ERASMUS+ KA2 Strategic Partnership
2017-1-FI01-KA203-034721
HELP – Healthcare Logistics Education and Learning Pathway

Brief overview of the Belgian Healthcare System and Health care logistics

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KU Leuven

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1. Introduction

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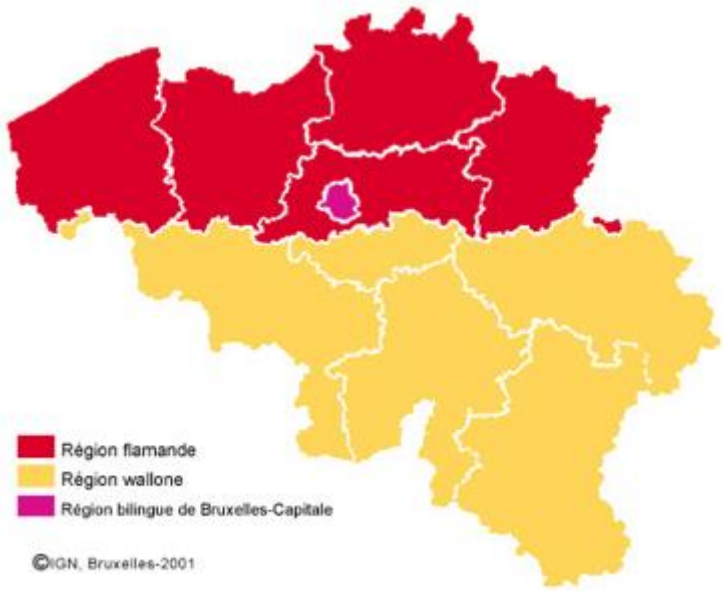
Belgium



11,2 million inhabitants
30,000 km^2

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Federal Structure – 9 Ministers of Public Health

Minister Maggie Deblock
Federal minister of public Health

Minister Jo Van Deurzen
Flemish minister of public Health

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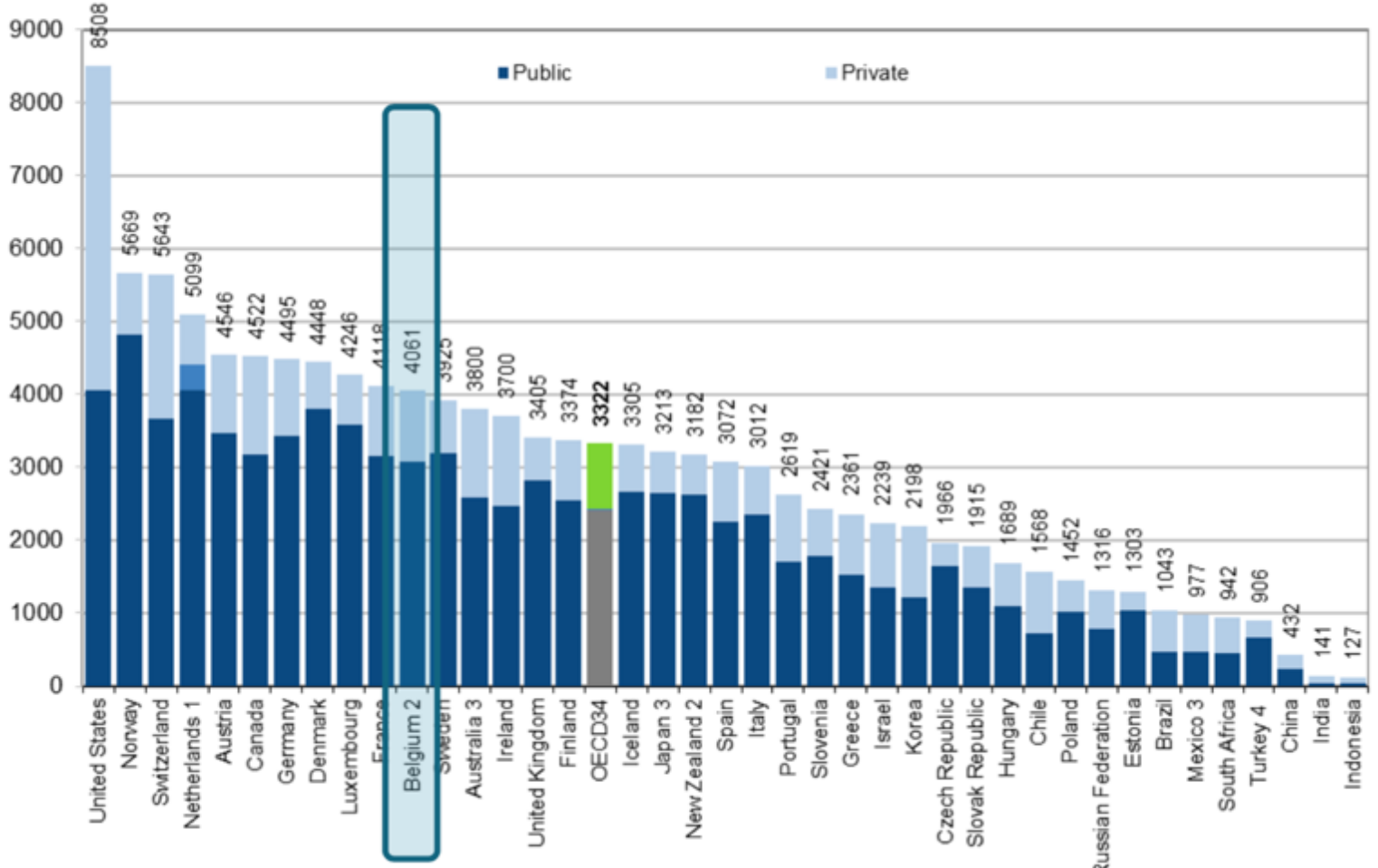
of the European Union

Healthcare spending USD (OECD)



10,9% GDP to healthcare

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EHCI-index 2015

- "Perhaps the most generous healthcare system in Europe seems to have got its quality and data reporting acts together, and ranks 5th in the EHCI 2015 (836 points). Still not top class on medical treatment results ("Outcomes")."

Euro Health Consumer Index at a glance:

Winner: Netherlands
Runner-up: Switzerland
Third place: Norway

Sub-disciplines:

Patient rights and information:
The Netherlands, Norway

Accessibility:
Belgium, Switzerland

Outcomes :
Iceland, Netherlands, Norway, Switzerland

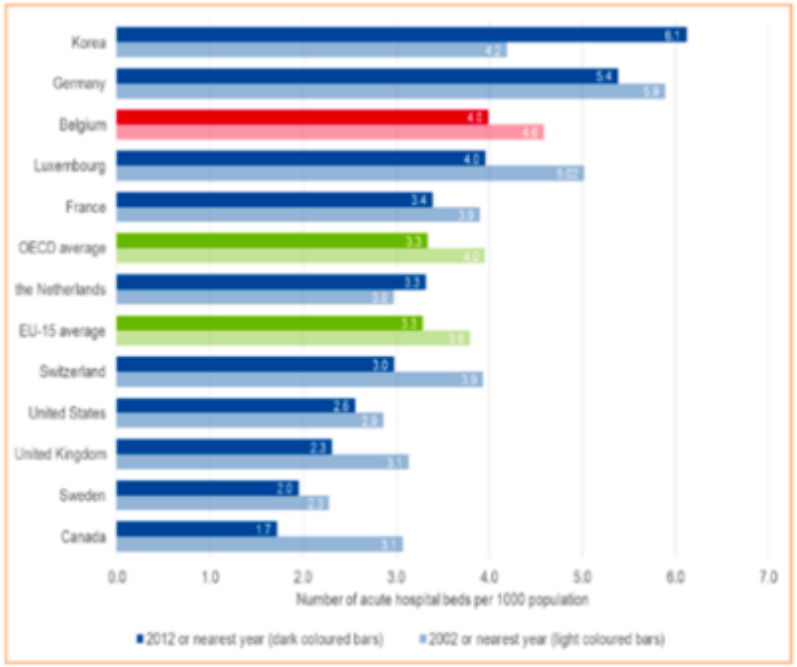
Range and reach of services
Netherlands, Sweden

