Communication requirements in healthcare

Michael Tan
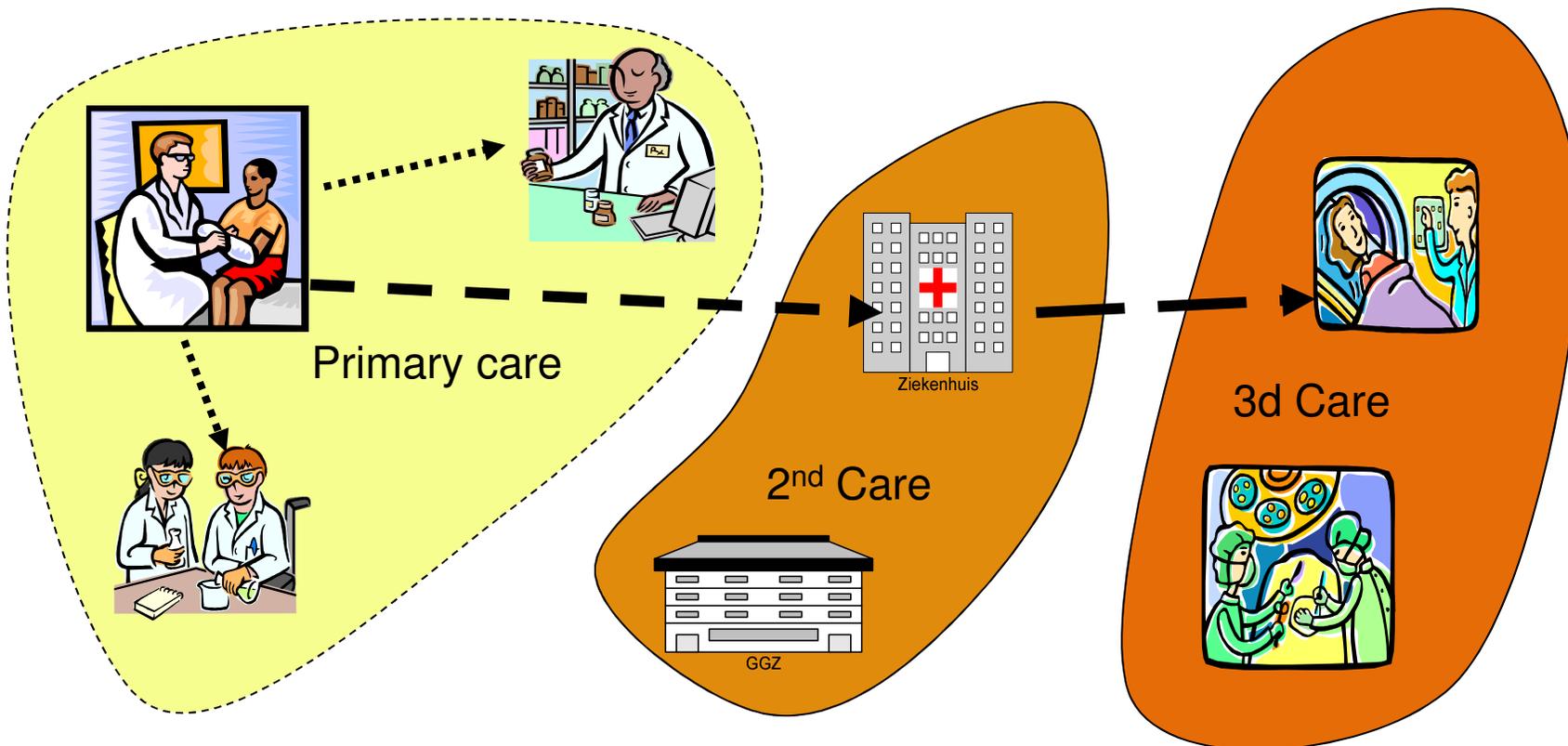Product Manager Nictiz

5 October 2011

Background figures

- 17 million inhabitants

- 92 Hospitals

- 8 University hospitals

- 4500 GP practices

- 1800 Pharmacies

Healthcare structure

- Healthcare structure in Netherlands:

Primary care

2nd Care

Ziekenhuis

GGZ

3d Care

Business case

- *Estimation of 41000 hospital admissions yearly in the Netherlands due to medication issues. 19000 are potentially avoidable. Costs are estimated to € 85 million per year.*
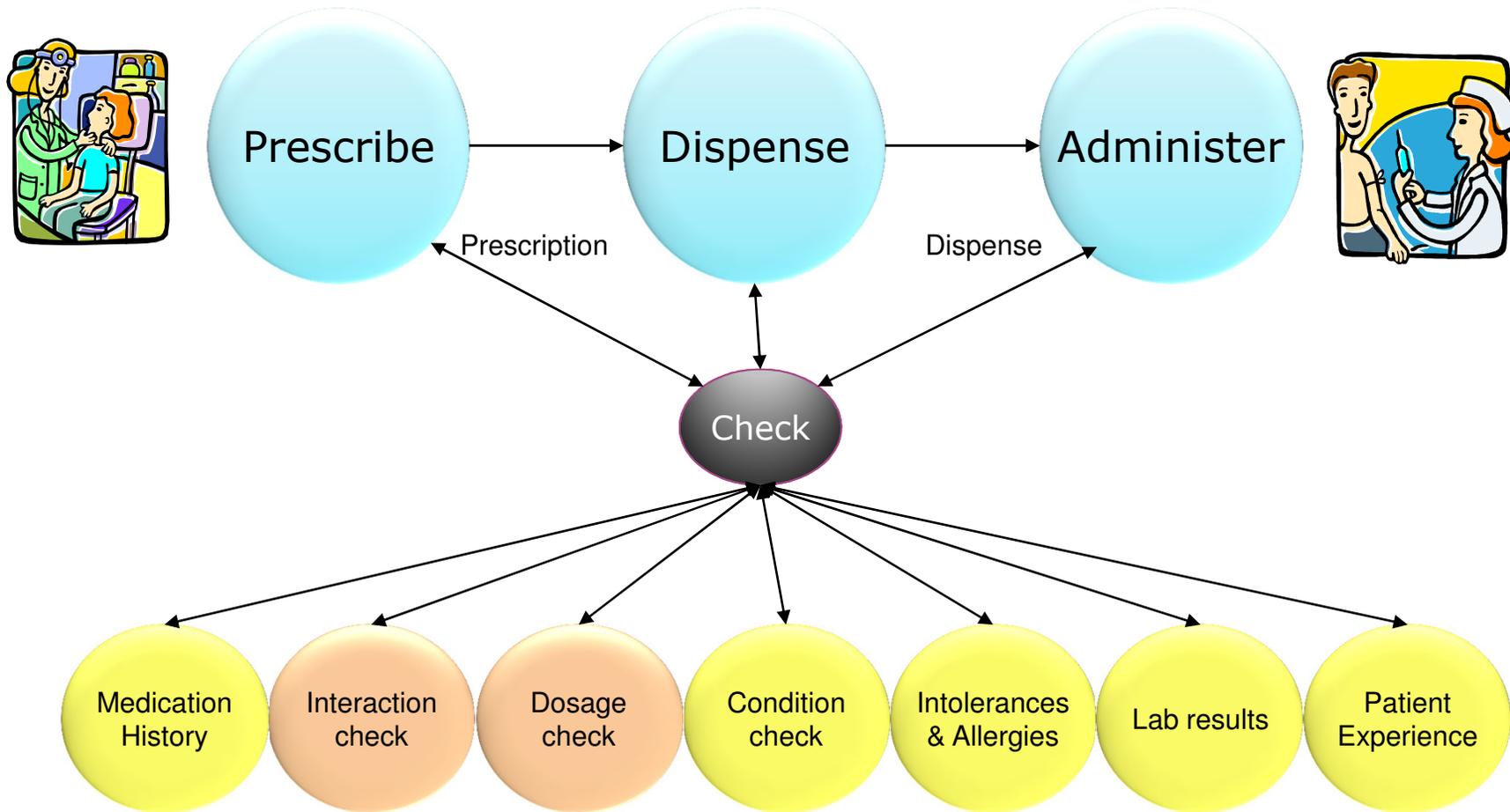
HARM (hospital admissions related to medication) report , 28-11-2006, Utrecht Inst. for Pharmac, Sci.

