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Ambulatory Care Health  
Information Laboratory  
**ACHIL**

# IT support for ambulatory care trajectories

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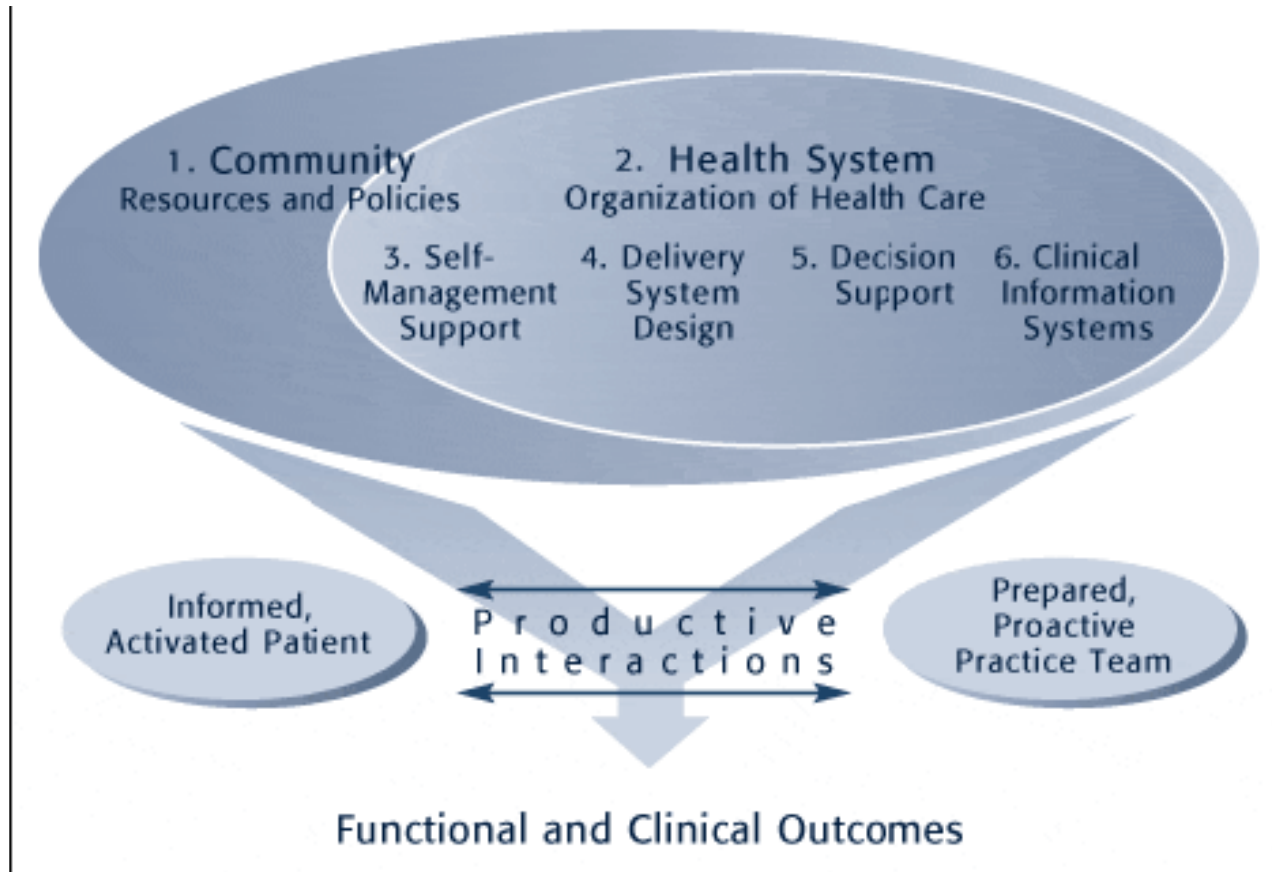
# Backgrounds

- Aging populations
- Living for decades with 1 or more complex chronic conditions
- Long-term demands on health care systems
- Shift from acute to chronic care model
  - Planned proactive care
  - Collaboration between disciplines
  - Quality assurance / quality control of providers
  - Evidence based Practice
  - Patient as active partner: patient empowerment

# The NIHDI care trajectories (2009)

As defined by the NIHDI, a Care Trajectory organizes and coordinates the treatment and follow-up of patients with a chronic illness. A Care Trajectory starts from a collaboration between three parties, namely patient, General Practitioner (GP) and specialist. The process starts after signing a "Care Traject contract". Currently, only some subgroups of patients with Type 2 Diabetes Mellitus (T2DM) and Chronic Renal Failure (CRF) have the possibility to enroll in a Care Trajectory.