Prevention :
Norway

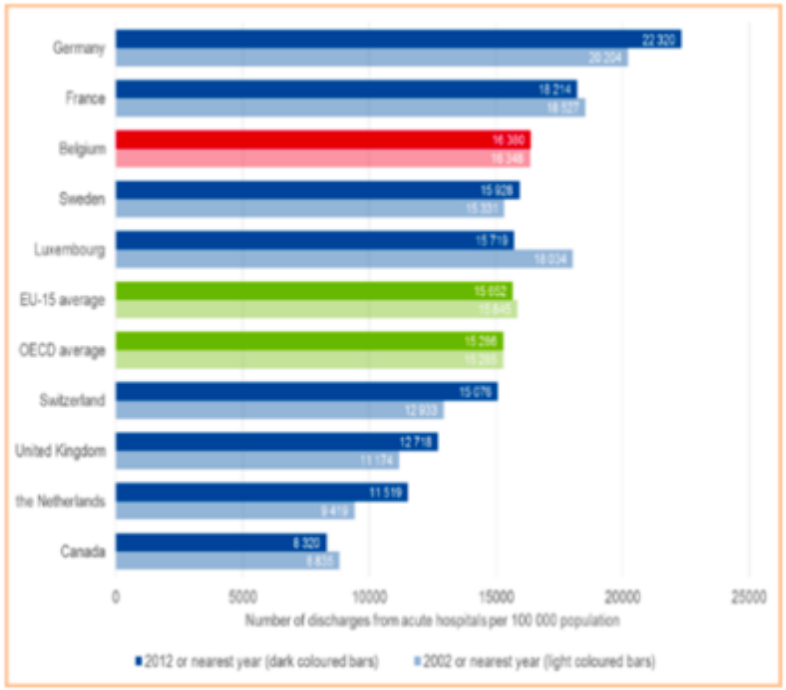
Pharmaceuticals :
Finland, Germany, Ireland, NL

Use of hospital beds

Number of beds/ 1000 pop



Number of inpatients/ 1000 pop



Length of stay is decreasing (average 8,1 days in 2010)

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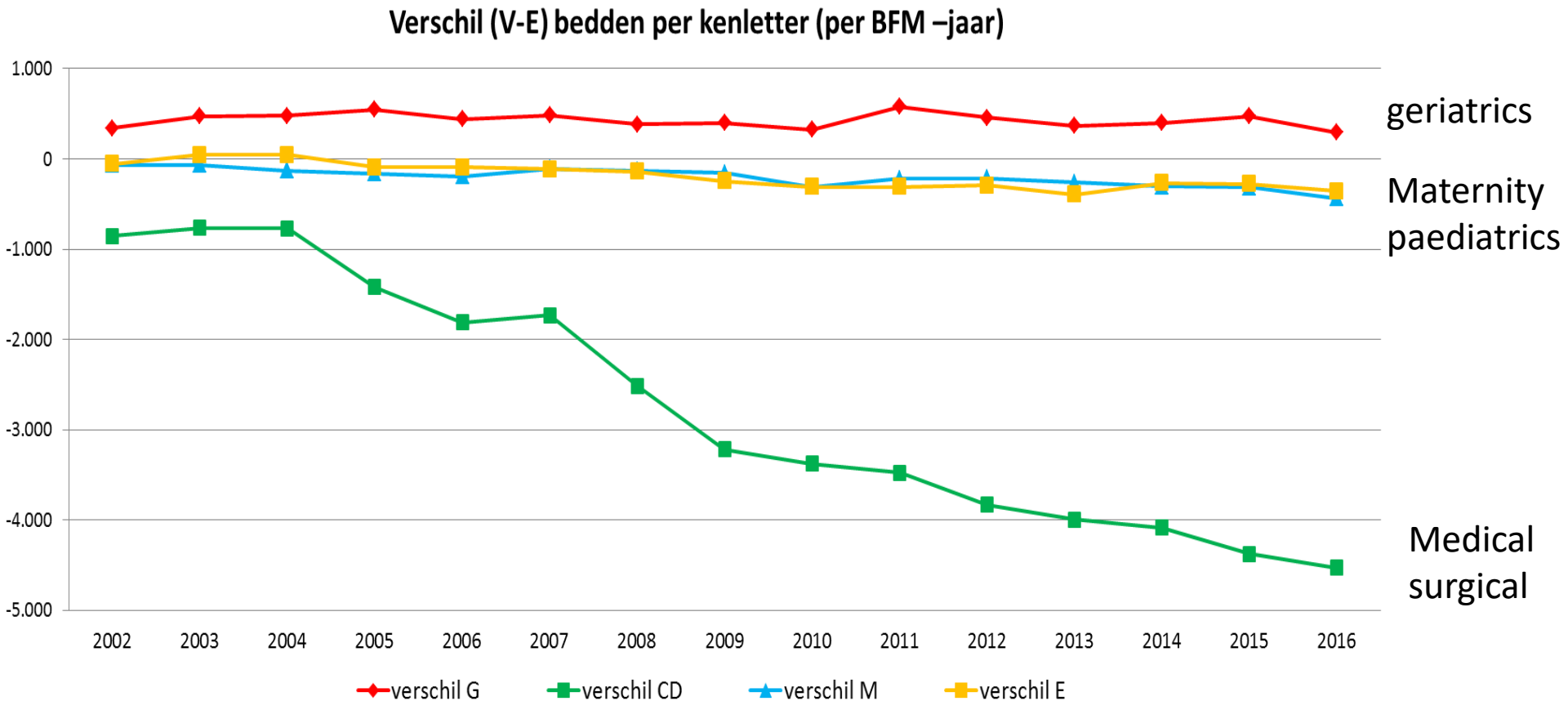
Gap between “justified/used” beds and bed capacity



