

National eHealth program in the Netherlands – design and status

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Me...

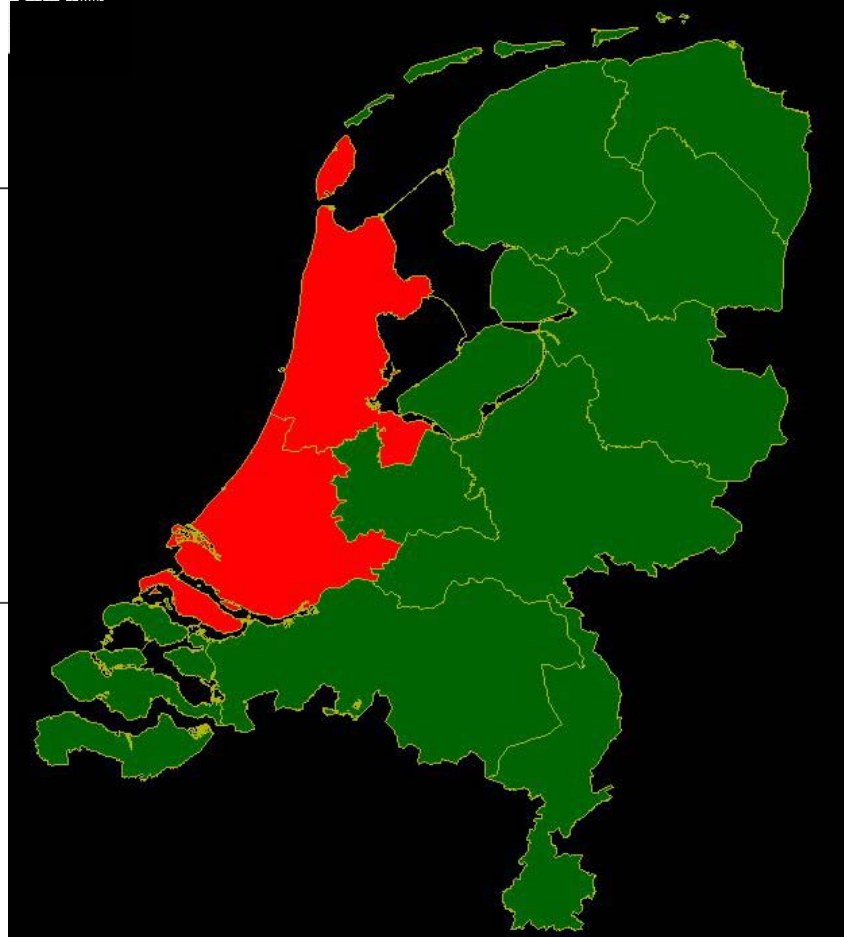
- Michiel Sprenger, PhD
- Clinical Physicist
- MRI, X-ray, radiotherapy
- Clinical informatics
- Free University MC, Amsterdam
- Joined Nictiz 2008