# Reference framework for Care Trajectories - The Chronic Care model



# Key characteristics

- Chronic diseases:  
Type 2 diabetes, CRF
- Ambulatory care
- Gp-centered
- Top down design
- Strong administrative component (funding incentives)
- Patient oriented
- Evidence based & guidelines
- Multidisciplinary & local coordination structure (LMN)
- Quality of care assessment (objectives & indicators)
- Quality improvement cycle

# Advantages and obligations

## GP/specialist

- 80 €/year
- Partnership with other care providers, concertation, communication, central role for GP
- Development and follow up of care plan (GP)
- Sending data to IPH (GP)
- Coaching of GP and other team members (specialist)

## Patient

- Total reimbursement of consultations with GP and specialist
- Free access to material for self-control, education
- Partial reimbursement of consultations with dietician, podiatrist
- 2 consultations/year with GP, 1 consultation/year with specialist

# Present NIHDI Care Trajectories (CT) DM2 and CRF

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## DM2

### Inclusion criteria:

- 1 or 2 insulin injections
- Insufficient regulation with max. oral treatment and start of insulin is considered

### Exclusion criteria:

- Pregnancy
- Diabetes type 1
- Unable to come to the practice

# Present NIHDI Care Trajectories (CT) DM2 and CRF

## CRF

### Inclusion criteria:

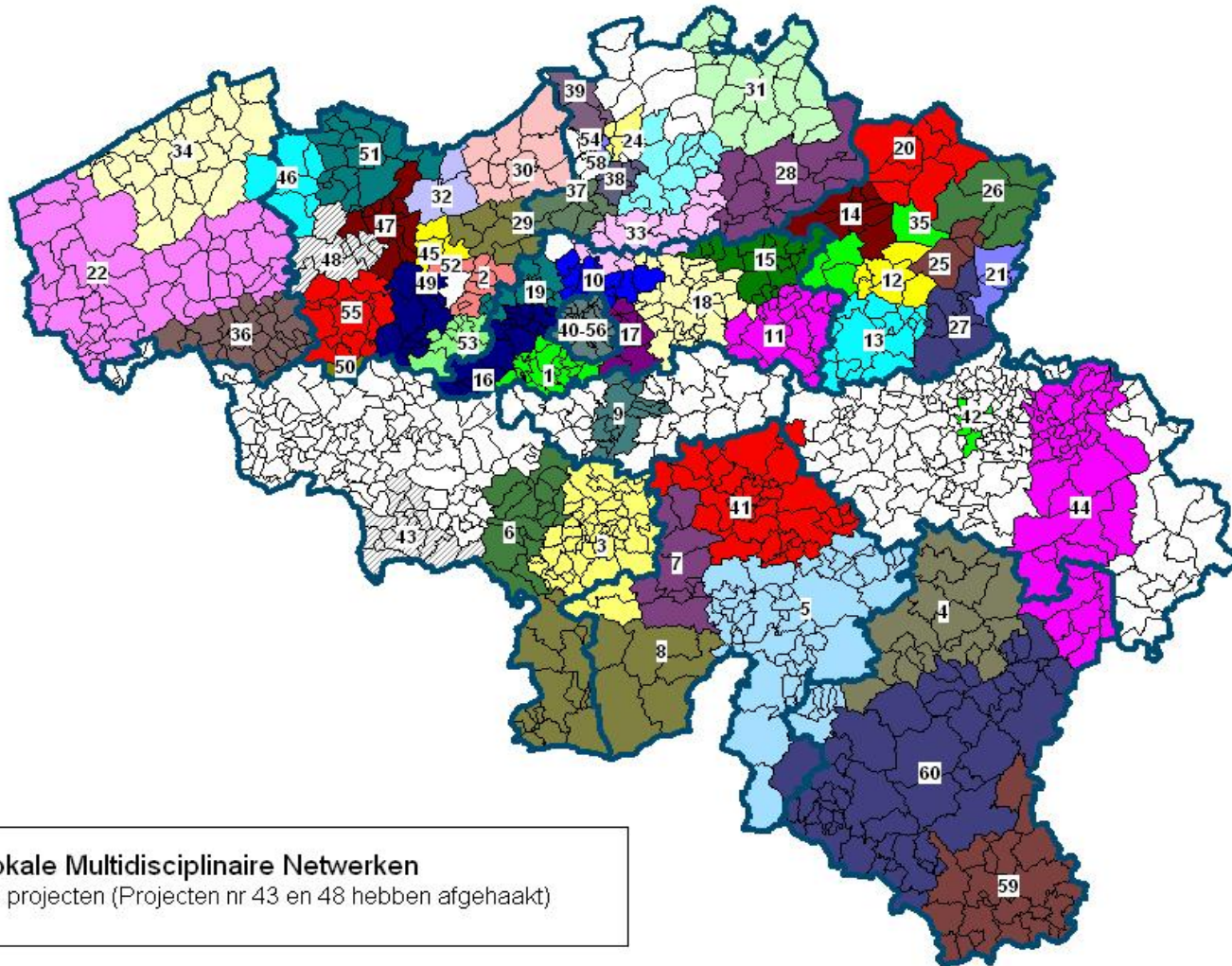
- eGFR < 45ml/min/1,73m<sup>2</sup>
- and/or proteïnurie > 1 g

