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# State of the art of diabetes information in Europe Belgium

22 September 2017

2<sup>nd</sup> Bridge Health meeting of the EUBIROD network

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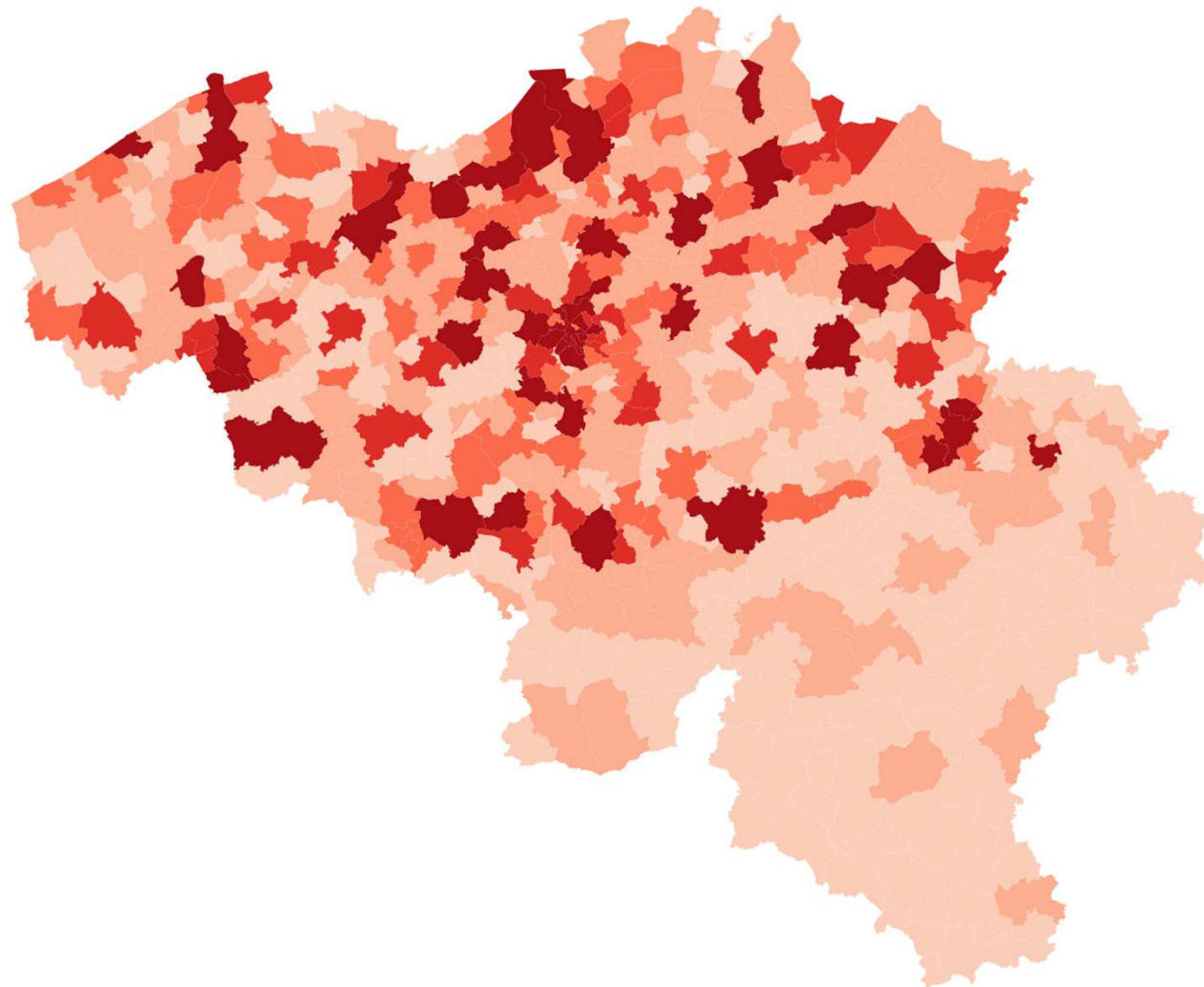
# Background