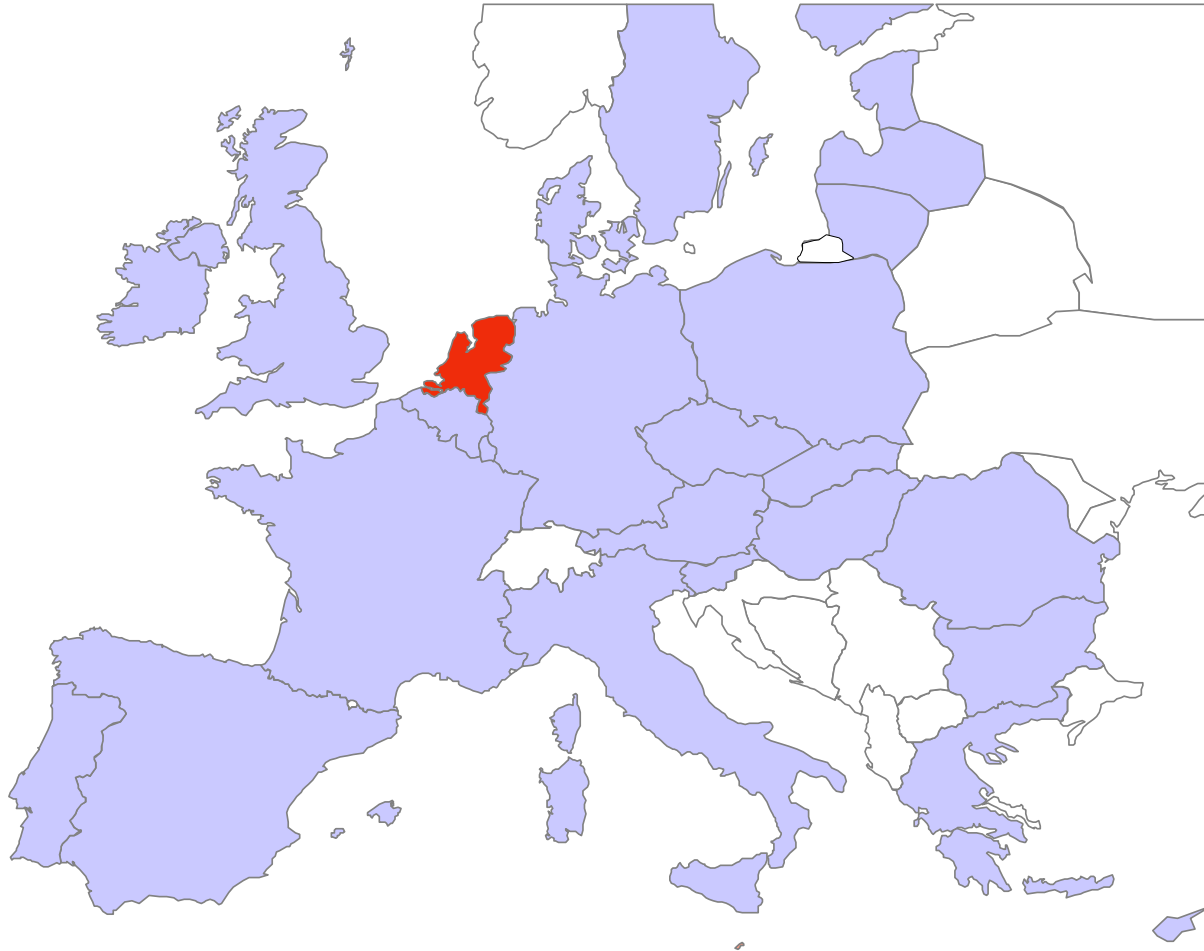
Nictiz

- Founded in 2002
 - The national competence center for health IT
 - ~ 100 fte
 - Tasks:
 - Define and maintain standards
 - Build and run infrastructure
 - Develop care applications on infrastructure
 - Offer knowledge & advice
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Belgium-Holland ?