### Exclusion criteria:

- <18 Years
- Dialysis or renal transplantation
- Unable to come to the practice

Number of patients: +/- 25.000 (June 2011)

# Local multidisciplinary networks



## Lokale Multidisciplinaire Netwerken

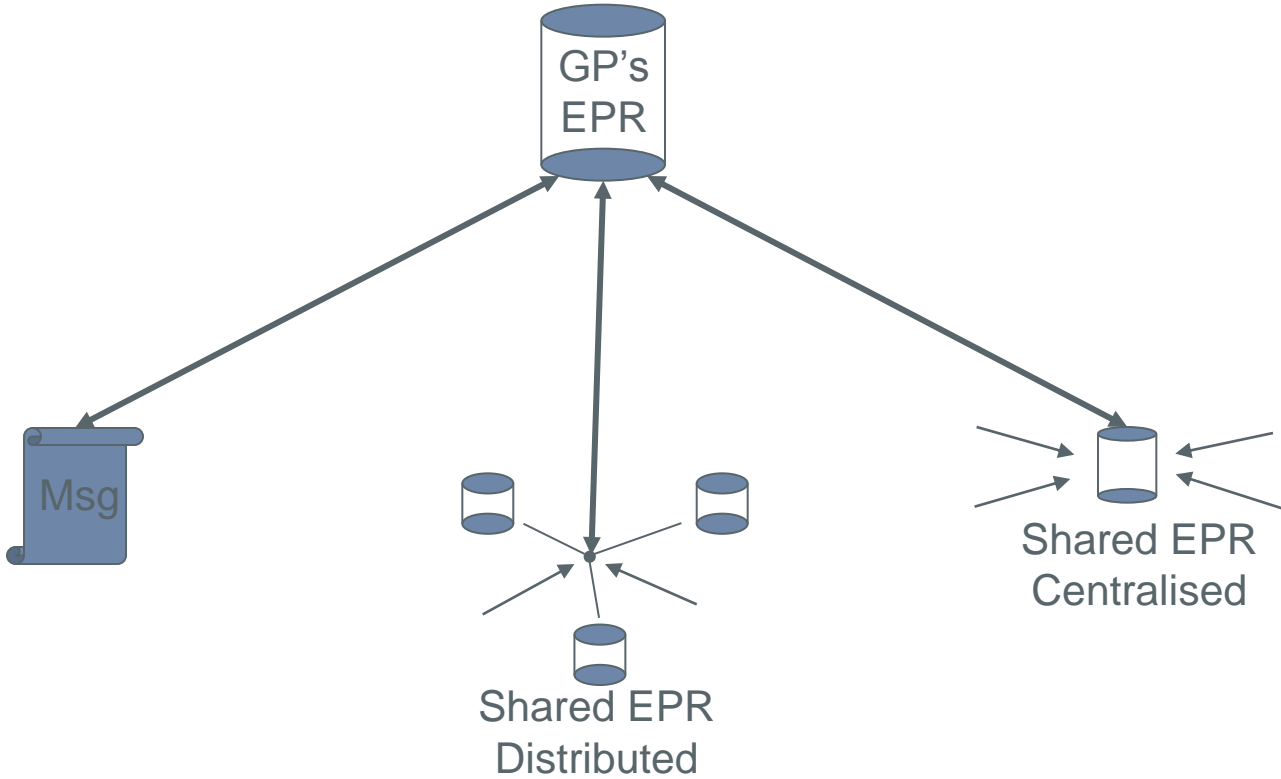
Goedgekeurde projecten (Projecten nr 43 en 48 hebben afgehaakt)

# IT support

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- Care
  - Basic common IT services
  - Advanced EPR functions
- Assessment (quality of care improvement cycle)

# GP's EPR: the communication orchestrator





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# Basic common ICT requirements



Basic services

# Common basic requirements for the communication

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Patient ID and authentication