Medication issues

- Intolerances & allergies
- Contra-indications
- Medication interaction between drugs
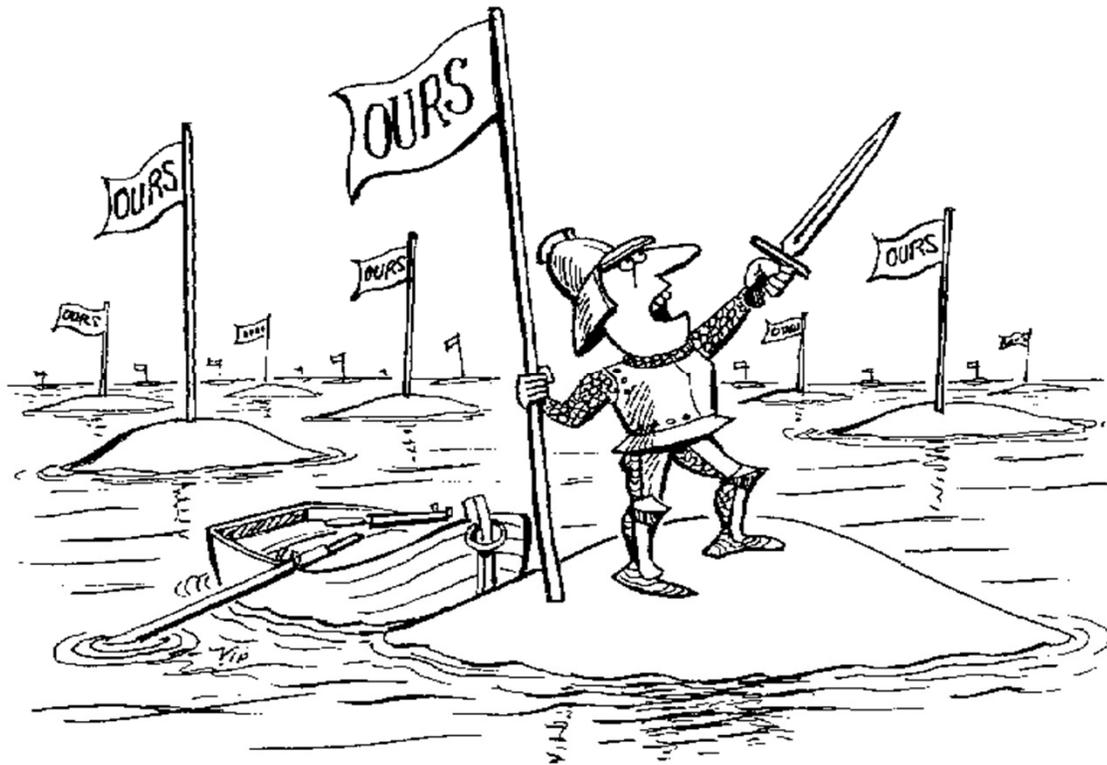- Incorrect dosage

Medication Process

Hurdles

- Many actors with different systems & protocols

- Information spread, missing, unavailable or not understandable

- Use of IT in workflow of care providers

- Recognition of patients, drugs, conditions

- Privacy & security issues

# Recognition: too many islands

• Primary Care, Secondary Care

Building bridges between islands

- Critical Success Factors for exchanging information are:

  - An infrastructural network

  - Standard containers for exchange

  - Common languages & coding

  - Common knowledge of protocol

  - Fit in the workflow of professional

- The use of law and regulation

  - Privacy protection and secure exchange

  - Monitoring of regulations

Nictiz organization

- Nationwide and neutral "change agent" for ICT and Innovation in healthcare

- Knowledge centre, Design, Maintenance, Operations

- All parties involved take part: care-providers, patients, healthcare insurers, IT-industry
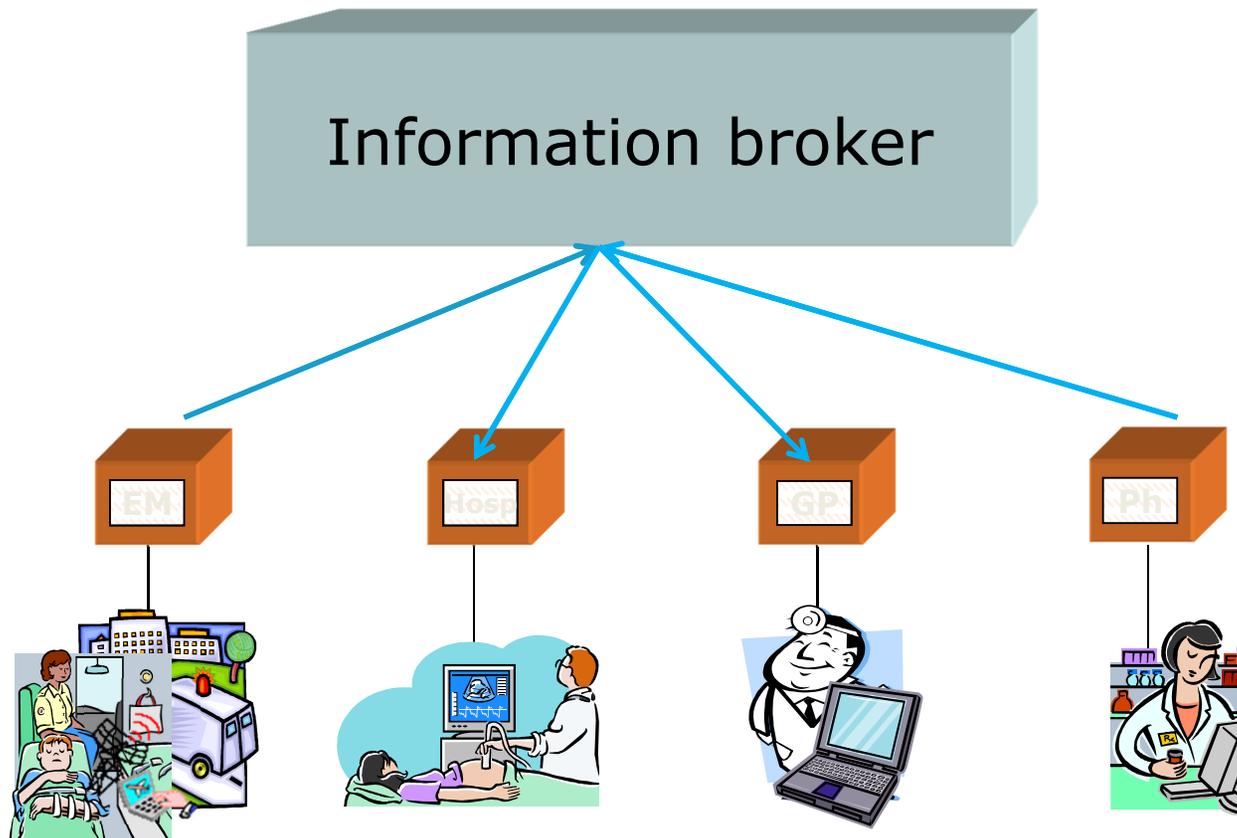
- Funding by the government