geriatrics

Maternity
paediatrics

Medical
surgical

Minister of Social Affairs, Minister M. De Block

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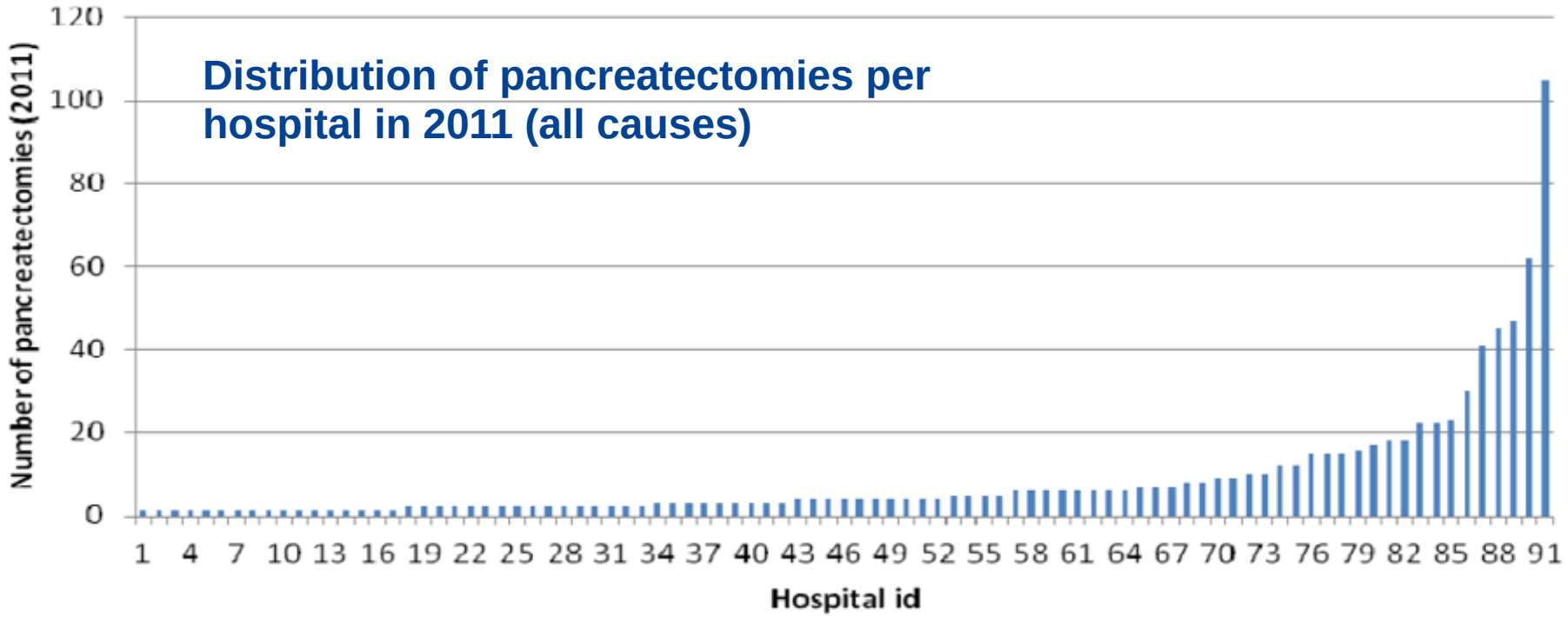
Organisation of care for adults with a rare/complex cancer



Source: RIZIV-INAMI, data 2011

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2. Overview of the Belgian Healthcare System

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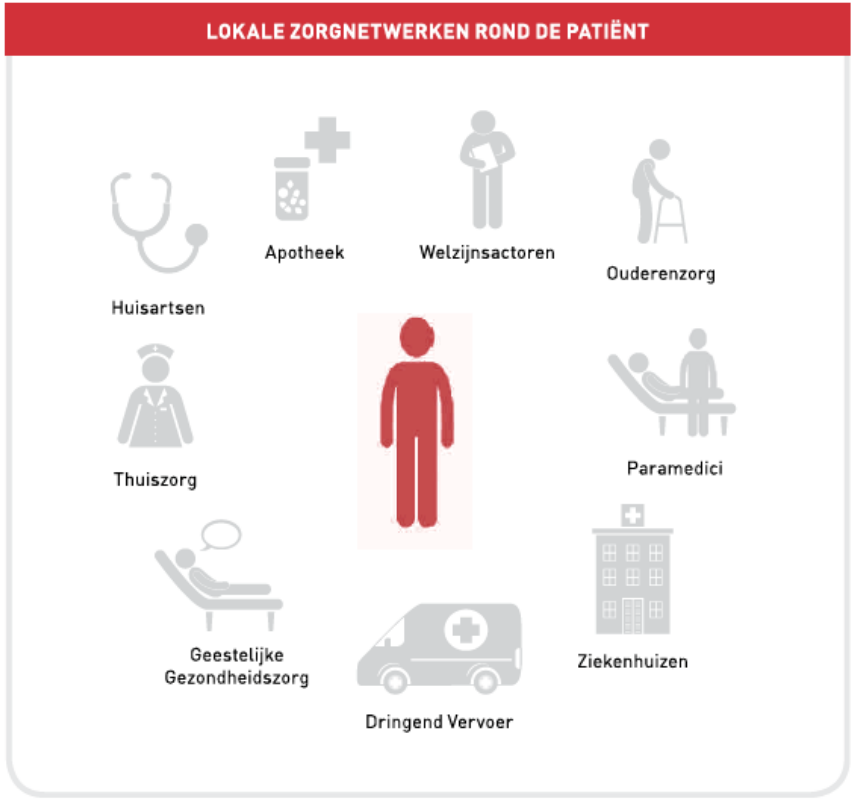
Future plans for vertical and horizontal networks

Clinical Networks of hospitals

HORIZONTAL

Locoregional Care Network



VERTICAL

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Clinical networks: plan

- Types of hospital activities:

  - ✓ **General basic activities**: in each network and each location
  - ✓ **Locoregional activities / Specialized** : in each network but not in each location→ locoregional network of hospitals
  - ✓ **Supraregional activities / reference center**: not in each network → collaboration between networks

- Goal: 25 locoregional networks (14-9-2)