Professional identification and authentication

Digital/electronic signature

Data encryption

Semantic interoperability

Message syntax

Therapeutic relationships database

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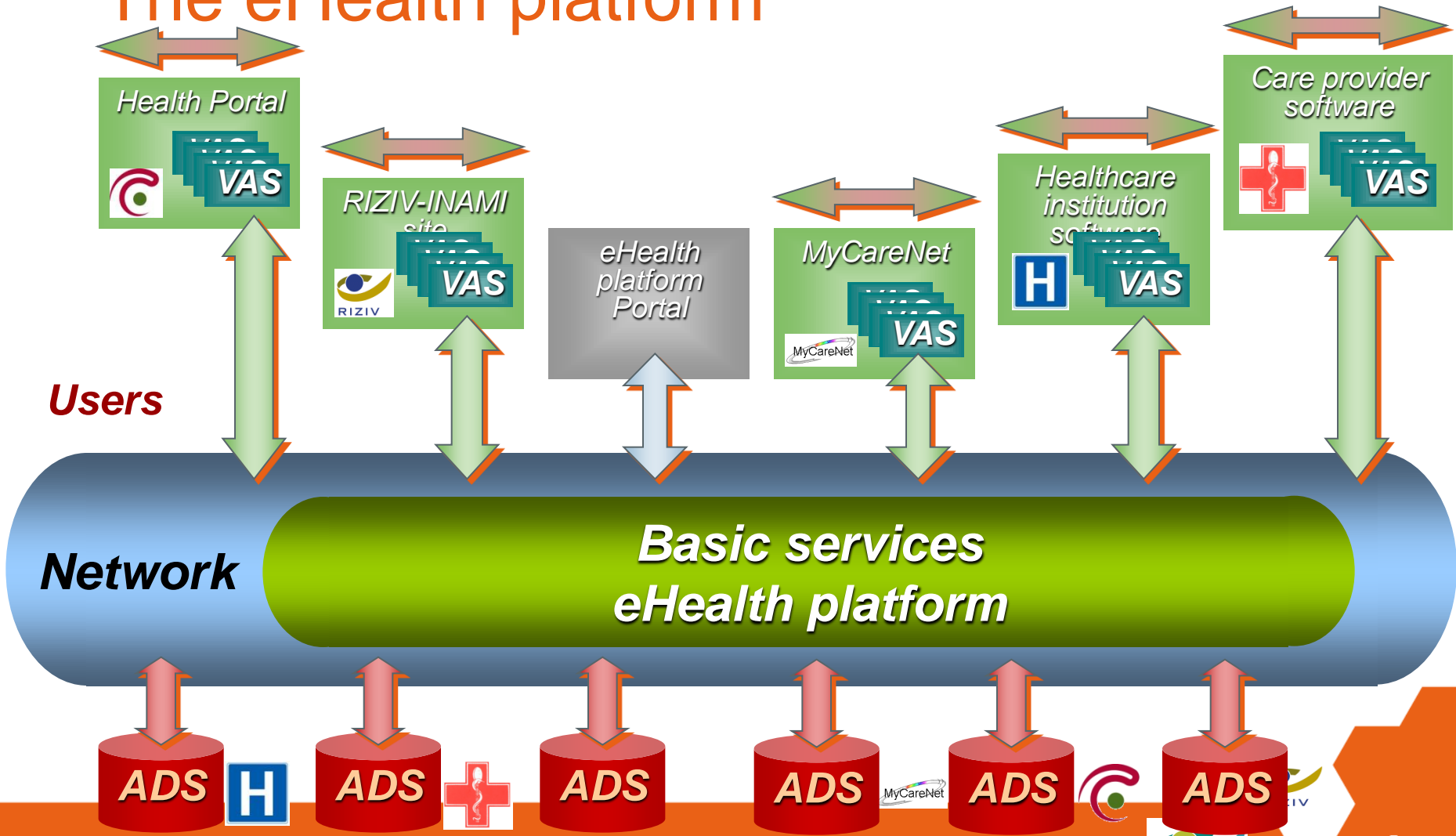
Basic services