Stakeholders
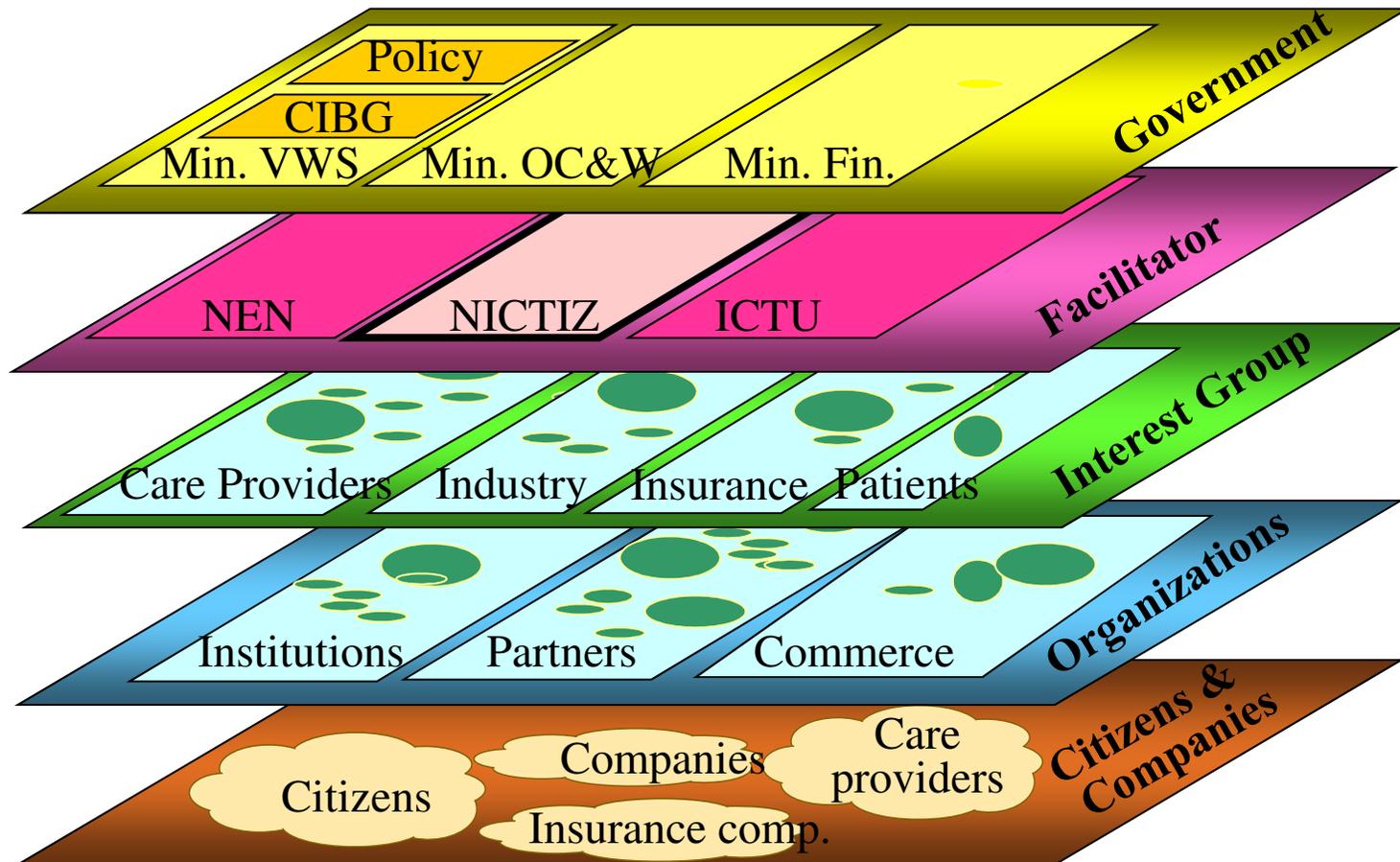
Mission of Nictiz

- Efficiency in healthcare
  - *Prevent errors due to lack of information*
  - *Prevent unnecessary and double work*
  - *Uniformity in information through the use of standards*