The Netherlands in EU



Area: #22/27

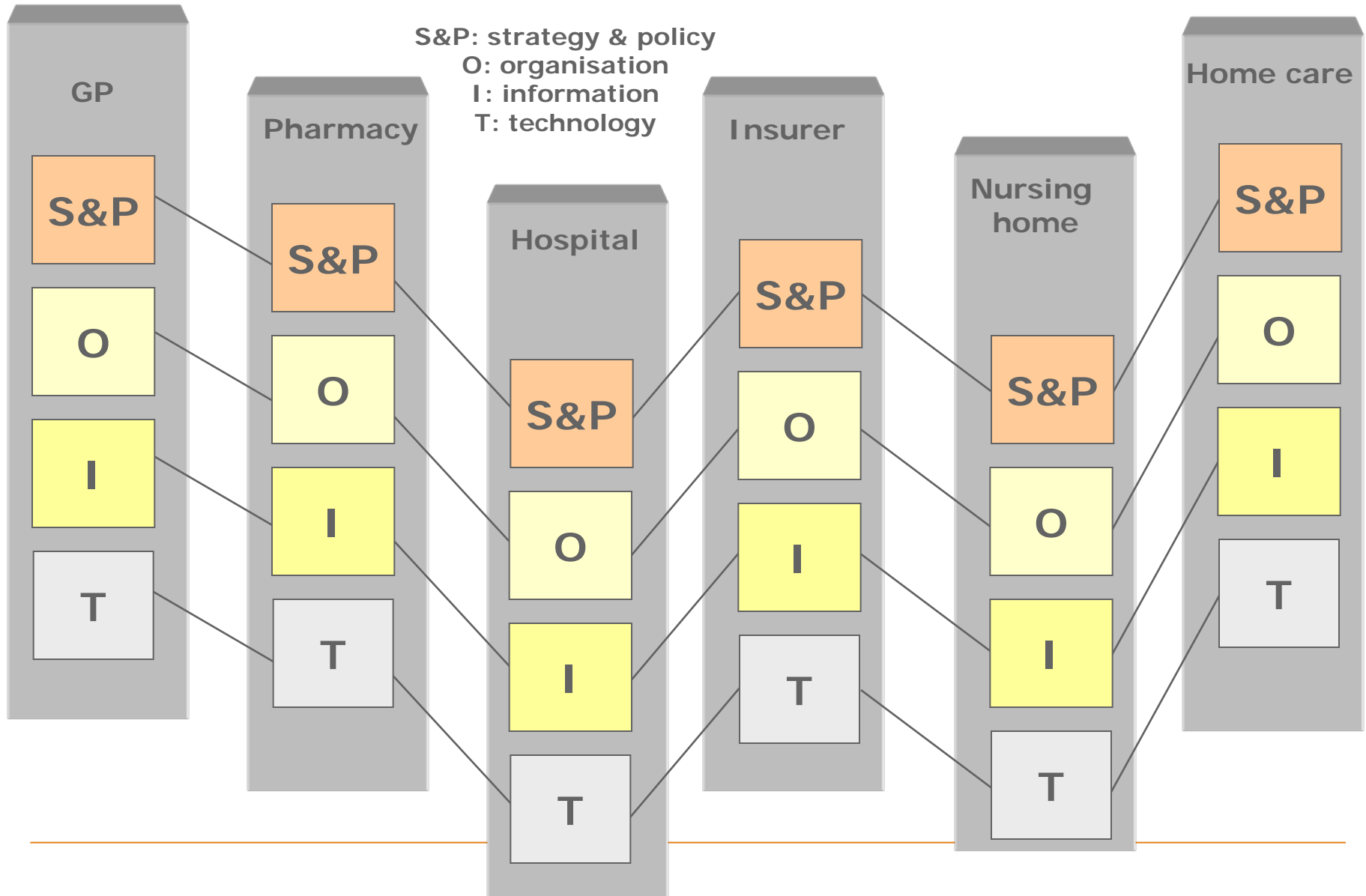
Pop: #8/27

Healthcare in the Netherlands

- Multi-enterprise business model:
- 100 hospitals, 4500 GP practices, 1800 pharmacies, 100 locum tenency services for GP's, each responsible for own finance, medical policies, investments, **and IT**
- **Thus: interoperability problems are large on all levels**
- → Urge for standards
- → Much debate ("polder"-model)

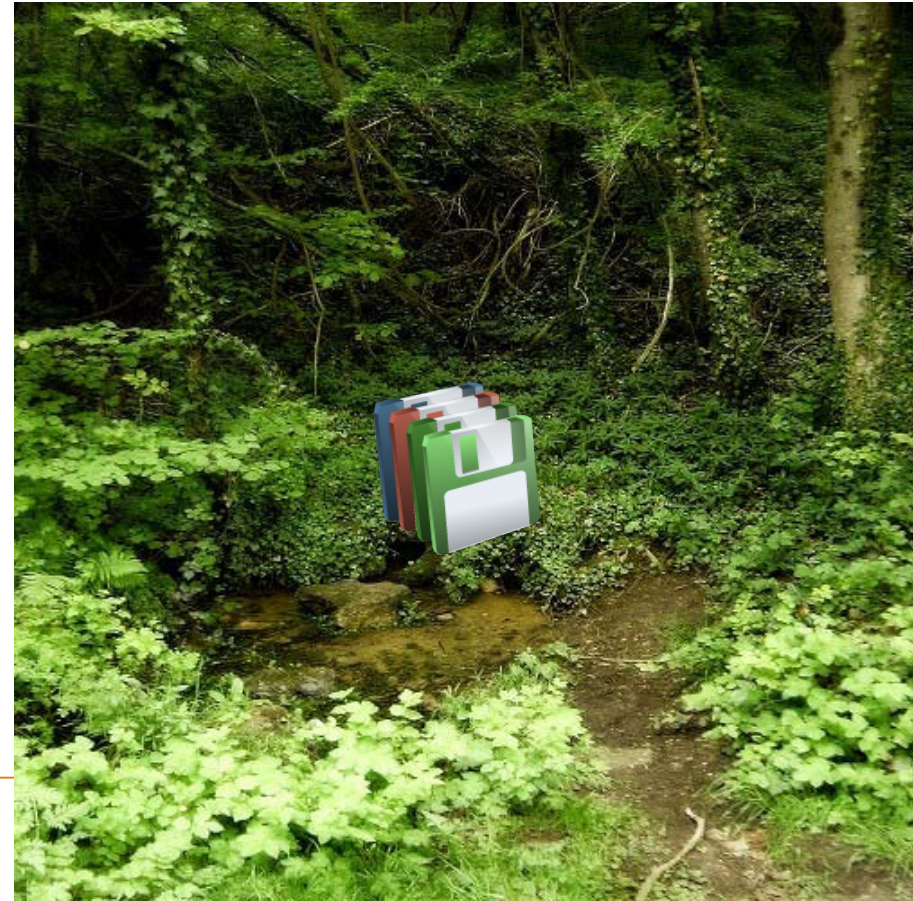


Interoperability - levels



Upfront Choice for health IT

- Leave information at the source
 - Responsibility
 - Unambiguousness
 - Security
- Fits to business situation
- → Connectivity, not “system” building