## Belgium

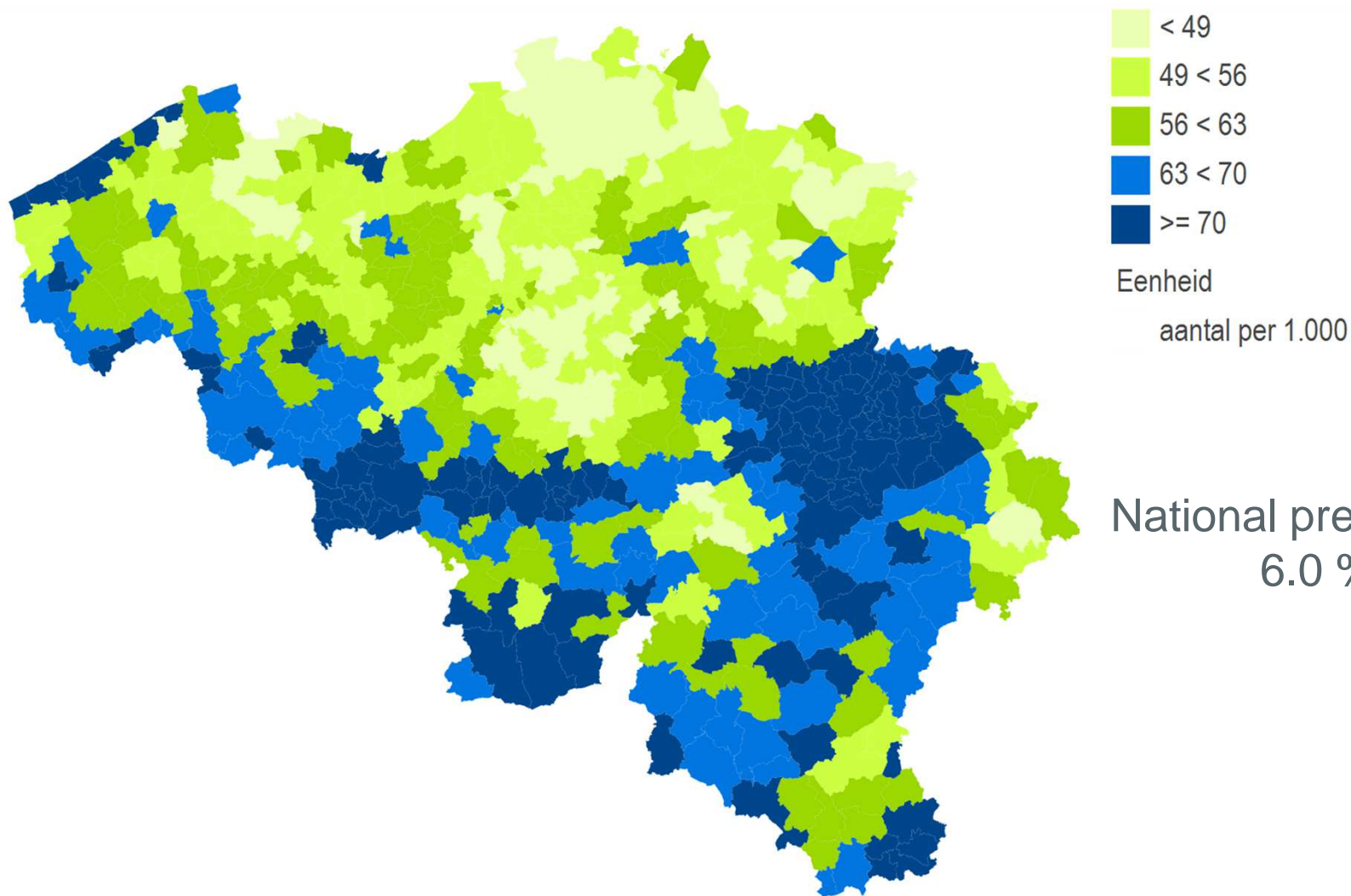
11,294,999 inhabitants (2016)