- Timing: End of 2018

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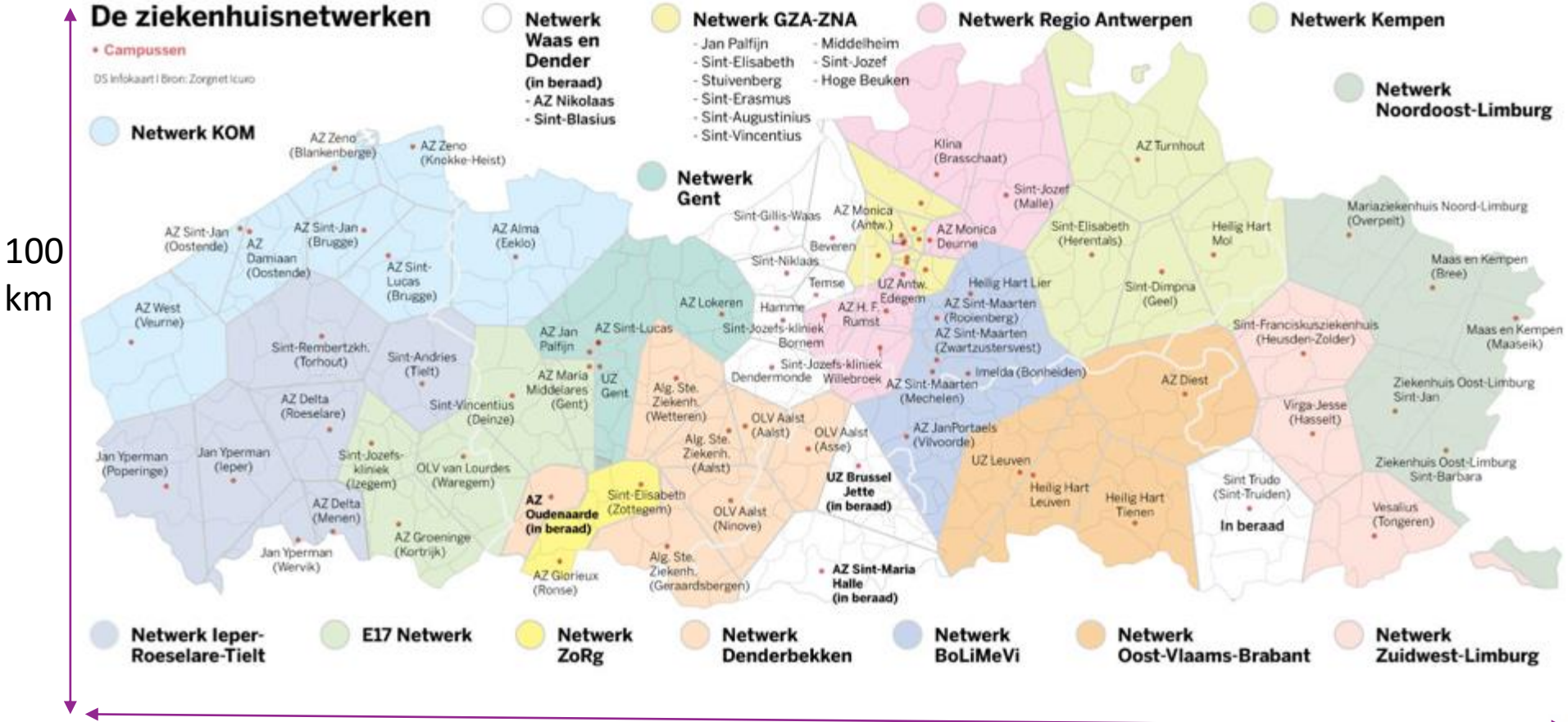
Current intentions for networking in Flanders



100 km

250 km

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Loco-regional networks

- Based on needs of population (N=500.000 inhabitants)
- About 4 hospital involved
- Real collaboration
- Access time: less than 30’ drive

- Strategic plan:
  - Strategic decisions are moving to a network governance body
  - Redefining the role of hospitals
  - New financing / reimbursement models

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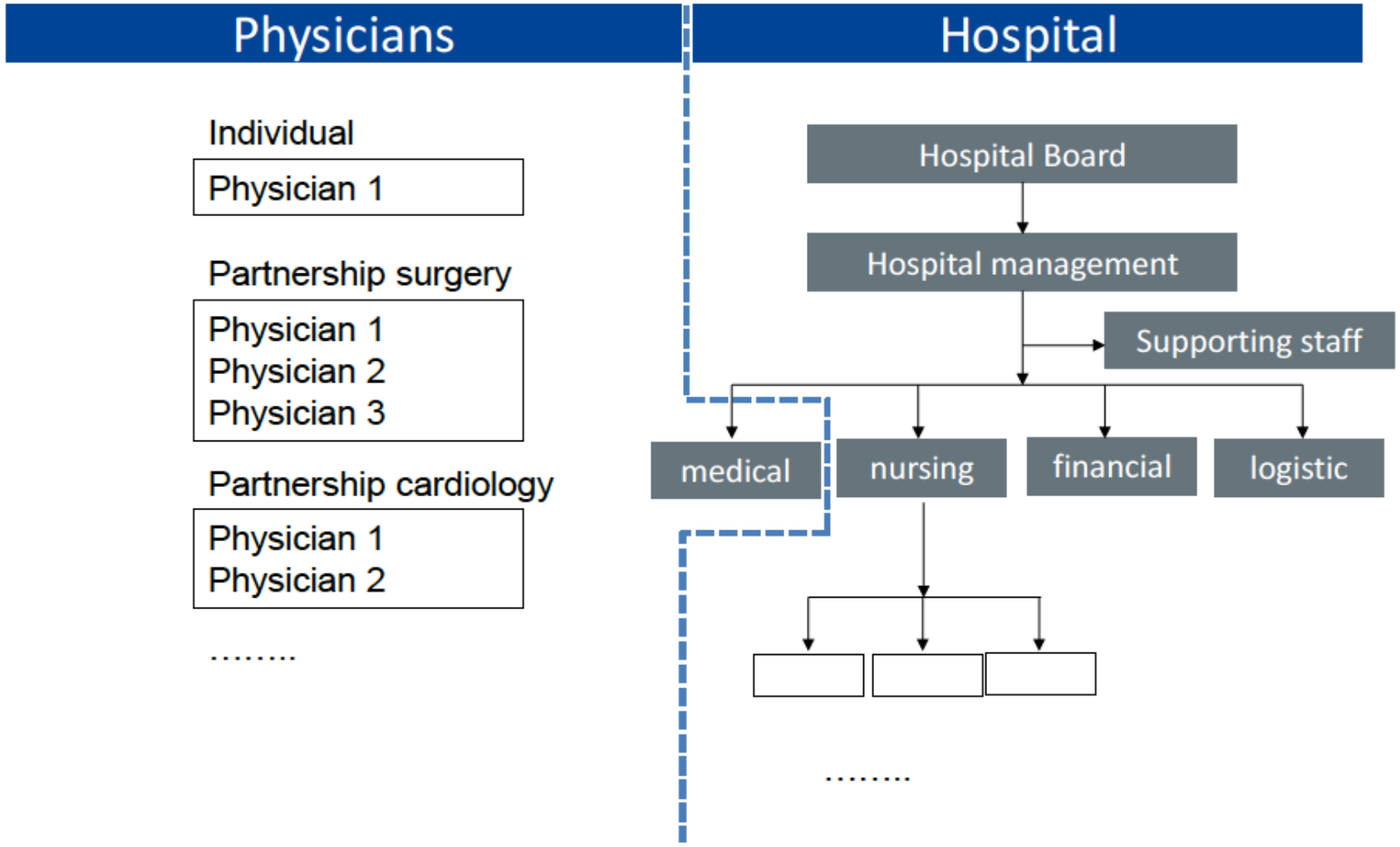
Dual hospital structure