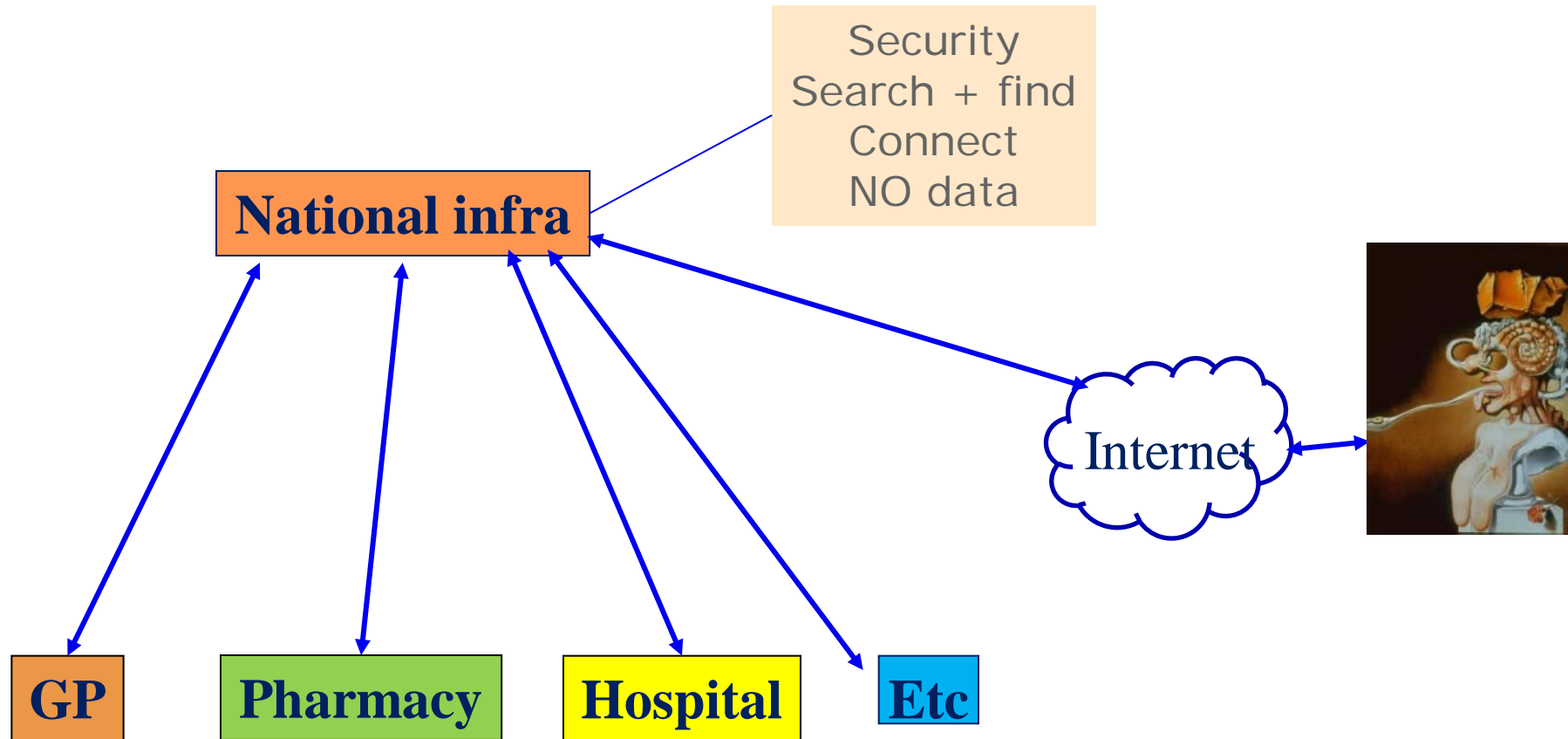
Nationwide electronic patient record ("the EPD")

- It is not a **record**, nor a **system**
- It is an **infrastructure**
- Leaving information at the source
- In the (electronic) working environment of the Health Care Professional or Provider
- Under the responsibility of the source HCP
- Enabling **selective and safe** information exchange between HCP's and between HCP's and patients

IT proliferation

- Hospitals:
 - PACS 100%
 - HIS 100%
 - Clinical overview: 80%
 - Order management (CPOE): 30%
 - General Practitioners: 100%
 - Pharmacies: 100%
 - Nursing homes: 10%
-

In a scheme



Infrastructure - 1

- Standardised communication
- Safe communication
- Logging
- Identification: patients, HCP's
- Patient consent registration & handling
- Index function: search, find, transfer