# The Belgian eID Card



Basic services

# The eHealth platform



Users


Network

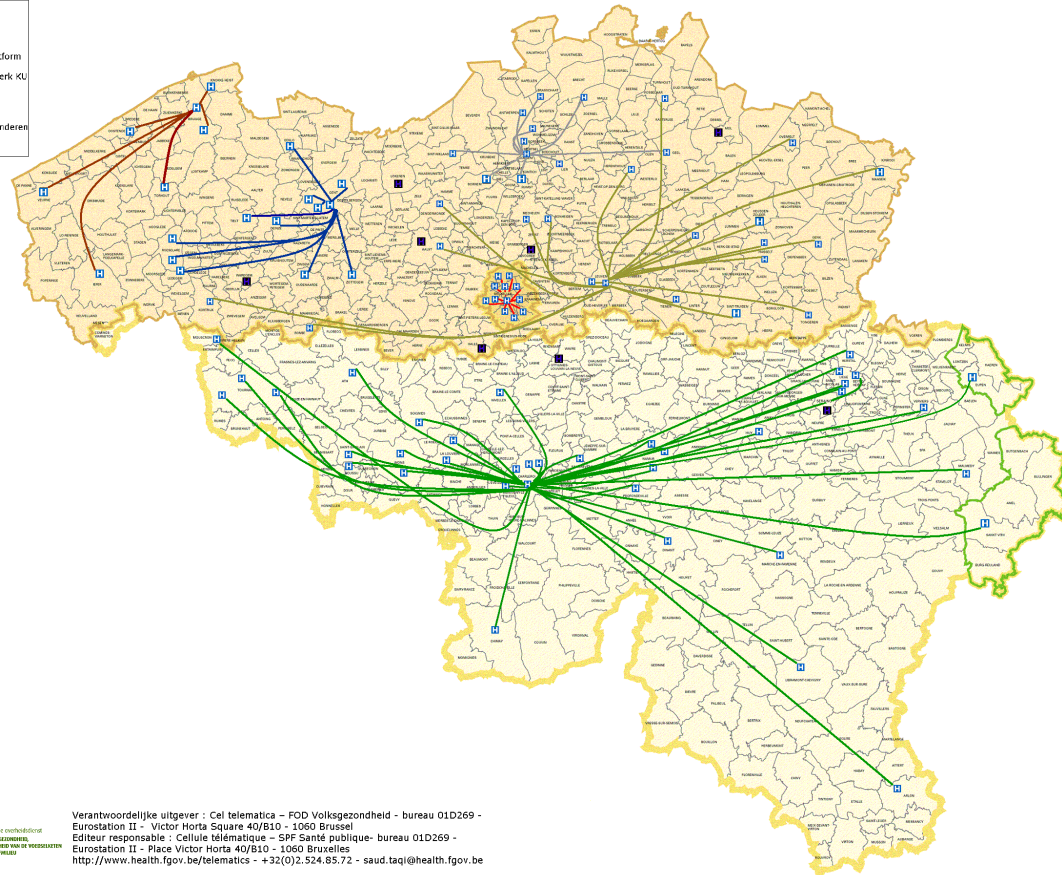
Basic services  
eHealth platform

Suppliers, funded by the National Institute for Health and Disability Insurance

Basic services

# The 6 Belgian “Hubs”

- Hubs 2010**
-  ABruMET
  -  Antwerps regionaal platform
  -  Vlaams ziekenhuisnetwerk KU Leuven
  -  Réseau Santé Wallon
  -  Zorgnetwerk West-Vlaanderen
  -  Regionale Hub Gent