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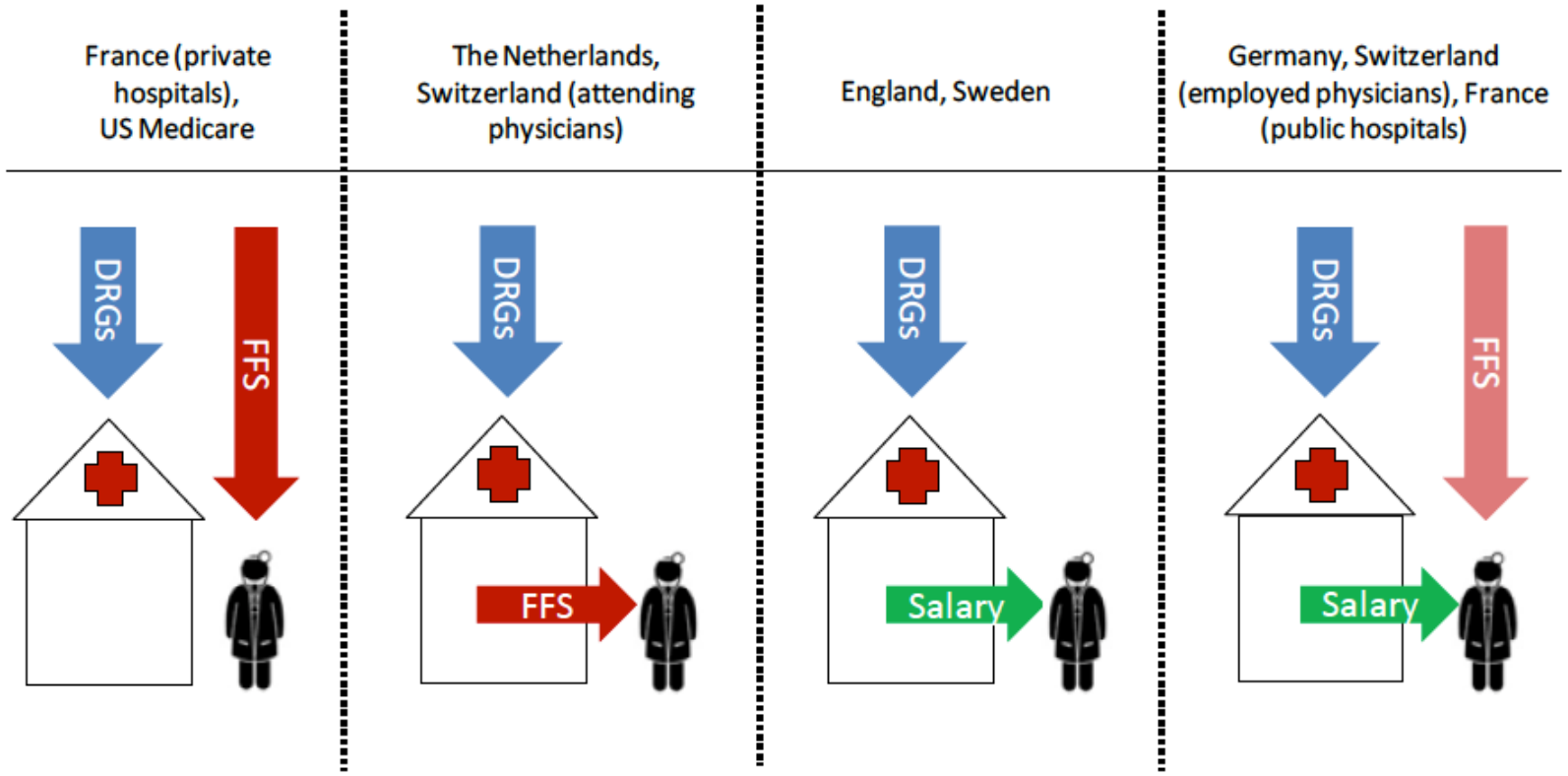
International comparison of hospital financing systems



Note: In theory, specialists could also receive a salary that is paid by another institution than the hospital. However, because this case does not exist in the considered countries, it is not shown in the Figure.

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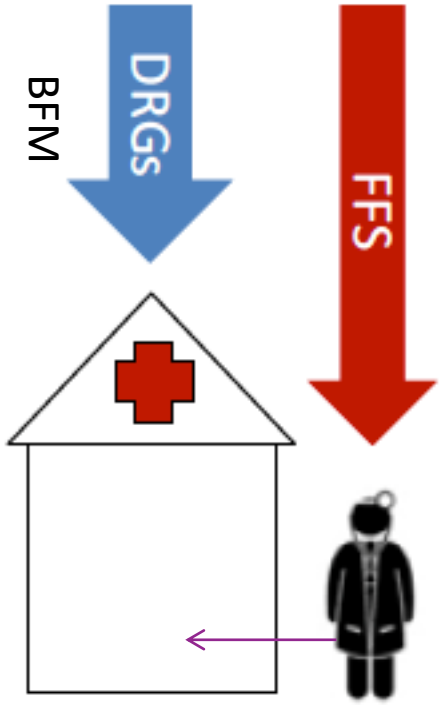
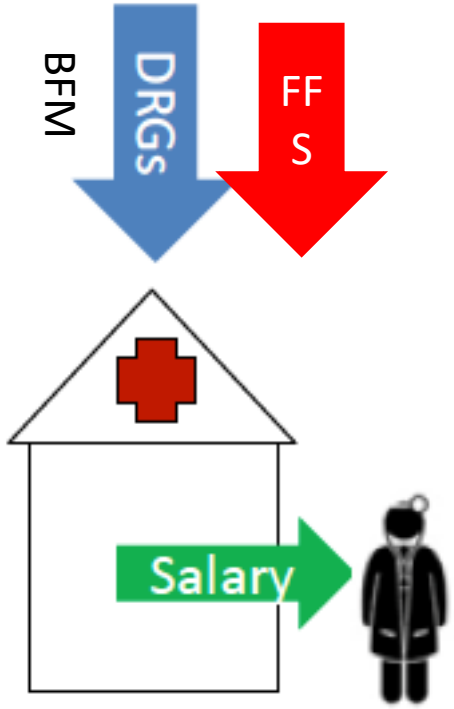
Current Belgian system

General hospitals



University hospitals



Cost arrangements
Physicians-hospital

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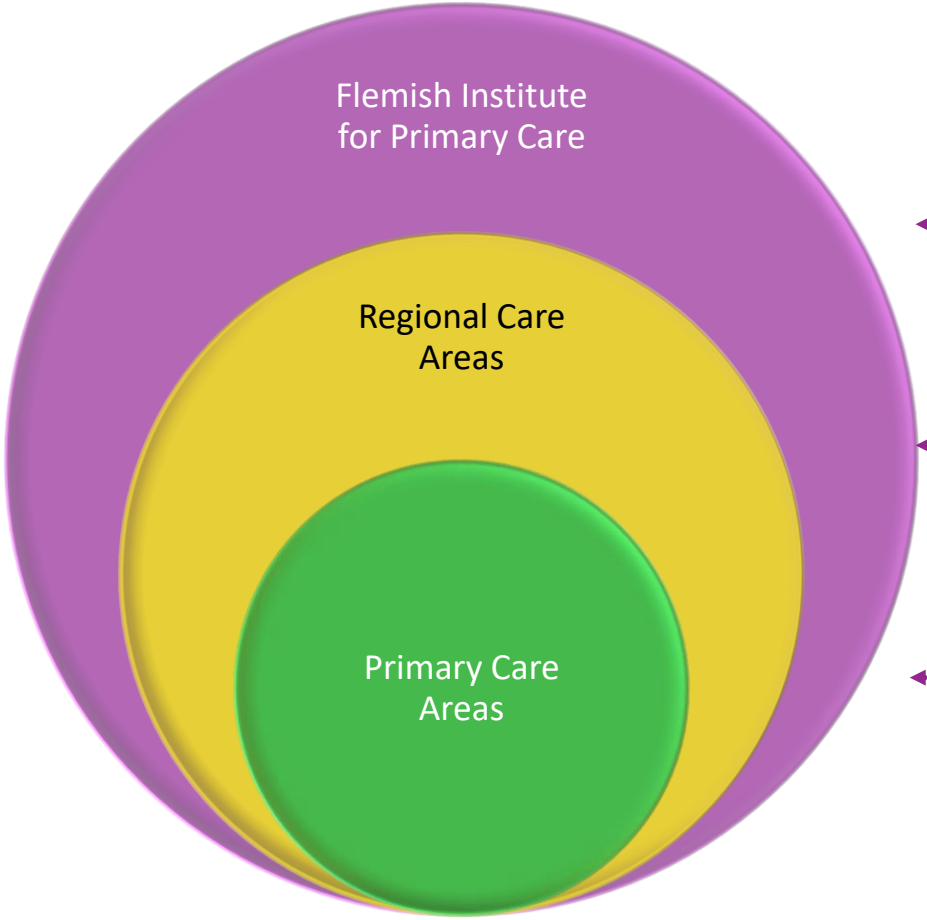
Rationalization of Primary Care Structures