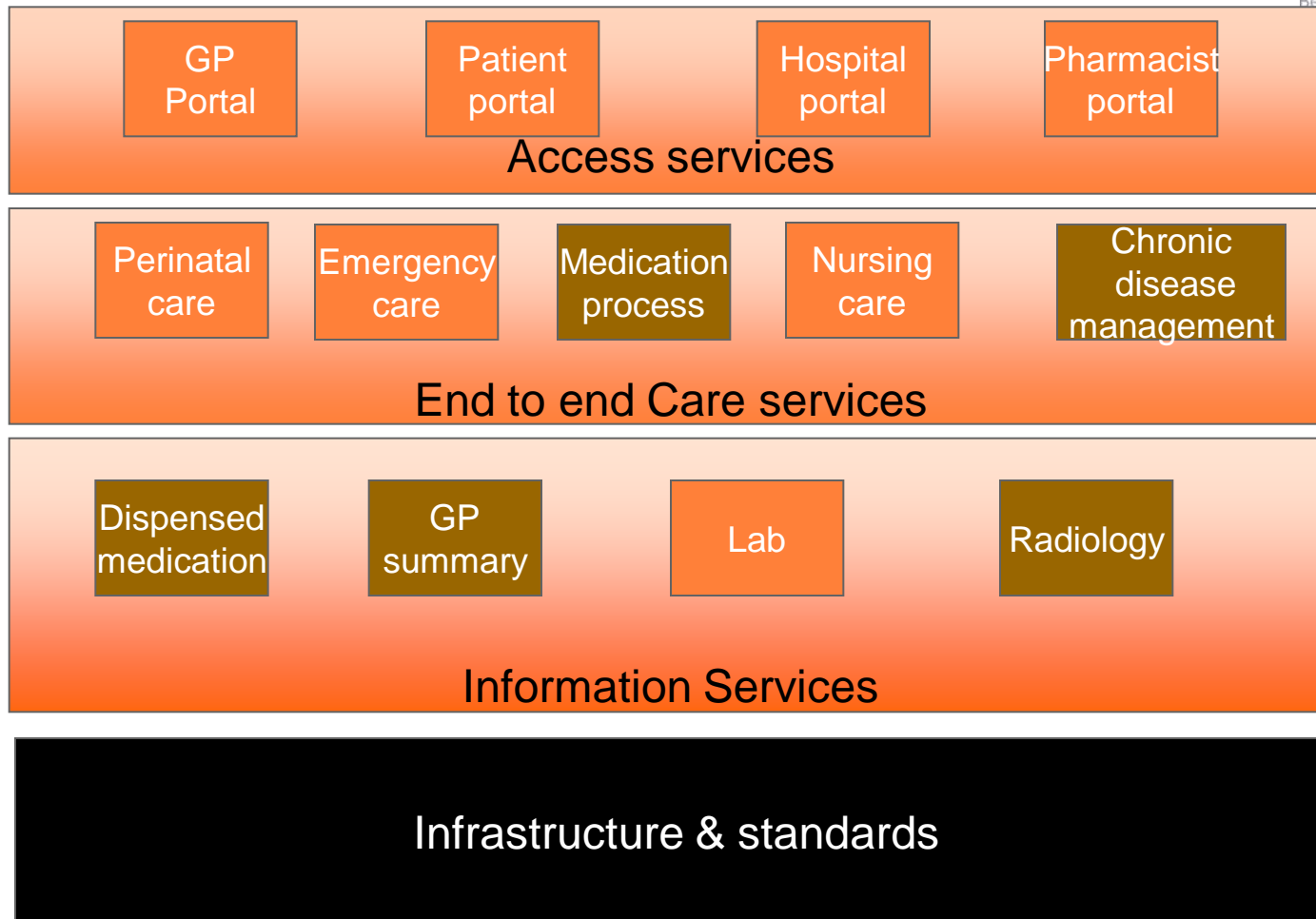
Infrastructure - 2

- Per application area:
 - Model for cooperation in healthcare area
 - Information model
 - Technical model & standards
 - Qualification of systems
 - Authorization guidelines
- Bring in legislative framework
- Business model and plan

Standards

- **HL7v3** for messaging (www.hl7.org)
 - **SNOMED-CT** for “language” unification
Systematized Nomenclature of
Medicine – Clinical Terms
(www.ihtsdo.org)
 - **IHE** for implementation guidelines
Integrating the Healthcare Enterprise
(www.ihe.net)
 - Many others
-

Care programs



To mention today:

- Medication services
- Locum tenency service for GP's
- Radiology
- Diabetes disease management
- Emergency care

Medication

- Driver: Safety
 - Electronic support of the entire community medication process:
 - Prescribe → check → dispense (→administration)
 - Record
 - Make available for later use (medication surveillance)
 - Status: dispensed medication overview ready
-



Locum tenency - GP

- Drivers: Quality, continuity
- First instance of patient summary
- Requestable from any locum service
- Source: GP
- Report back to GP
- Status: ready for broad implementation



Radiology

- Drivers: Quality and efficiency
- All radiology results (images and reports) retrievable for all medical specialists, in their own viewing environment
- Based on XDS-I, IHE
- Building pilot in Amsterdam
- National transparency



Diabetes - proposition

- Driver: Quality
- Exchange of all data relevant to diabetes between the (many) healthcare professionals involved
- Self-management
- Reports