# Population density by municipality (2014)



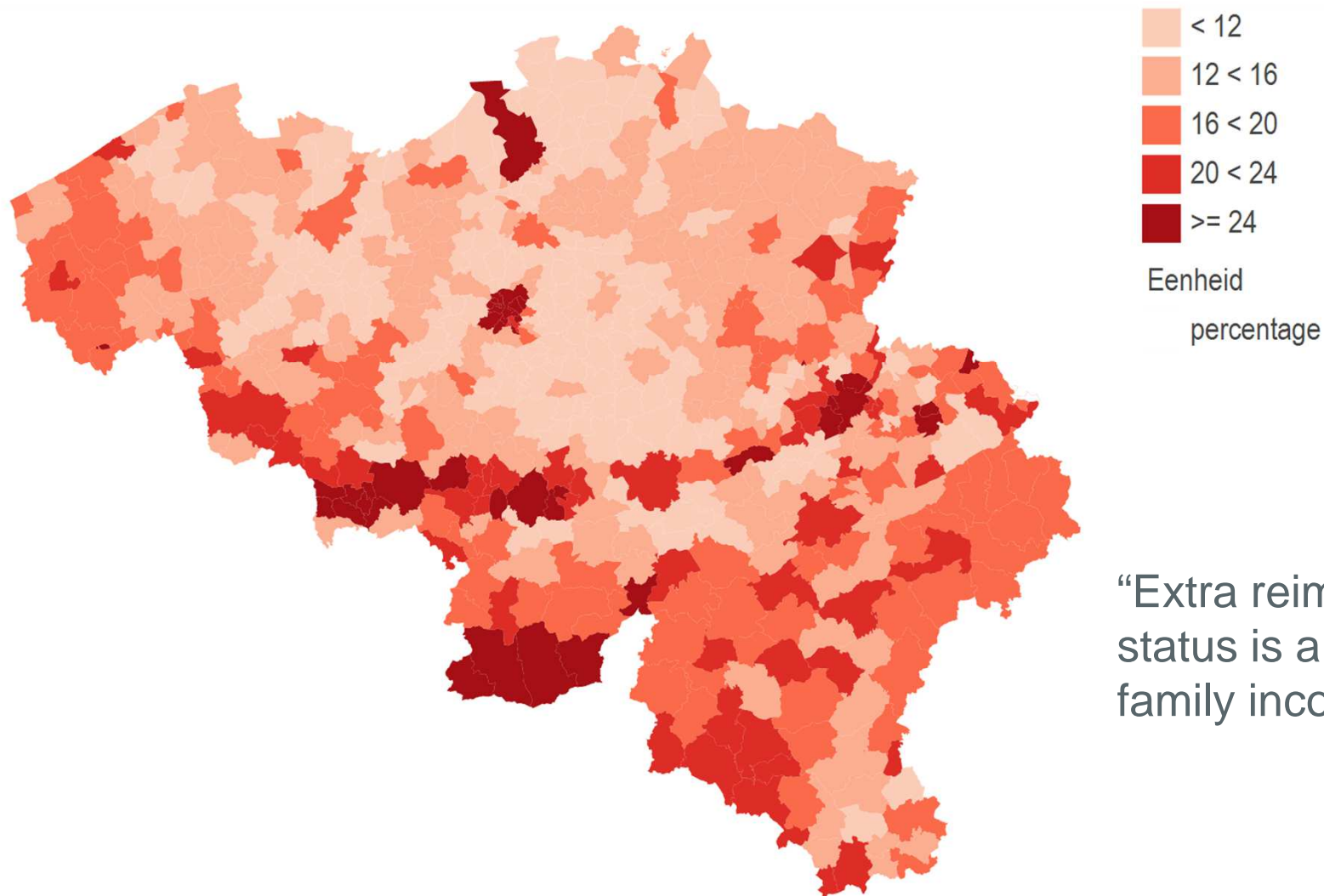
Eenheid  
aantal

# Diabetes prevalence (per 1.000) by municipality (2014)



Bron: <http://www.ima-aim.be>

# % of population receiving “extra reimbursement” (2014)



“Extra reimbursement”  
status is a proxy for  
family income



## Contribution to EUBIROD in the past

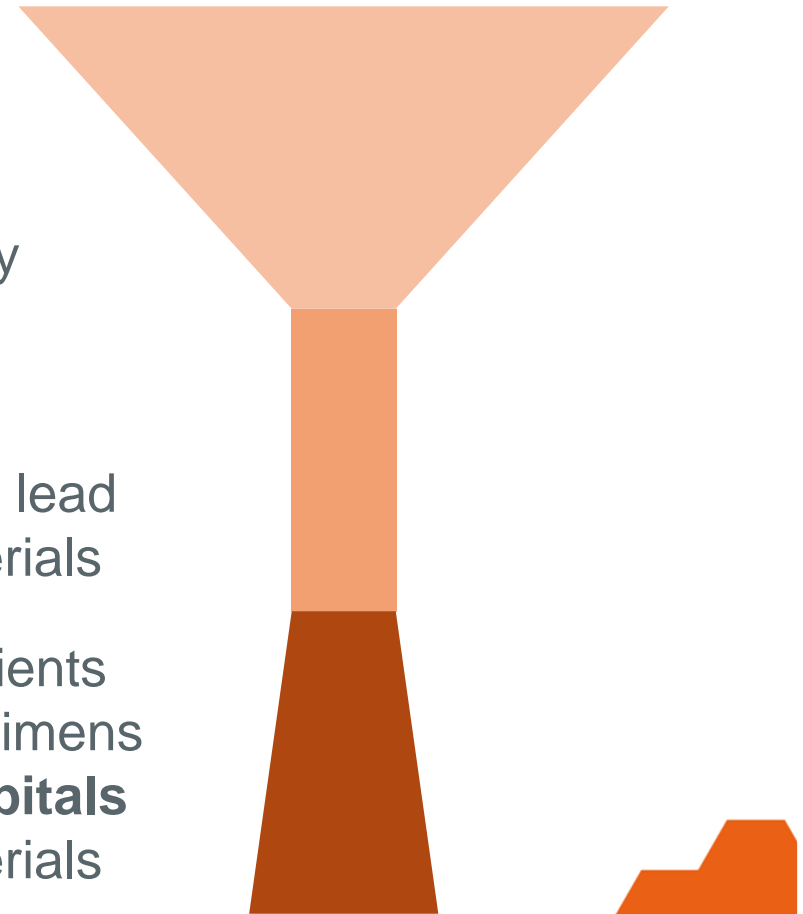
Data on insulin-treated diabetes from hospital-based diabetes centres – adults only

Data abstracted from patient medical record

Data obtained for quality monitoring purposes

# Current diabetes care landscape in Belgium

- 1. Pretrajectory**, 370K eligible patients starting from T2DM diagnosis  
follow-up by **GP**  
access to lifestyle education and podiatry
- 2. Care trajectory**, 60K eligible patients  
T2DM starting injectable drugs  
shared care with diabetologist, **GP** takes lead  
access to education and self-mgmt materials
- 3. Diabetes convention**, 108K eligible patients  
T1DM and T2DM on complex insulin regimens  
multidisciplinary specialized care in **hospitals**  
access to education and self-mgmt materials