- Eénlijn.be
- Expertise Centre ELGZ

- Logo's
- Palliative Networks
- Centres of expertise for dementia
- Mental Health coordination Centres
- …

- Collaboration initiative primary care (SEL)
- Integrated Services for home care (GDT)
- Local multidisciplinary Networks (LMN)
- …

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Definition of 60 primary care areas

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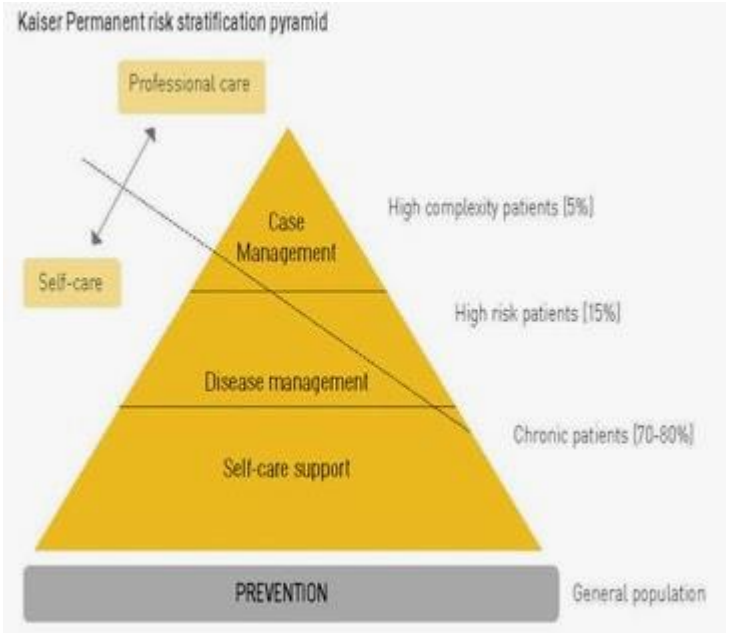
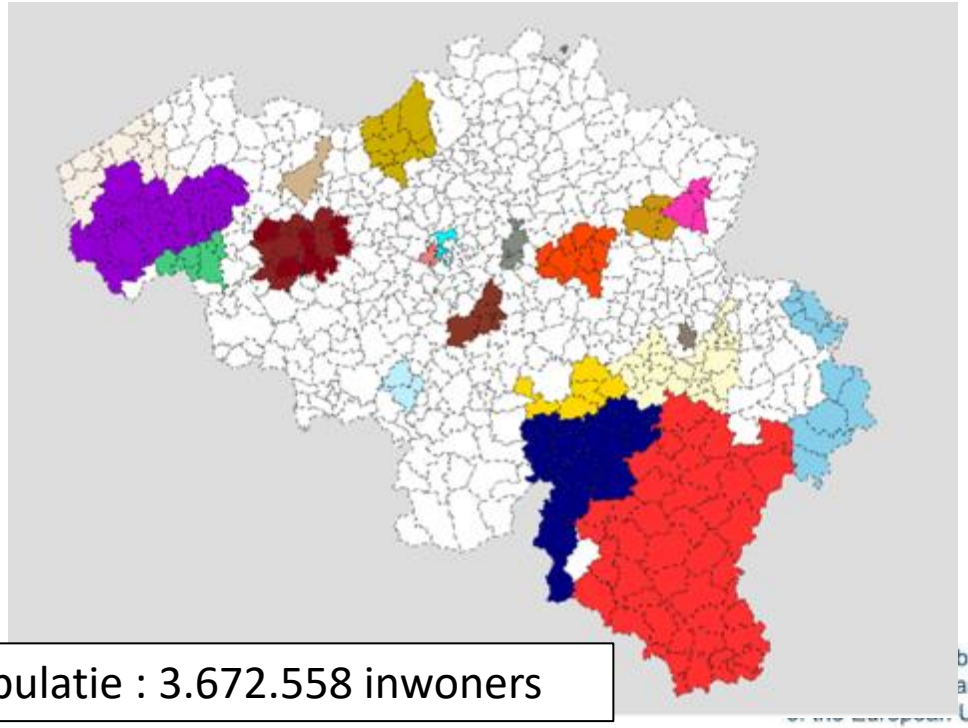
Locoregional care networks

- Pilot projects for chronic care
- Integration of primary care & hospital care
- 14 projects – population health management approach





populatie : 3.672.558 inwoners

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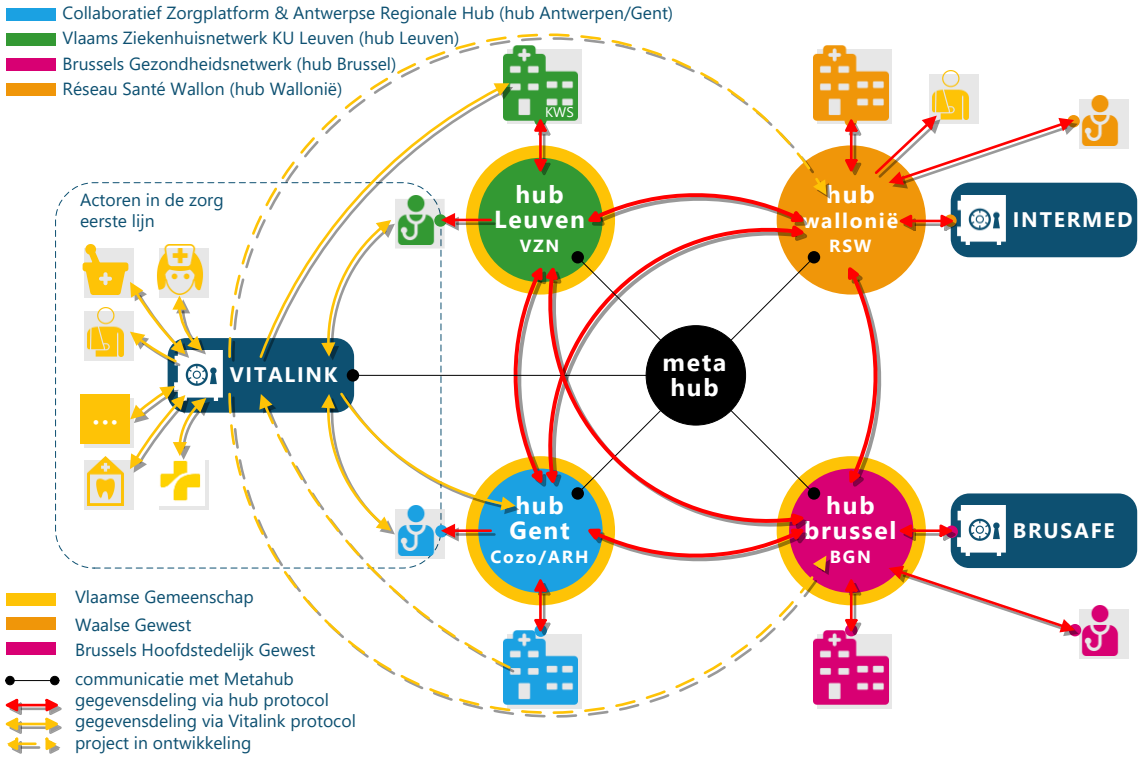
Union