Diabetes - status

- Care standard - ready
- Information model – ready
- Architecture – ready
- Implementation guidelines (messages) – ready
- 2 pilots running – Q4 2009



Emergency - proposition

- Electronic support for the chain
Incident room → ambulance →
Emergency Department → report
back to GP
- Make patient summary available in
all steps



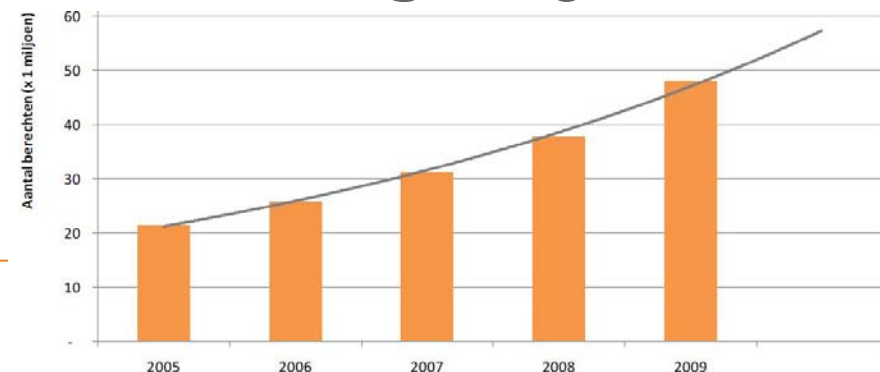
Knowledge & advice: 5 areas for Nictiz

1. Organise events, meetings, classes
2. Answer questions and build knowledge database
3. Organise partner programs
 - Hospitals
 - Regional networks
 - ...
4. Measure & publish on national situation
5. Connect to international community



Current situation

- **National** infrastructure phase 1 ready
 - Dispensed medication ready
 - Locum tenency service ready
 - 1300 HCP's connected
 - Data stream steadily growing
-
- **Regional**: 100M Edifact messages/yr
 - Pushed and indexed
 - Number is growing



Dutch Regions

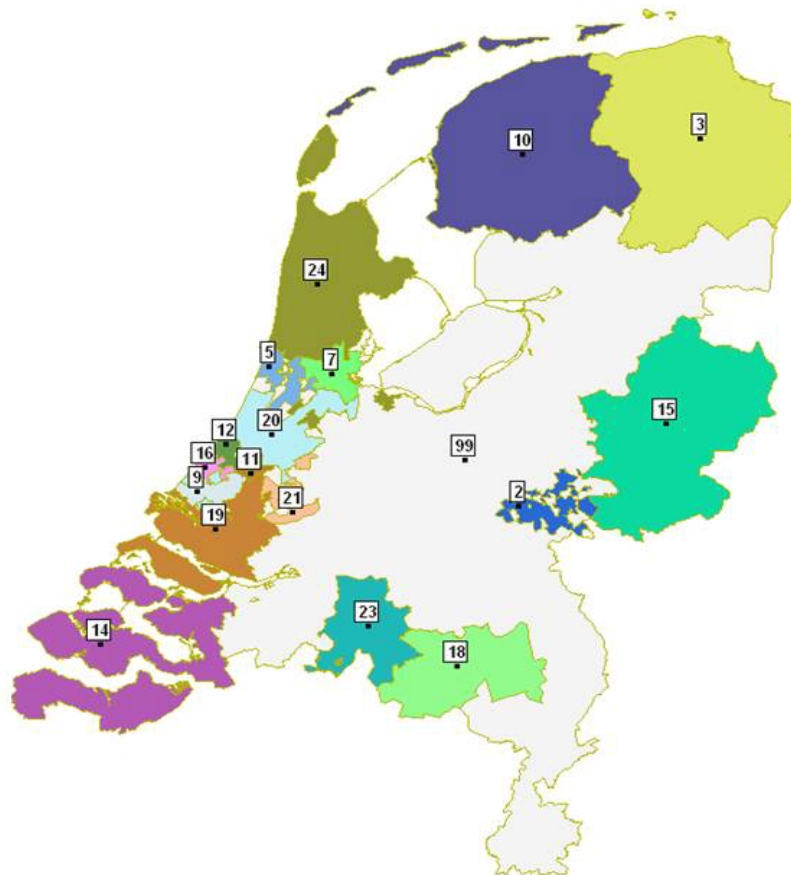
- Dutch regions active in electronic information exchange
- Not nationwide yet, but for 60%
- Some are highly professional, others are start-ups
- Nictiz facilitates cooperation

Partner program regional networks

- ~ 25 organisations
- Sponsored by HCP's in region
- 0,5M à 1M inhabitants
- No boundaries possible
- Use implementation power
- Make transparent
- Migrate



The Dutch Regional Collaboration Organizations (RCO's) Better care thanks to better information



Geografische regio-indeling bij benadering, zoals bekend per 25 mei 2010

De nummers corresponderen met de tabellen in de tekst.