# Current diabetes care data registration in Belgium

## 1. Pretrajectory

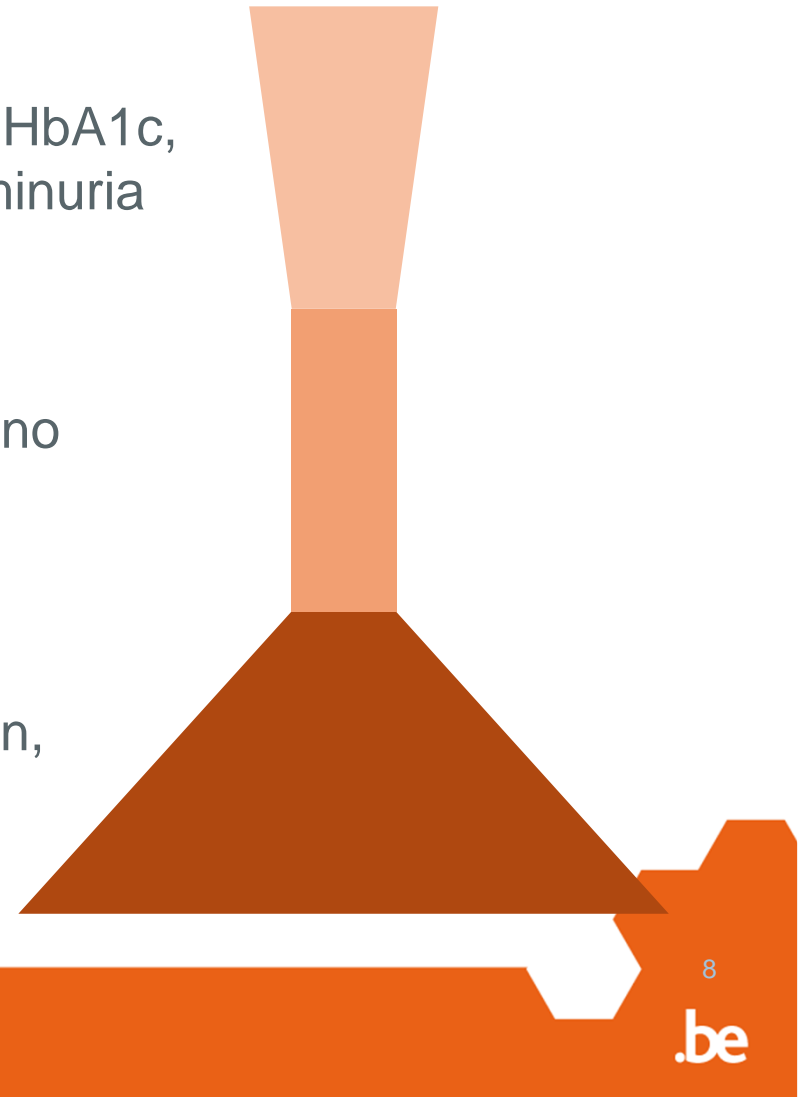
date of birth, gender, height, weight, BP, HbA1c, total chol., HDL, TG, serum creat., albuminuria  
*data collection starts April 2018*

## 2. Care trajectory

same as pretrajectory, but only LDL and no renal markers  
*data collection starts October 2017*

## 3. Diabetes convention

same as pretrajectory + diabetes duration, medical history, smoking status, eye/foot/renal exam + results, incidence acute+chronic complications, prior and current medication  
*data collection since 2001*