eHealth Roadmap 2015-2019



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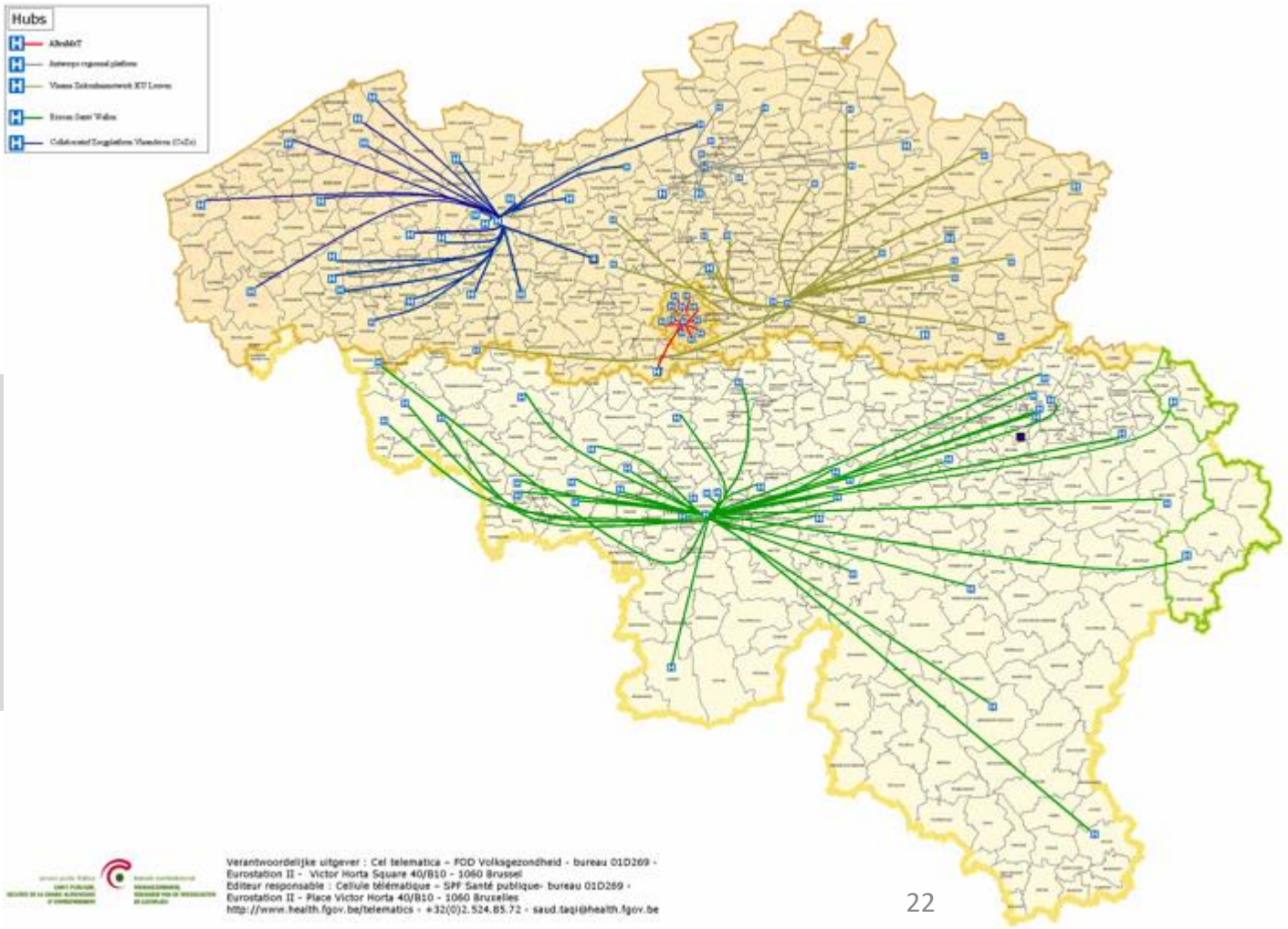
Hubs & Metahub system

5 hubs

3 technical implementations

Almost all Belgian hospitals connected



eHealth Roadmap 2015-2019

The patient consults his/her physician

Administrative advantages

Via eID of the patient

- Authentication of identity of the patient
- Verification of insurance status
- GMF - GP

Possibility of registering informed consent and therapeutic relationships

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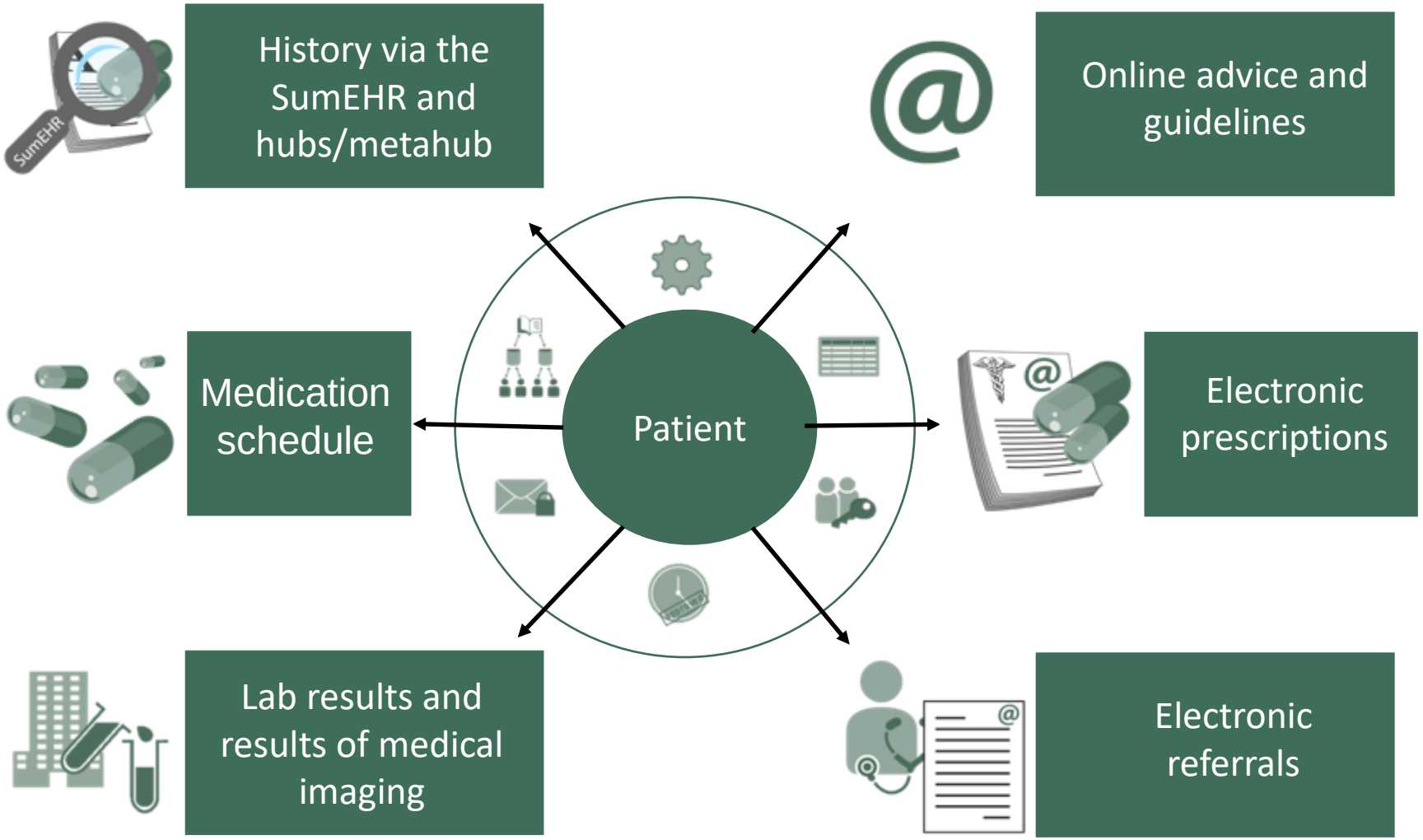