2	Arnhem
3	LabNoord, CareRing
5	SDSK
7	EZDA
9	GEMS
10	GERRIT
11	Zoetermeer SGZ
12	Haagnet
14	Zeeland IZ-Zeeland
15	IZIT
16	RSO Haaglanden
18	Rheco
19	Rijnmondnet
20	Sleutelnet
21	SPITZ Midden-Holland
23	Zorgnetwerk Midden Brabant
24	Zorgring
99	Niet ingevuld

Dutch Regions

- Three business models :
 1. Active in collaboration projects
 2. Active as supplier of IT services
 3. Active in both 1 and 2

Participation care professionals in regional context

■ Hospitals	100 %
■ GP's	96 %
■ Pharmacies	60 %
■ Paramedics	30 %
■ Care / nursing	30 %

Aims

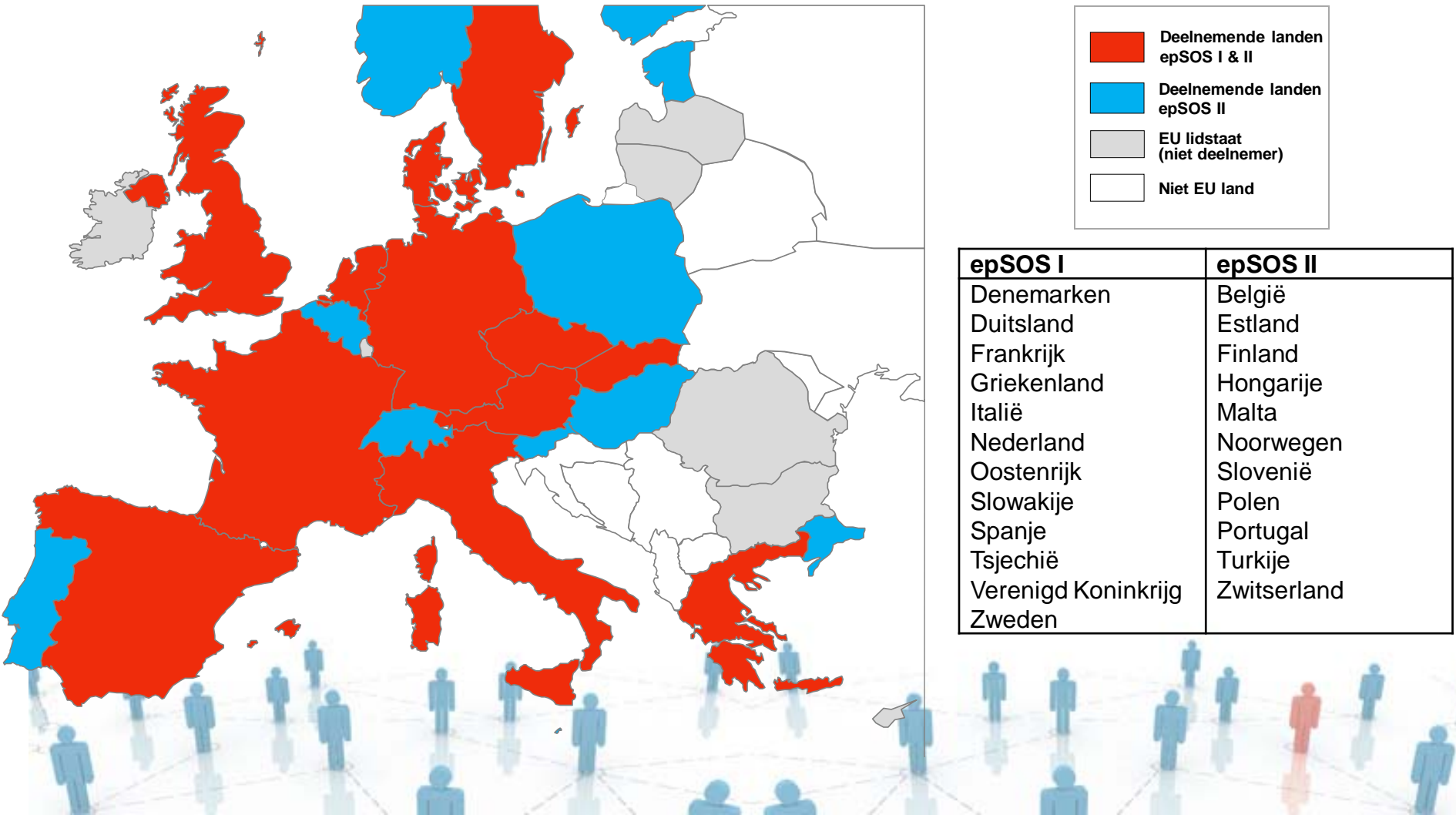
- Stimulate developments closer to clinical practice
- Migrate and make transparant