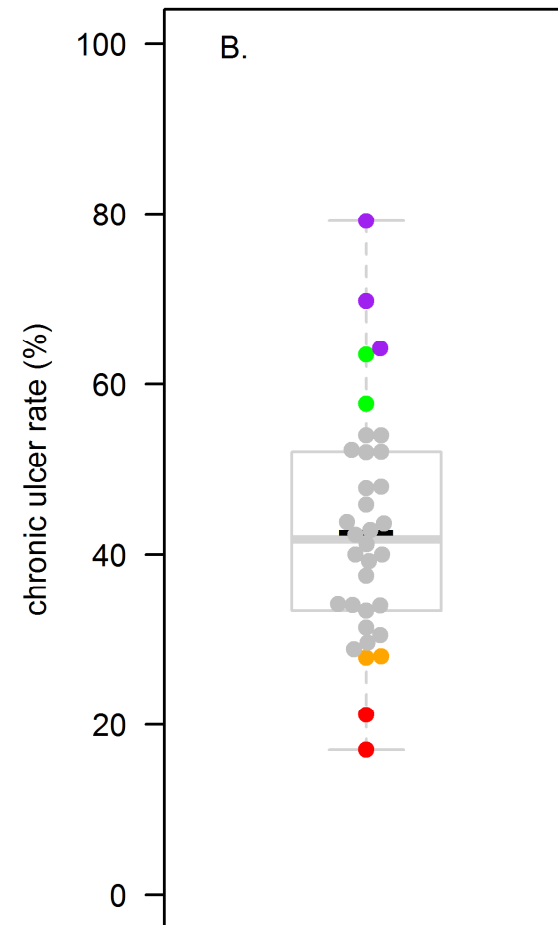
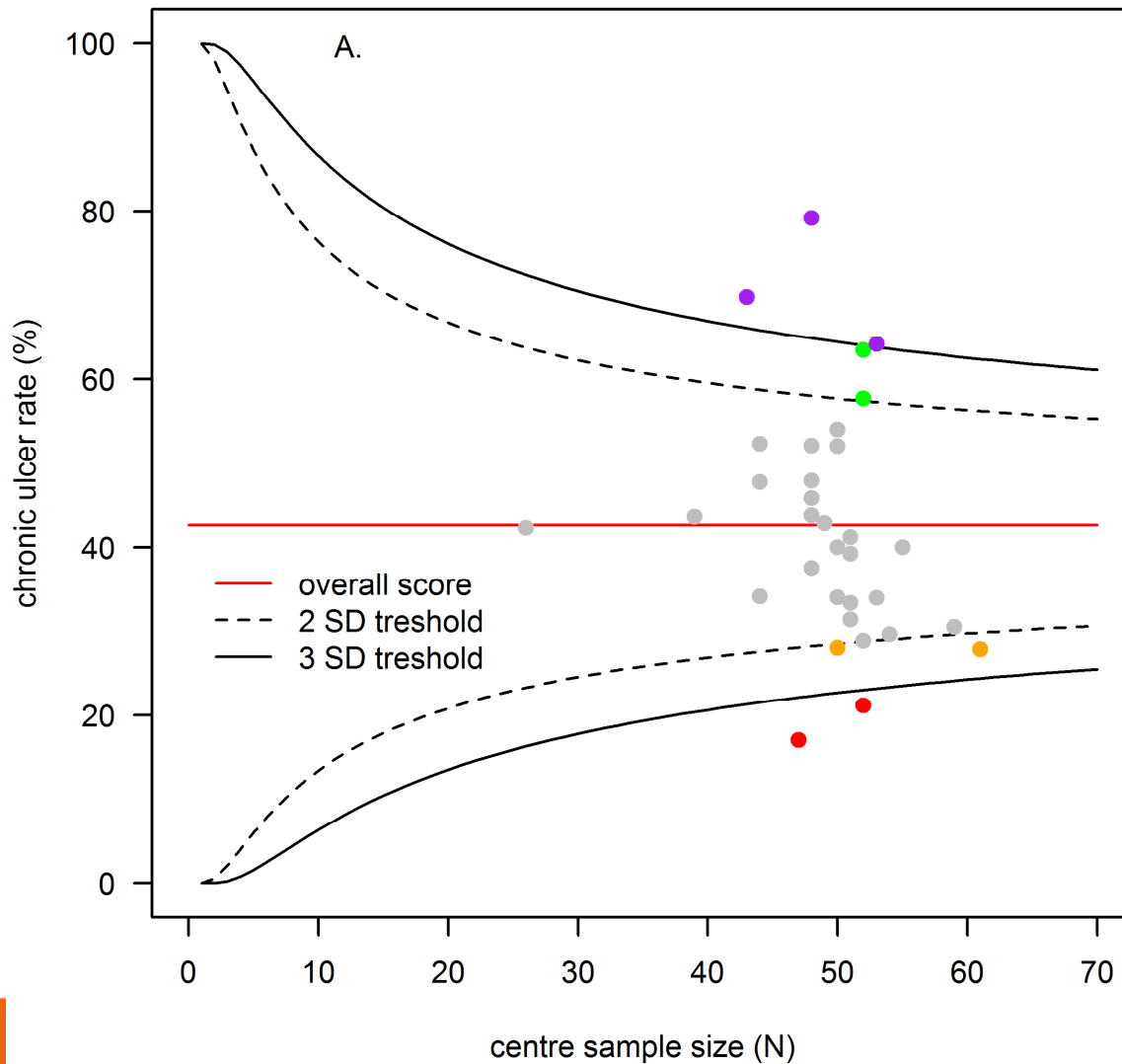
# Activities