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OPETUSHALLITUS
UTBILDNINGSSTYRELSEN

3. Healthcare logistics

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Definition !?

“Healthcare logistics” covers a variety of activities

enabling/optimizing for primary processes (diagnostics, therapy, care)

e.g. OR planning, care pathway coordination

enabling/optimizing support processes

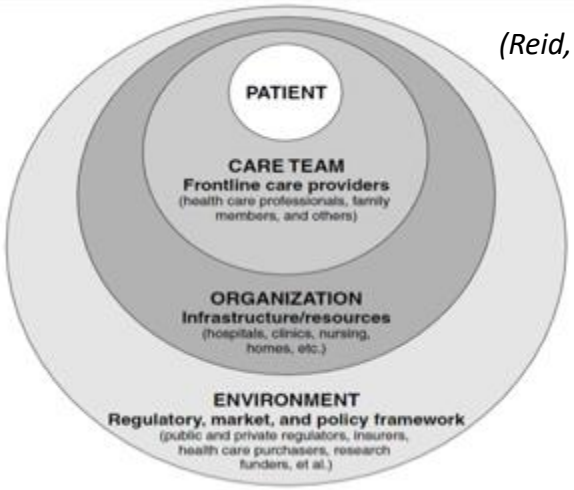
medical, e.g. pharmacy, clinical lab, histopathology lab

non-medical, e.g. technical services, facilities mgmt, patient transportation

To be managed on all hierarchical levels

Taking into account the “big picture”

(Reid, 2005)



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3.1. Inbound healtcare logistics (materials)

Each hospital/organization decides on own supply chain management for the variety of material needed. For pharmaceuticals, legislation is strict.

Materials: non-medical operational supplies (e.g. food), sterile & non-sterile goods (e.g. lab products), linnen & laundry, waste (domestic & medical), technical materials and equipment (e.g. filters, blood gas analyzers) - pharmaceuticals (e.g. seringues, compresses, stents, catheters, medication)

Basic choices

own central warehouse: individual suppliers deliver to hospital warehouse(s)

> traditional way of working

external, central warehouse: suppliers deliver to central warehouse of logistic service provider, who organizes consolidated shipments to hospital

> slowly growing

> biggest player: Hospital Logistics (www.hospitallogistics.be)

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3.2. In-house healthcare logistics

In-house logistics, i.e from central warehouse to the wards and units, are mostly carried out by **logistic staff**, nurses are – as much as possible – freed from logistic duties. **However**, logistic operations are not yet well organized in all organizations, also logistic *staff is sometimes very limited*. As a result, nurses are burdened with logistics (e.g. getting medication from pharmacy, dropping off blood samples at lab, searching for materials and equipment…).

In-house **transportation** is mainly done manually; automated transportation (e.g. AGV) is uncommon.

Inventory control (ordering, receiving, storage, picking) is slowly professionalizing. Multi-echelon **inventories** are a concern, esp. for high-cost items (e.g. OR supplies).

Tracking & tracing of goods (e.g. with RFID) is growing. Technology and standards are enablers here; legislation is becoming more strict.

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3.3. External healthcare logistics

Cooperation between HOs is still developing and rather limited; e.g. between hospitals withing the same network or residential care facilities within the same organization.

Home deliveries, although still limited, are taking place for specific cases. Typical example is home dialysis, where hospital staff and equipment supplier work together.

Growth of activities is expected here, as Belgian goverment starts promoting HAH. (e.g. KCE-report # 250: Implementation of hospital at home: orientations for Belgium, pp93)

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3.4./3.5. Examples of HC logistics in a private/public sector organization

Cooperation between UZ Leuven (University Hospitals Leuven) and Hospital Logistics

Organization of warehouse activities in AZ Turnhout, Jessa, AZ St Elisabeth, GZA (source: VIL report)

Other (own experience)

- pharmacy inventory & distribution (UZ Leuven, AZ St Lucas, WZC Lindelo, GZA, Jessa)
- lab supplier evaluation (UZ Leuven)
- device mgmt (# hospitals)
- home care (Wit-Gele Kruis) – primary care (GP)

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3.6. Future of HC logistics - Challenges

Currently there is a large difference between organizations, some are already very well organized, others are still struggling with the basics.

Challenges

Introduction of a common logistics vocabulary for all levels of the organization - Creating awareness for logistics organization and optimization for all - Recognizing the need for logistic professionals and doing something about it

Professionalization: own staff with support of specialized consultants and/or professional organizations. Logistics is hardly covered in education of care givers, same for pharmacists – this makes the process of professionalization difficult.

Development of supporting models for logistic choices (cost vs service)

Being open to and ready for

organizational changes, e.g. from single hospital to part of a network

growing HAH care

technological opportunities, e.g. tracking & tracing of goods and people, real time monitoring of temperature sensitive goods, integrated software systems (ERP and beyond)

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Sources of information

General remark

lack of reports !!

Information based on

talks with logistic professionals in HC

experience though exploratory research (mainly master theses) in practice (2000 - …)

<u>one</u> report: “Hospitaallogistiek”, VIL (Flanders Institute for Logistics), 2012, pp 52

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Conclusions

- Major health reform in Belgium
  - Clinical networks between hospitals
  - Locoregional networks with primary care and hospitals
- Focus more on population health management
- Redefining roles of patients and health professionals
- New financing / reimbursement models (bundled payment, P4Q, …)
- ICT infrastructure
- Performance / Quality indicators …

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