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Verantwoordelijke uitgever : Cel telematica – FOD Volksgezondheid - bureau 01D269 -  
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Éditeur responsable : Cellule télématique – SPF Santé publique- bureau 01D269 -  
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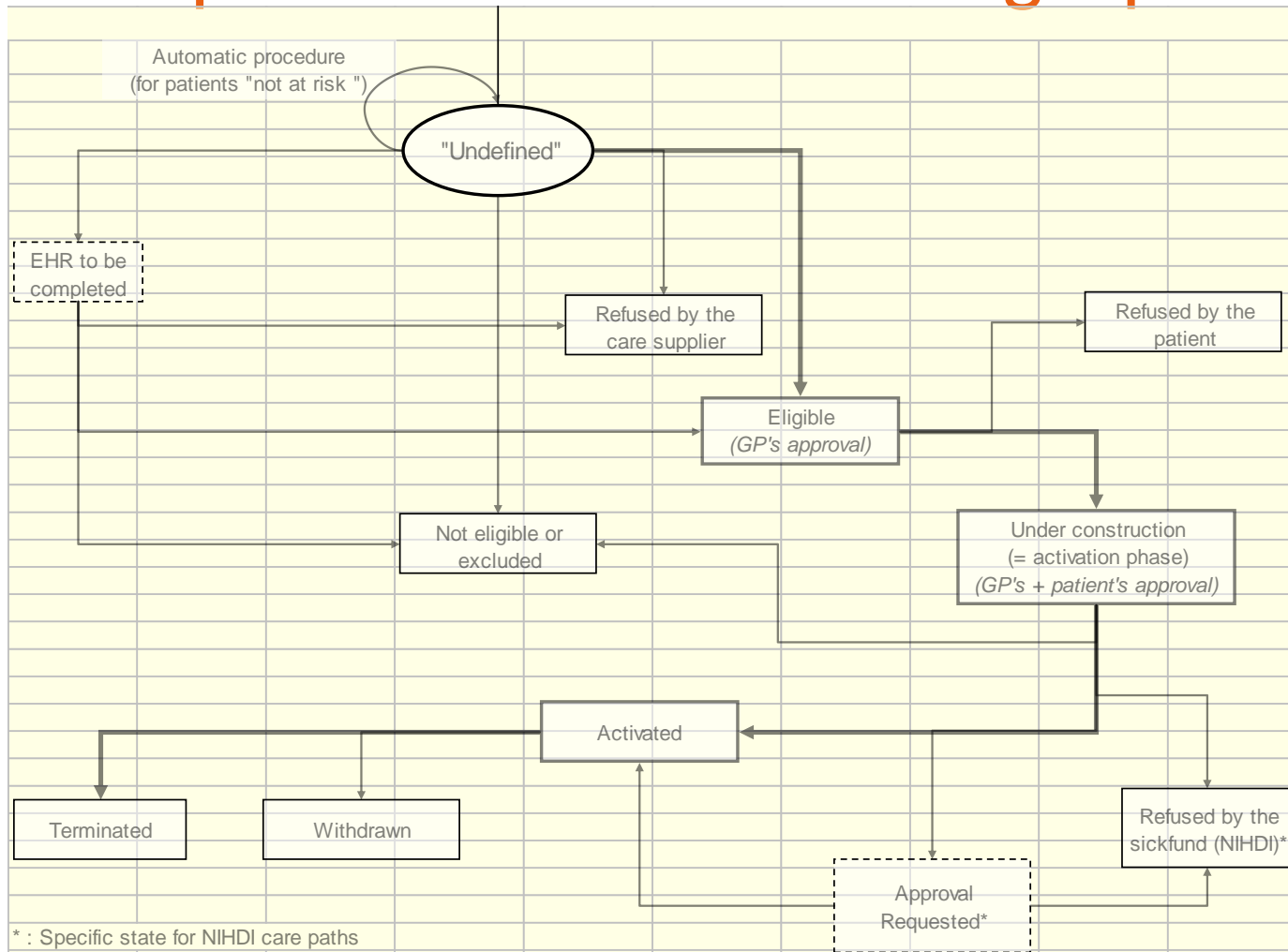
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# Advanced EPR functions



EPR functions

# Care path state transitions graph



\* : Specific state for NIHDI care paths

## EPR functions

# EPR advanced functions

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### Administrative e.g.:

- Agreement and consent management
- Reporting management
- Team management

### Provision & management of care

- Initialization of care path
- Protocol-related care management
- Input and display facilities

### Intelligent detection & triggering of eligible patients

EPR functions

# EPR requirements

Code	EHR Statements <i>[partim]</i>	Phase 1	Phase 2	Phase 3
<b>B003</b>	The system checks locally the presence of a GMR (Global Medical Record) for the patient before starting a NIHDI care path. The system warns the healthcare provider in case of the absence of an active GMR for the patient.	M		
<b>C003</b>	The system supports the recording of a patient's refusal and its documentation. The system allows the healthcare provider to update the care path state (changed into a "refused by the patient" state).	M		
<b>D008</b>	The system supports the recording of a "child wish".	M		
<b>E001</b>	The system checks the eligibility of a well identified patient for a care path.			M
<b>E004</b>	The system supports the assessment of the eligibility of all the patients of a practice for a care path.			O
<b>G003</b>	The system displays the past values of individualized patient's targets.		M	
<b>G004</b>	The system displays a patient care path-oriented overview including the parameters and the services as foreseen in the patient's care path. It displays the last values of the parameters and the dates of the latest provided services.	M		
<b>G006</b>	The system records the patient's specific targets values and objectives.		M	



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# ICT support for care trajectory assessment



