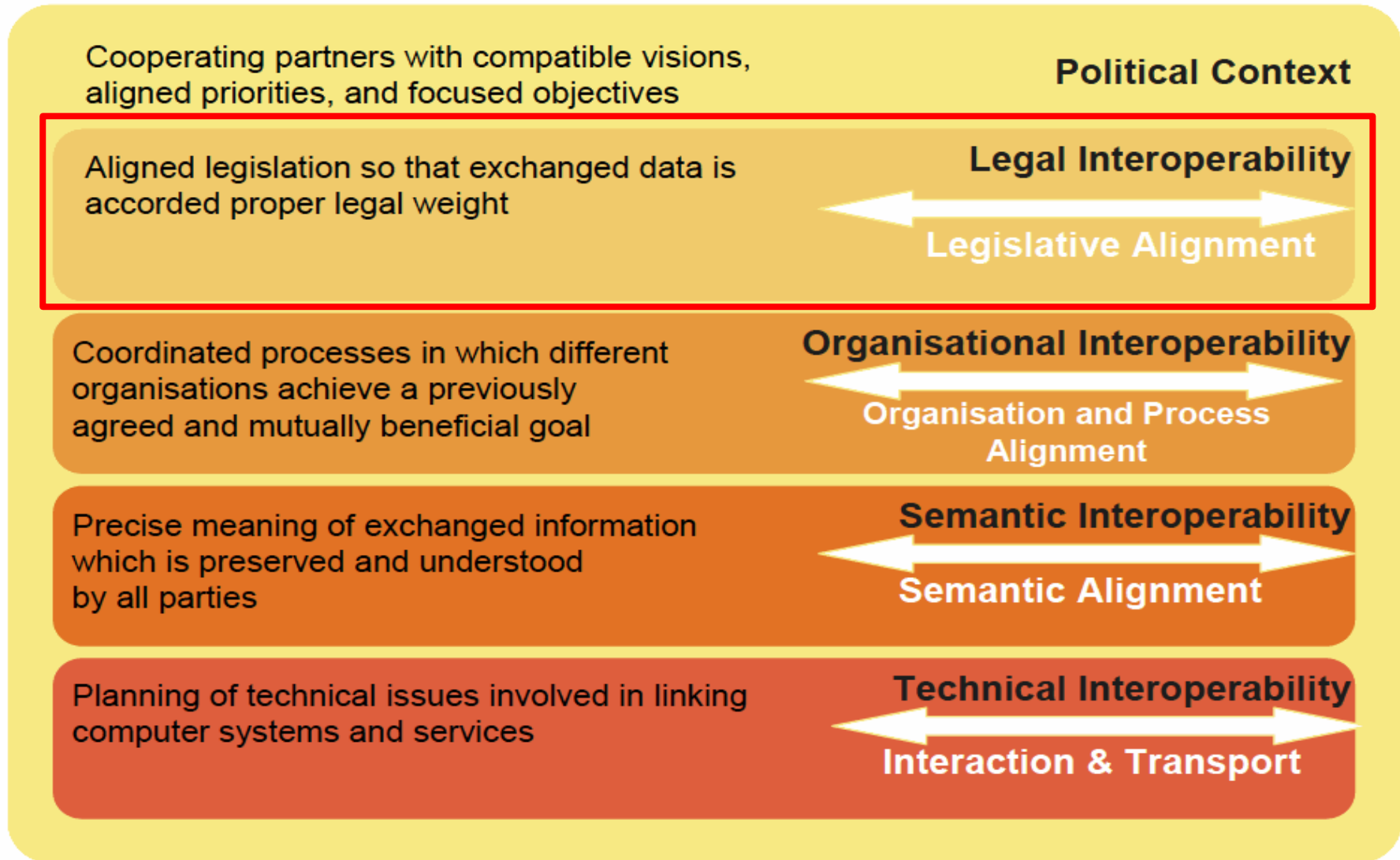
Piloting phase

- new epSOS members
- existing epSOS members
- Switzerland contributes as extraordinary member