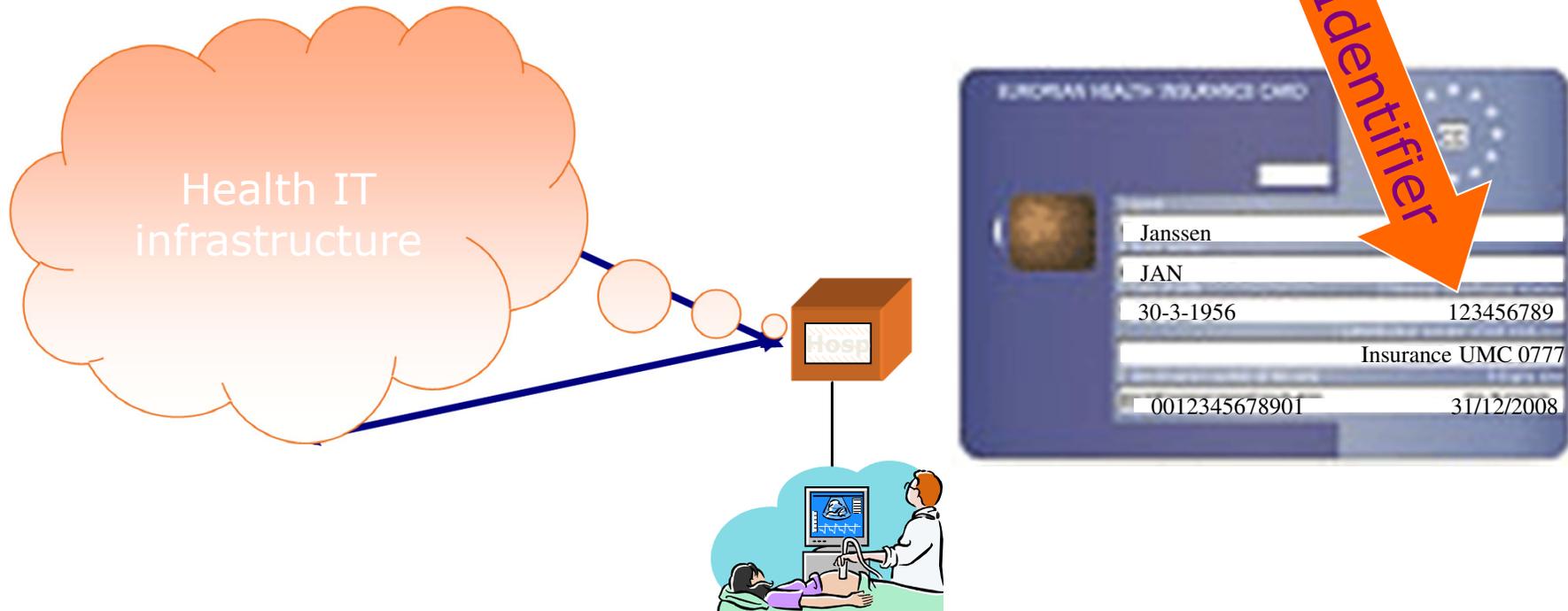# Distributed systems are a fact

Information broker

EM   Hosp   GP   Ph

Initiate the following components

- Unique Patient Identifier

- Unique Care Provider Identification

- Information broker

- Certified systems of health care providers

Unique Patient Identifier

Health IT
infrastructure

Identifier

EUROPEAN HEALTH INSURANCE CARD

Janssen

JAN

30-3-1956   123456789

Insurance UMC 0777

0012345678901   31/12/2008

- Trace and collect patient information
- Irrefutable patient information

Unique care provider identification
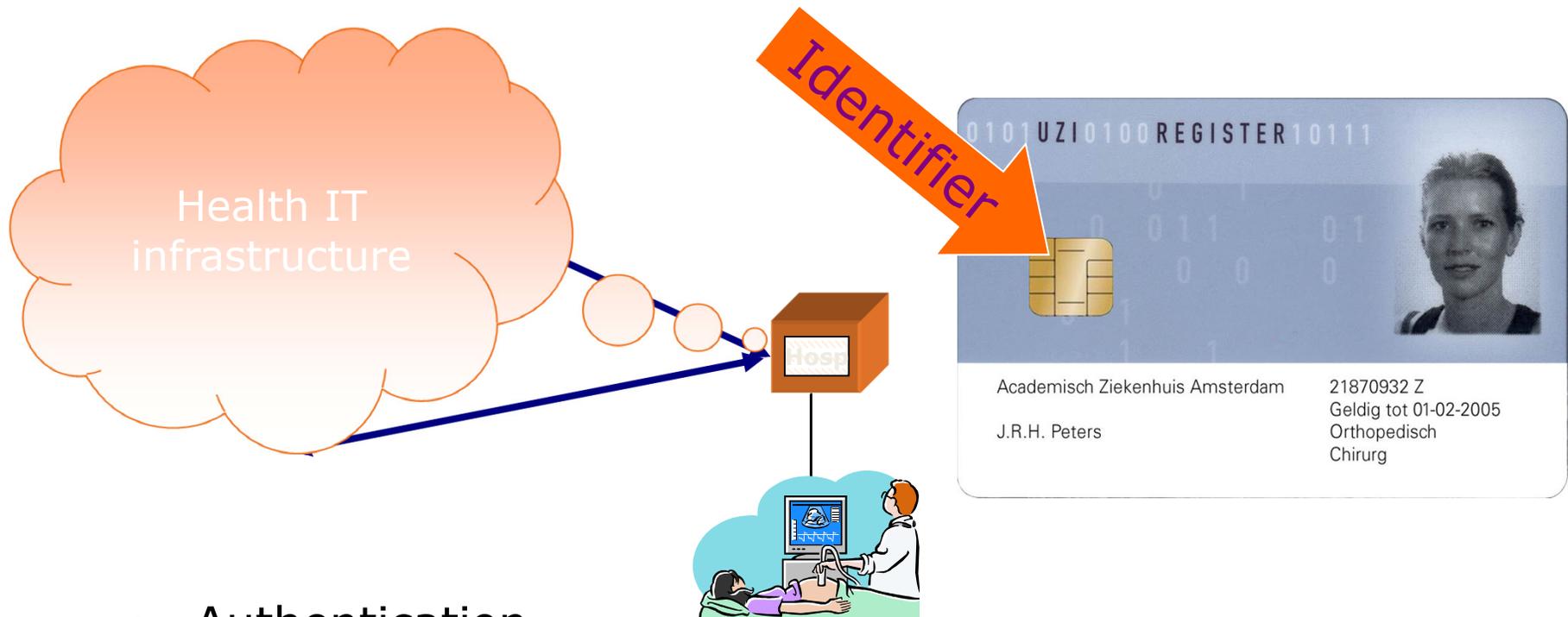
- Authentication
- Irrefutable identity
- Electronic Signature