- Audit-feedback of diabetes care:
  - Hospital-based multidisciplinary diabetes centres treating children and adults on insulin therapy
  - Multidisciplinary centres treating patients with diabetic foot problems
  - General practitioners
- Research: develop methods for performing audit-feedback

## Audit-feedback

- Set of quality indicators similar to that of EUBIROD
- Anonymous benchmarking of diabetes centres, aimed at internal quality improvement
- Funded by the national health authorities, but largely independent of them (authorities only see pooled results)
- Governed by a steering committee of clinical and quality experts.

# Benchmarking example



## Data systems

Periodicity: every 24 months data are collected retrospectively on a sample of 10% of patients

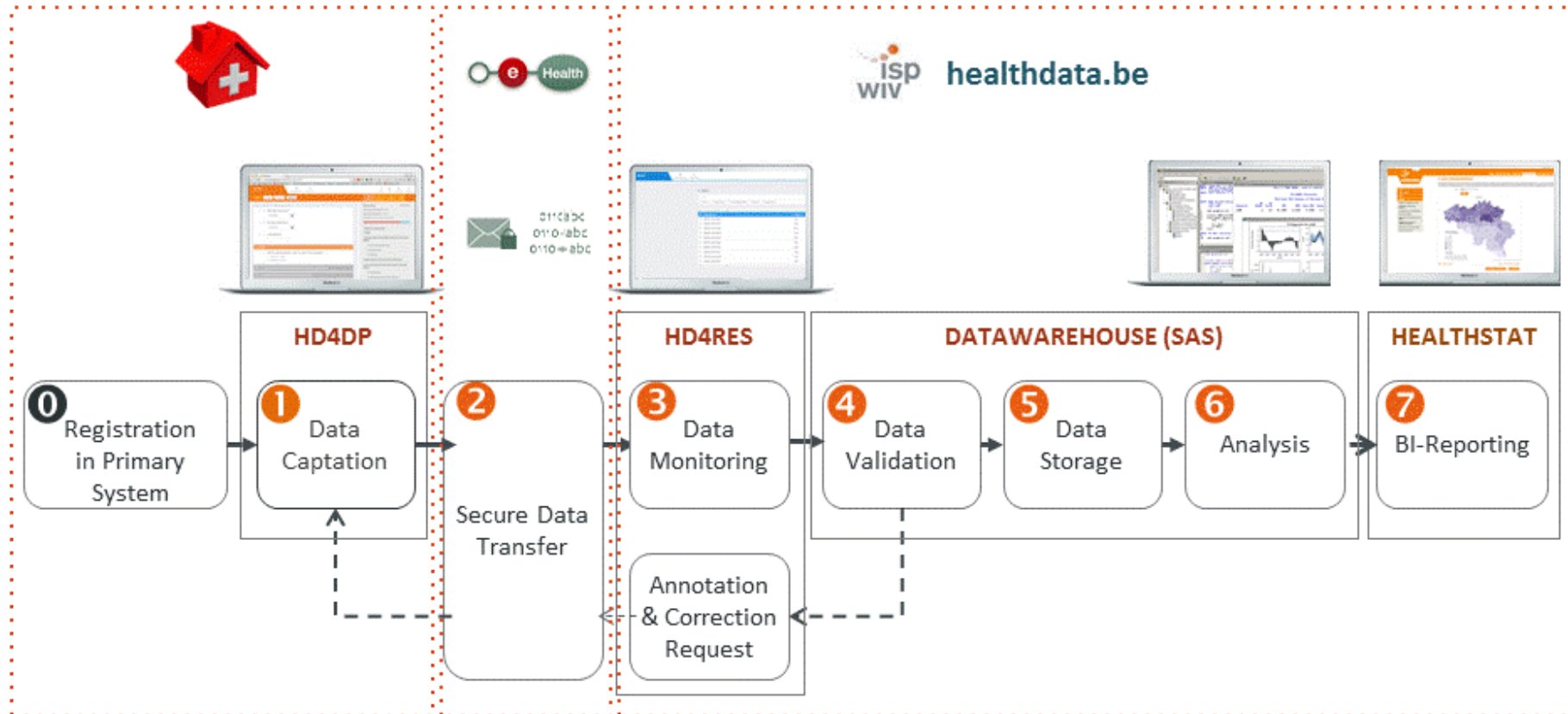
Data source: clinical data from the EHR and demographic data from national databases