RESULTS

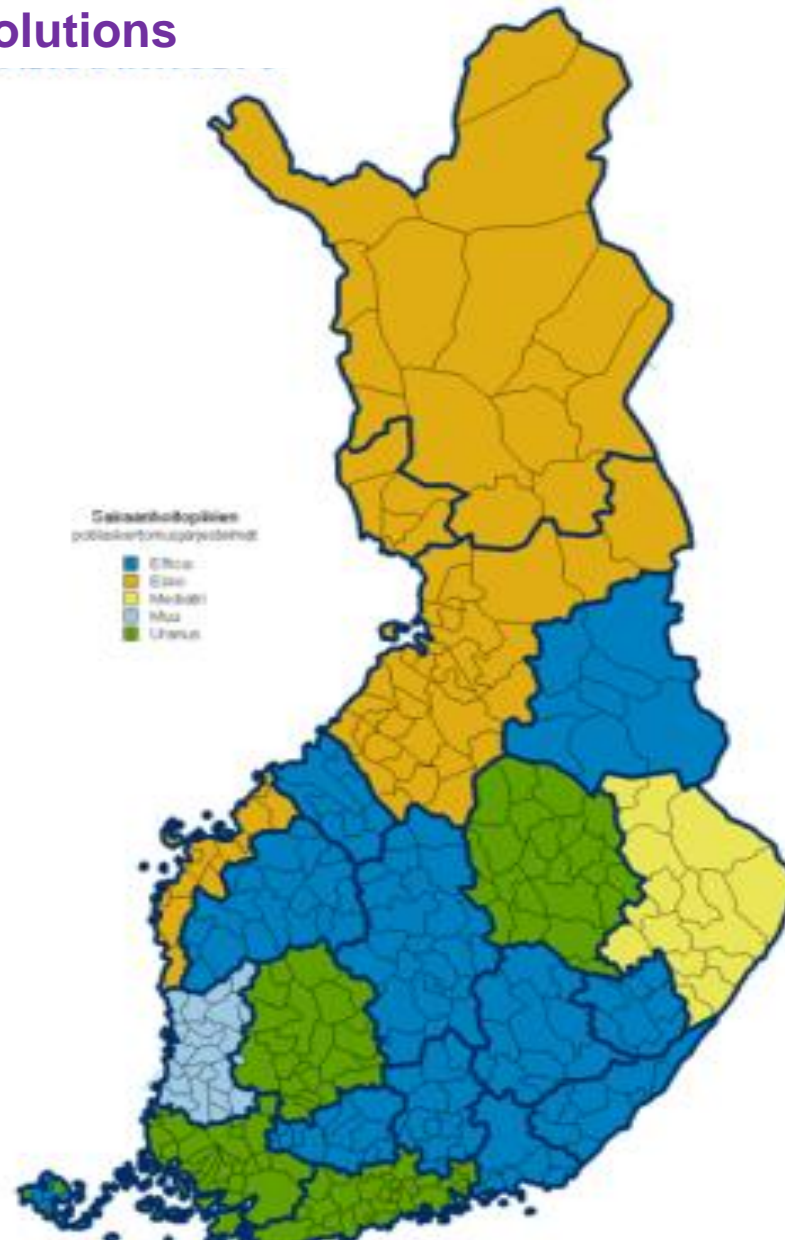
European Interoperability Framework (EIF)