Basic operation
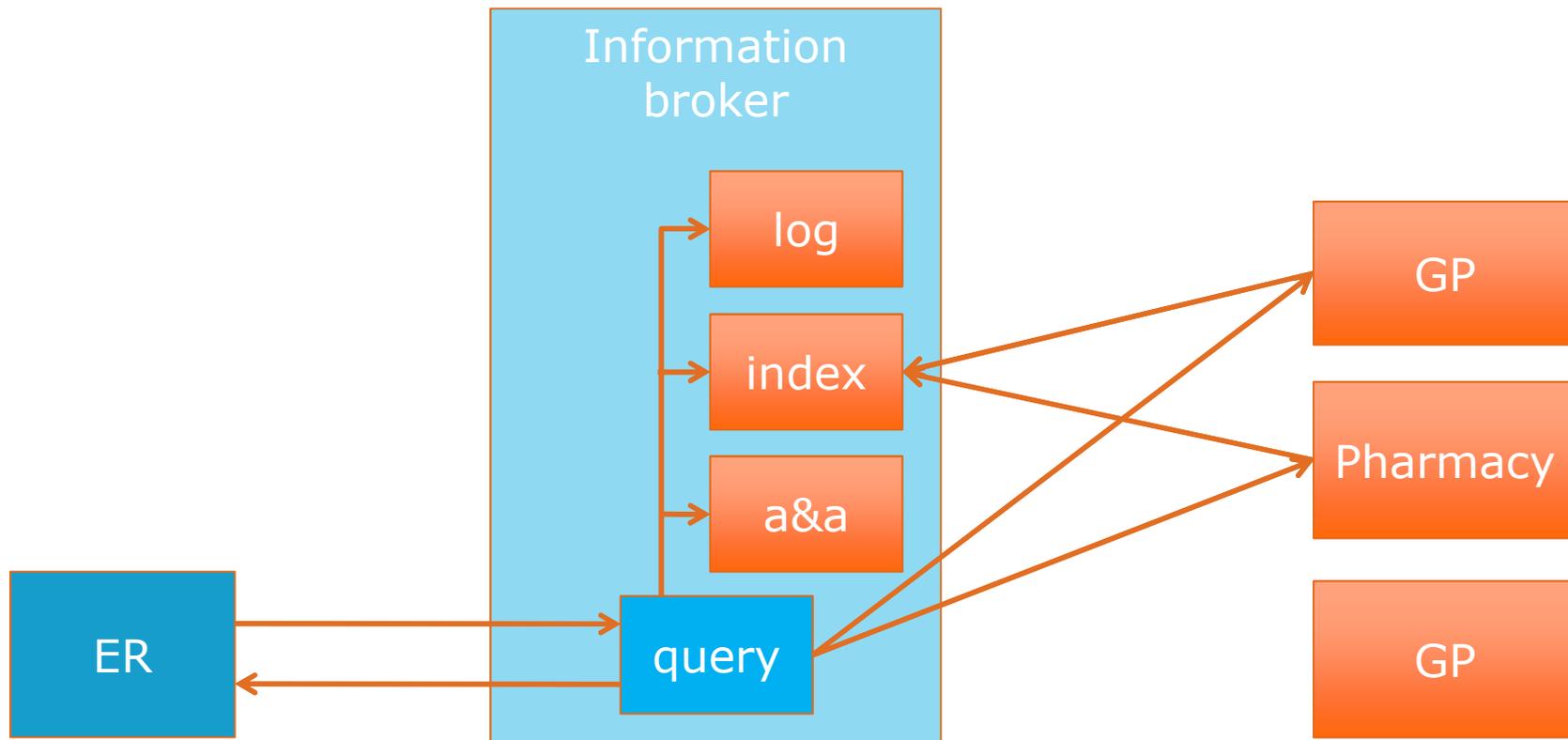
Recognition of drug part numbers