Geographical coverage: national

Data linkage is allowed to the extent allowed by the authorisations from the Belgian privacy commission. Collected data are coded

The data custodian is a department within our institute

# IT solutions – healthdata.be

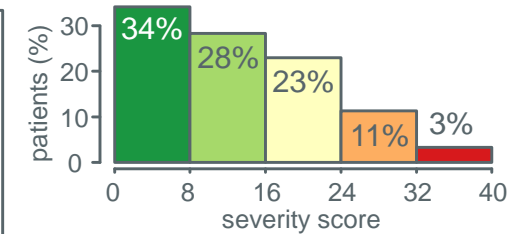
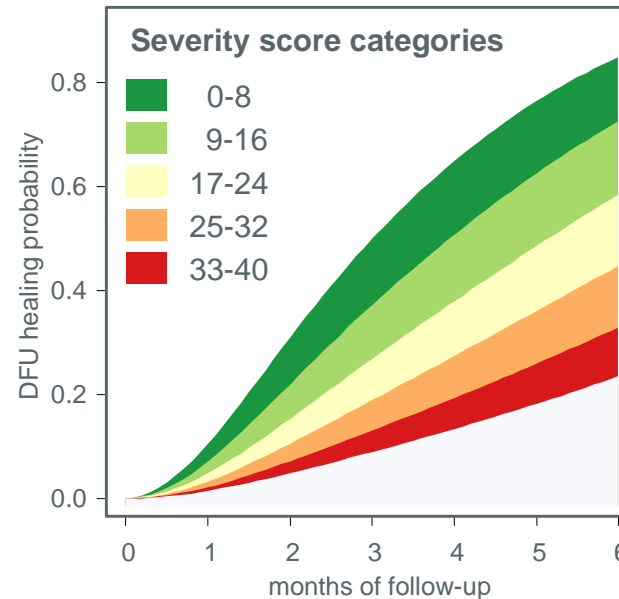


# Research



## Application 1: prognostic model of DFU healing as a function of disease severity

	Model coefficients	Proposed severity score
Contralateral DFU(s)	-0.506	10
Peripheral arterial disease	-0.421	8
Midfoot/heel DFU	-0.383	8
Additional ipsilateral DFU(s)	-0.260	5
Renal insufficiency	-0.252	5
Referral/treatment delay $\geq$ 2 months	-0.210	4



Expected % of DFUs healed						
Months of follow-up						
	1	2	3	4	5	6
Severity score 0	11	31	49	65	76	85
8	7	22	37	51	63	73
16	5	15	27	38	49	59
24	3	11	19	27	36	45
32	2	7	13	19	26	33
40	1	5	9	13	18	24

**Left:** model coefficients and the derived severity score (SS), which is an approximation of the weight of each parameter in the model (coefficient multiplied by -20). At presentation, each patient can easily be scored for the presence of these 6 risk factors. The obtained SS can range from 0 (no risk factors present) to 40 (all risk factors present). **Middle:** predicted cumulative incidence functions of DFU healing probability according to 5 categories of the SS. **Right top:** higher SS were increasingly less prevalent in the 2011 dataset. **Right bottom:** matrix showing the expected DFU healing probability at 1-6 months as a function of SS. Color codes show situations in which less than 25% (red), between 25 and 50% (orange) and more than 50% (green) of DFUs are expected to have healed.

# THANK YOU FOR YOUR ATTENTION

Questions?

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