Finnish areal wide healthcare services

Areal wide solutions

Areal solutions



RESULTS

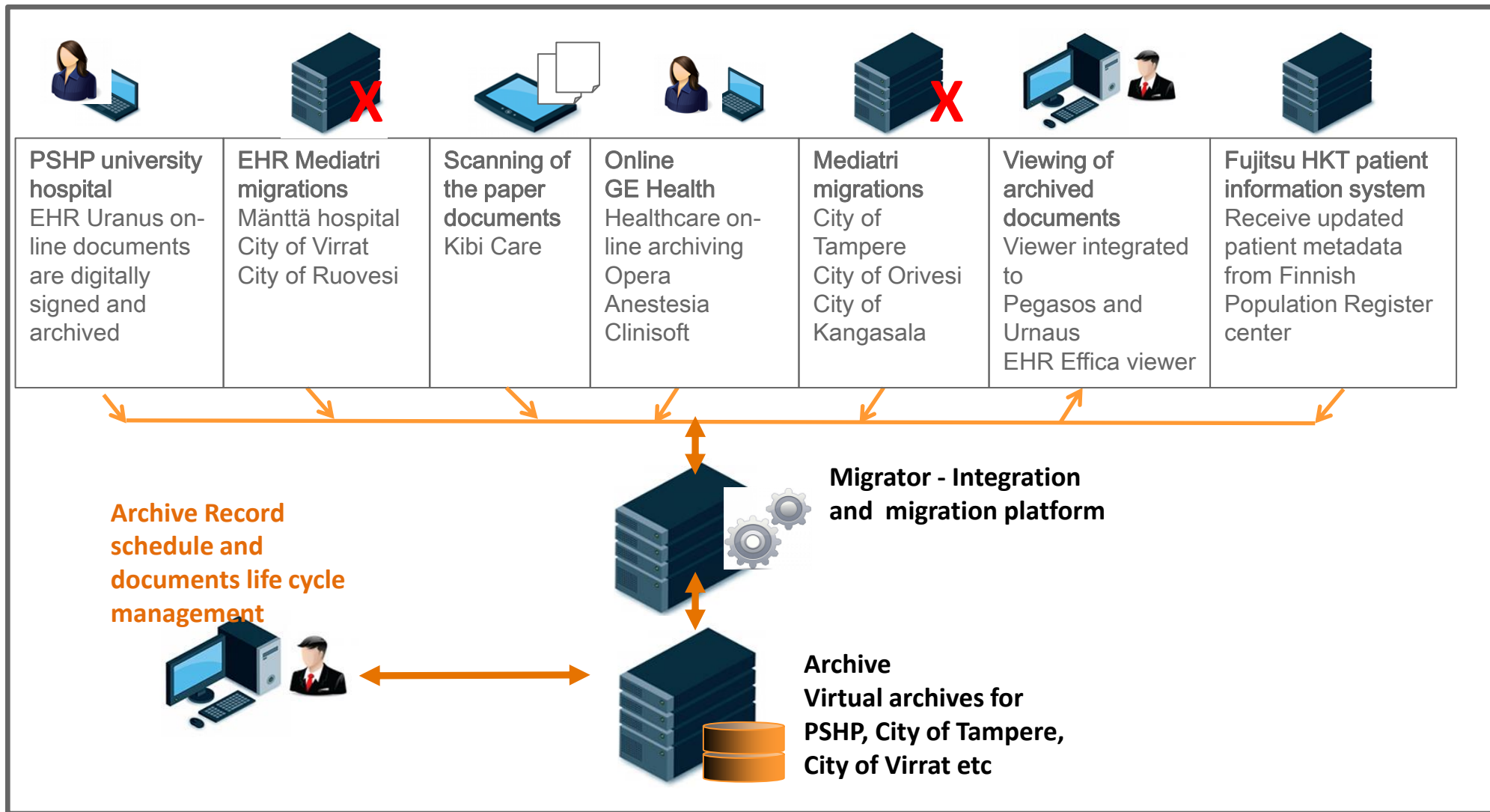
Case Pirkanmaa University hospital area (second biggest in Finland)

- Target:
 - Paperless hospitals and healthcare centers
- Benefits:
 - Cost savings
 - More effective patient care processes
 - Legal digital archives – no paper archive costs
 - Low migration costs of decommissioned systems – on € 0,10-0,20 per document
 - Better quality of the care
 - All patient documents archiving and searching are more effective
 - Automated life cycle management of archived documents
- Solutions has to be compliant with national level standards