Beyond BE-NL

- epSOS, a European large scale pilot for interoperability
- Cross-border exchange of:
 - Patient Summary
 - Electronic Prescription

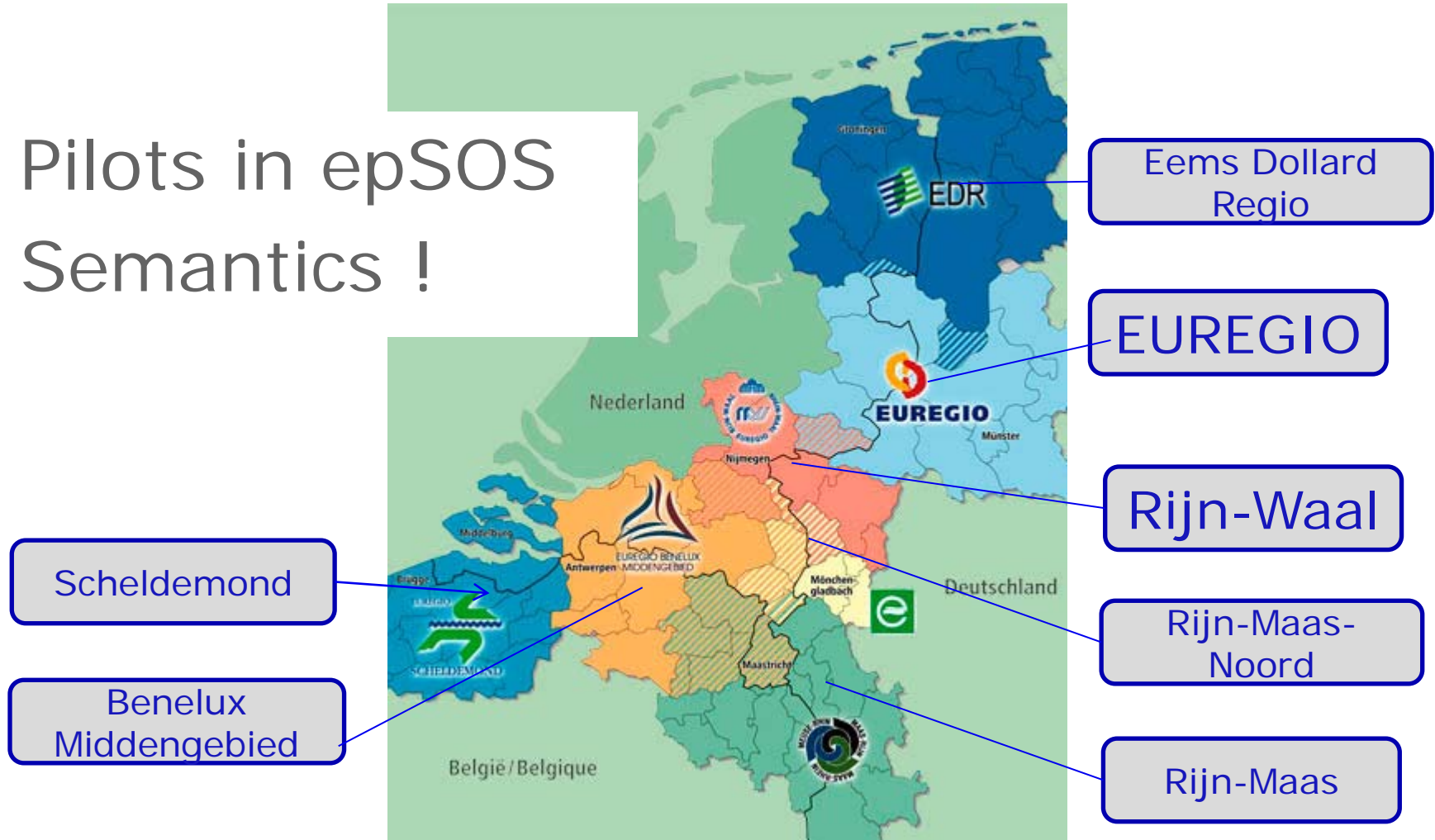


epSOS participating countries



Collaboration BE-NL ?

- Pilots in epSOS
- Semantics !



Lessons learned

- Build **one** national competence center
- With a good relationship to the ministries
- Link to the field: professionals, organisations, industry
- Realise that most time is invested in consensus processes
- Prepare legislation well in time

Lessons learned (2)

- Do not run too fast with infrastructures: keep in touch !
- Use regional organisations:
 - Organise regionally
 - Standardise nationally (and beyond!)
- Work on true interoperability organised, is more than infrastructure !





further information...

- www.nictiz.nl
 - Plans, activities, newsletters
 - Project-info Nictiz / Nationwide
 - Standards
 - Reports
- www.epsos.eu
- sprenger@nictiz.nl