- ## G-standard maintained by Z-index

  - Generic code (GPK)

  - Prescription code (PRK)

  - Consumer product code (HPK)

- ## Hospital drug codes

  - *Use of own drug part numbers*

  - *Specialties, cocktail mixes, trials*

- ## Stichting Healthbase

  - *Use of separate generic code*

Recognition of contra-indications

- Primary Care : International Classification for Primary Care (ICPC v 2)

- Secondary Care: International Classification of Diseases 9 and 10 (ICD-9, ICD-10)

- SNOMED CT

- Mapping tables and terminology server

- Distributed through G-standard by Z-index

Communication standards

- Nictiz publication of standards
  - *HL7v3 messages for pharmacy, GP's*
  - *Clinical Documents for imaging*
- Provide training & coach IT vendors
- Certify IT applications

Global GS1 Healthcare Conference, 5 October 2011

Connections 25-09-2011

• 4880 care providers are connected to the network

• Pharmacies:	1752	=	98%
• GP practices:	2991	=	66%
• Locum practices:	120	=	100%
• Hospitals:	17	=	18%

• citizens   = 8.788.873

• records in registry   = 12.483.912

• 2,6 % citizens opposed

Guidelines Medication Transfer

- Mandatory per 1-1-2011 by ruling of the Health Inspection Authority:

  - *A care provider is responsible for providing a recent medication profile during transfer of the patient to the next care provider*

actiz
organisatie van zorgondernemers

GGZNEDERLAND

NP CF NEDERLANDSE PATIËNTEN CONSUMENTEN FEDERATIE

nhg
nederlands huisartsen genootschap

Ministerie van Volksgezondheid, Welzijn en Sport

KNMP

Orde van Medisch Specialisten

Zorgverzekeraars Nederland

LHV
Landelijke Huisartsen Vereniging

NVZ vereniging van ziekenhuizen

NFU Nederlandse Federatie van Universitair Medische Centra

knmg
voor verantwoorde medische zorg

v&vn
Beroepsvereniging van zorgprofessionals
Ambulancezorg

NV ZA

LEVV, NVVA

Currently supported on infrastructure

Guidelines for Transfer of Medication Profile		HIB
1	Basic patient information	✓ Rolled out
2	Dispensed medication	✓ Rolled out
3	Contra-indications	✓ Qualifications
4	Intolerances & Allergies	✓ Qualifications
5	Prescriptions	✓ Qualifications

The role of GS1 standards

- The use of GS1 standards can help to ease the workflow and prevent errors:

  - Reading the part number of drugs

  - Verifying the patient identity

  - Verifying the dosage
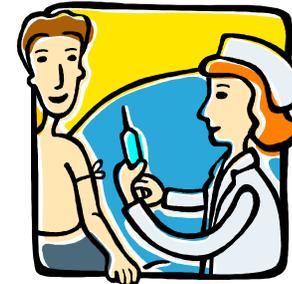
  - Reporting back the lot number

Bar coding in Nictiz projects

- Closed loop for Immunizations

- Youth health program from 0 – 17 years

- Vaccination program for children

- Administered lot numbers of vaccines are reported back to central repository

- Trace back and take corrective action if lot was not effective

Process flow

Send valid lotnumbers

Scan patiënt &
drug & lot

Register lot

Update central immunization
database

Revaccinate

Questions?

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- tan@nictiz.nl