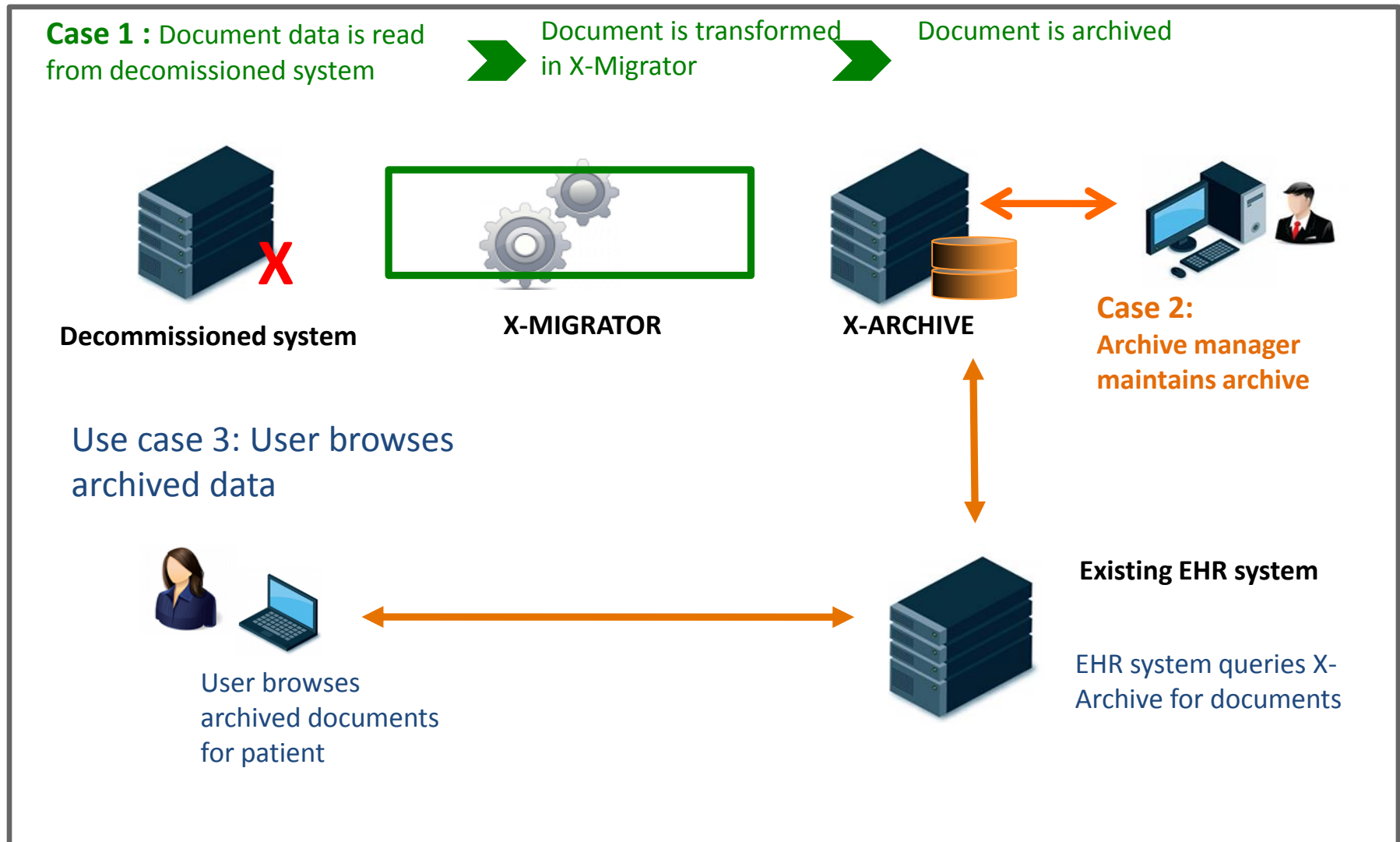
Case Pirkanmaa University hospital area

- District wide archive-solution for Pirkanmaa area
- Archive is a core data storage
- Several HIS-systems archive documents as on-line archiving to X-Archive
- Incoming paper documents scanned to Archive and they can be viewed in master HER-systems such as Uranus
- Several data migrations done from decommissioned EHR-systems
- District wide viewing of the archived documents
- Based on national and international standards such as HL 7

Case PSHP – Areal wide archive solution

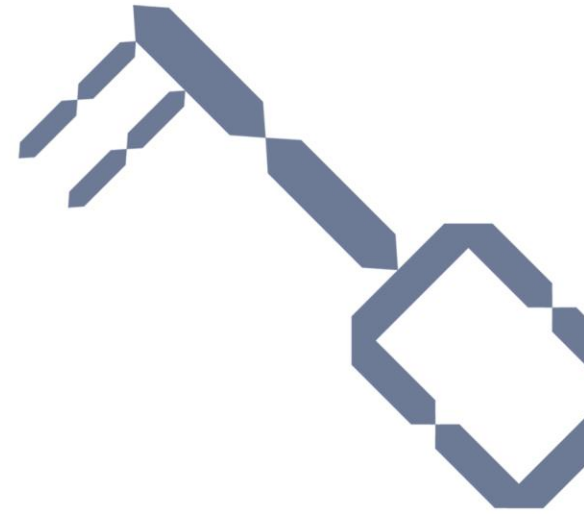


Data migrations and integrations



Migration benefits

- Old data structures are migrated to modern data structures (HL 7 CDA-format)
- Old data is available in new EHR systems
- No need to pay maintenance and service fees of old systems
- Provided as cloud service – no server or application investments required from customer



Smart solutions for eSociety

Thank you