## Care Trajectories assessment

# ACHIL, objectives

### General objectives

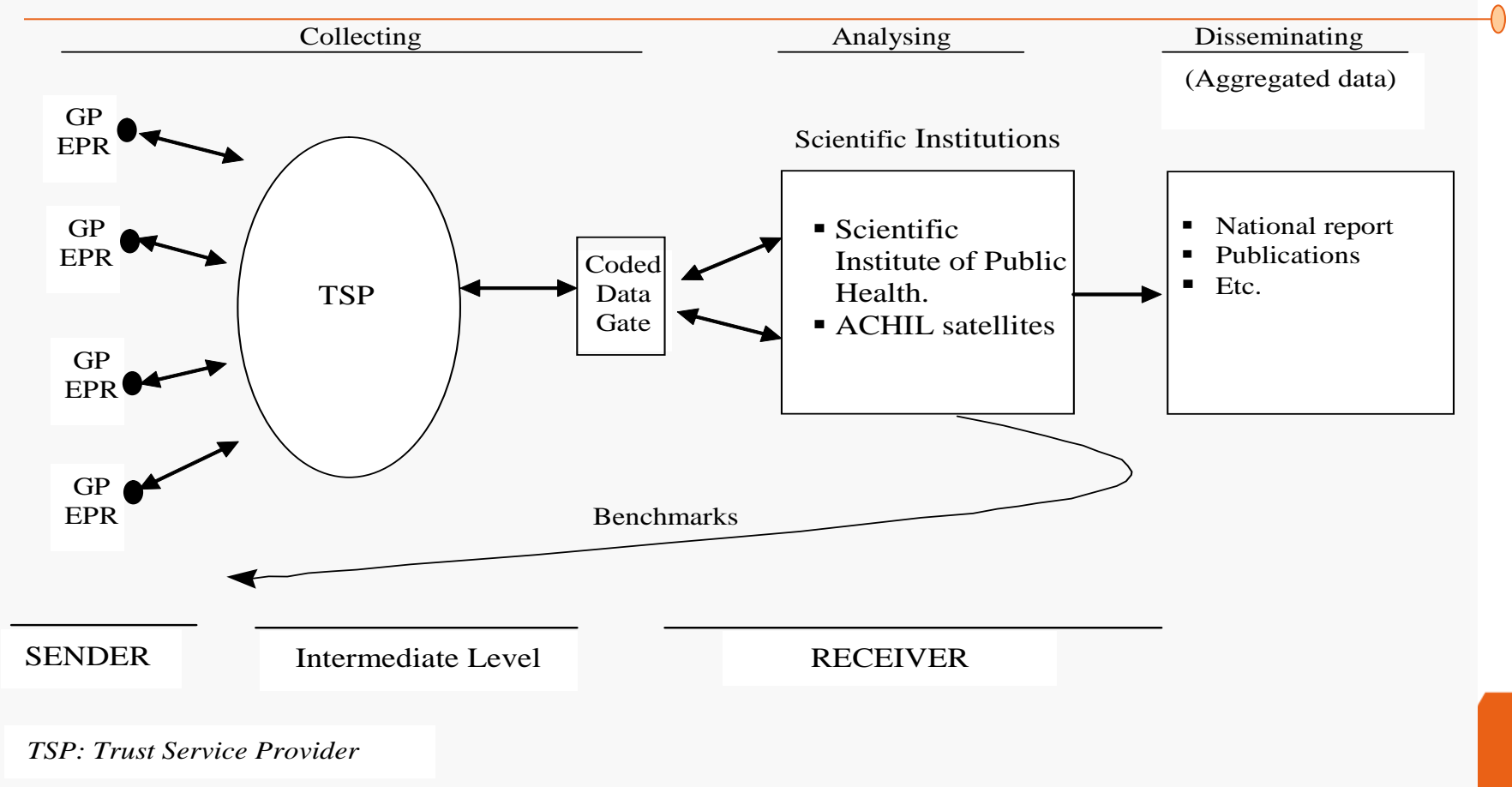
- To collect, validate, analyse care related data from ambulatory care, mainly based on EPR data
- To provide a report with benchmarking to those sending data
- To provide a general report to the public health authorities

### Specific objectives

➔ **First objective: evaluation of the effectiveness of the RIZIV/INAMI (NIHDI) care trajectories (CT)**

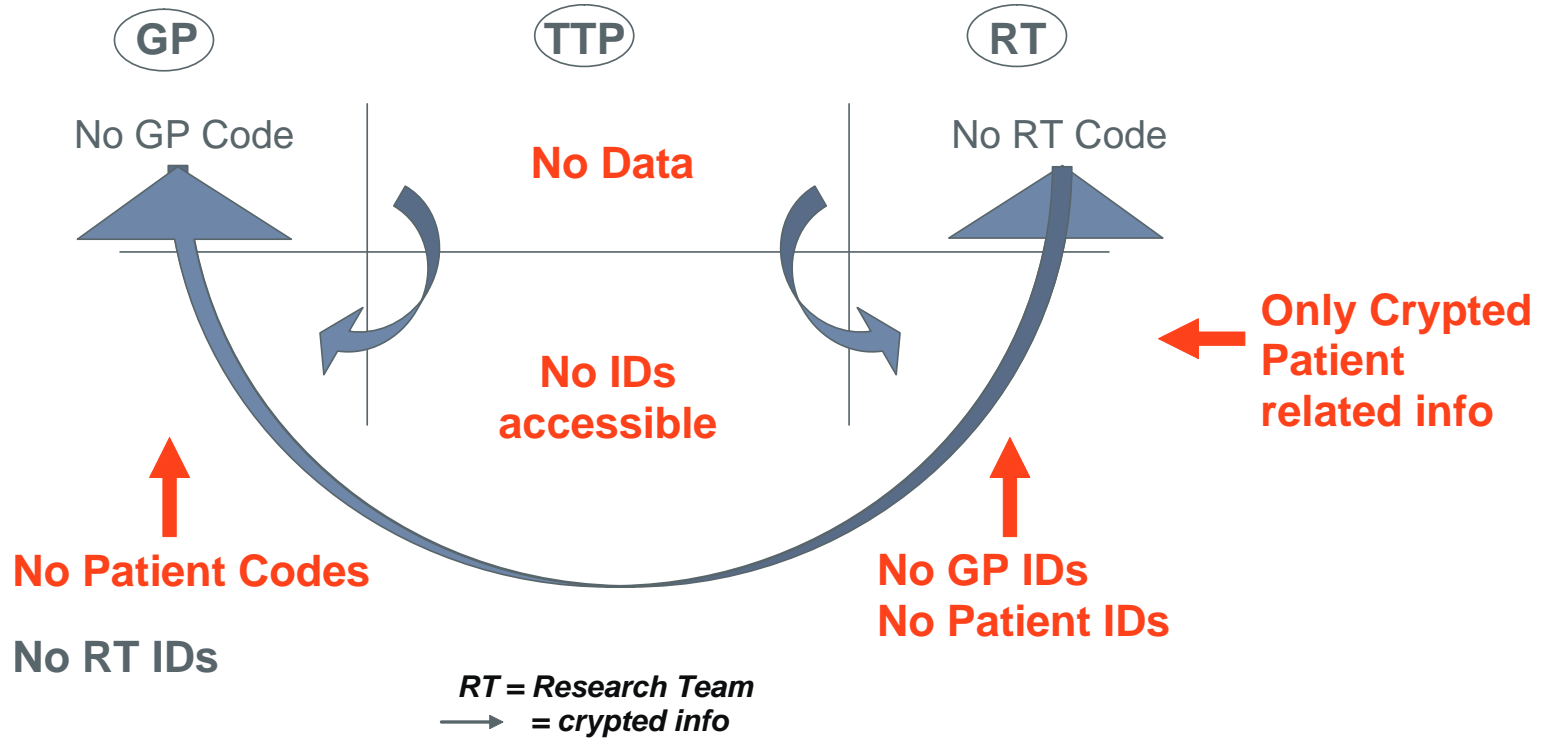
Care Trajectories assessment

# Research Network Architecture



Care Trajectories assessment

# Research network : privacy constraints table



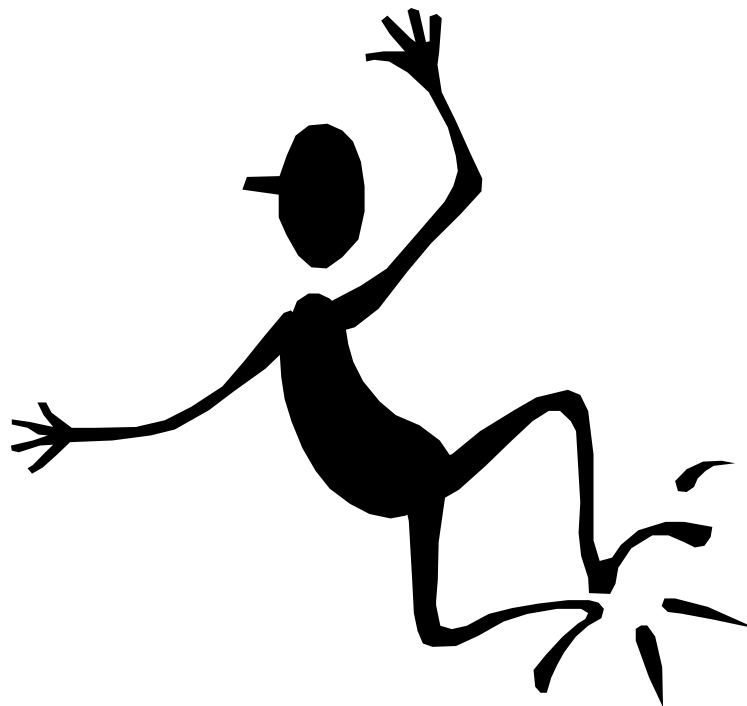
**Nobody should have access to any unnecessary data**

# Conclusions

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Towards an optimal IT supported management of chronic diseases ...

...perhaps in 2020!  
(but we are on the road)



That's all ...!