Health Inequality at the Age of Retirement: longitudinal data on health and retirement in Belgium

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Overview

- Background and research questions
- Data construction and validation
- Preliminary results

Background

- Ongoing research: looking for data to better understand and document health around retirement age and the evolution in health and life expectancy related to social status and employment history
- Many research questions addressing transitions around the end of professional life: transition to retirement/inactivity, morbidity, mortality,...
- What we need: longitudinal data, states and transitions, for the whole population or a large representative sample, over a relative long period
- Several studies based on Scandinavian data and an increasing number of studies based on social security data from different European countries try to address these questions

Ageing, health and retirement

- Two conflicting questions:
  - Is our population becoming healthier and can we expect that by increasing the retirement age we will increase the labor force potential?
  - What is the effect of labor on population health and more specifically is globalization with increased flexibility in working conditions creating new health problems?
- What is the impact of SEP and income?

Data

- National Population Register: register of Belgian population with sex, date of birth, place of birth, marital state, date of marriage, place of living, nationality, date of death → reference data base: 10% sample of persons aged 50-64 in 2004: 177.787 cases
- Data extractions for each year of follow-up starting in 2003 till 2008 with mortality for 2004-2007

Data

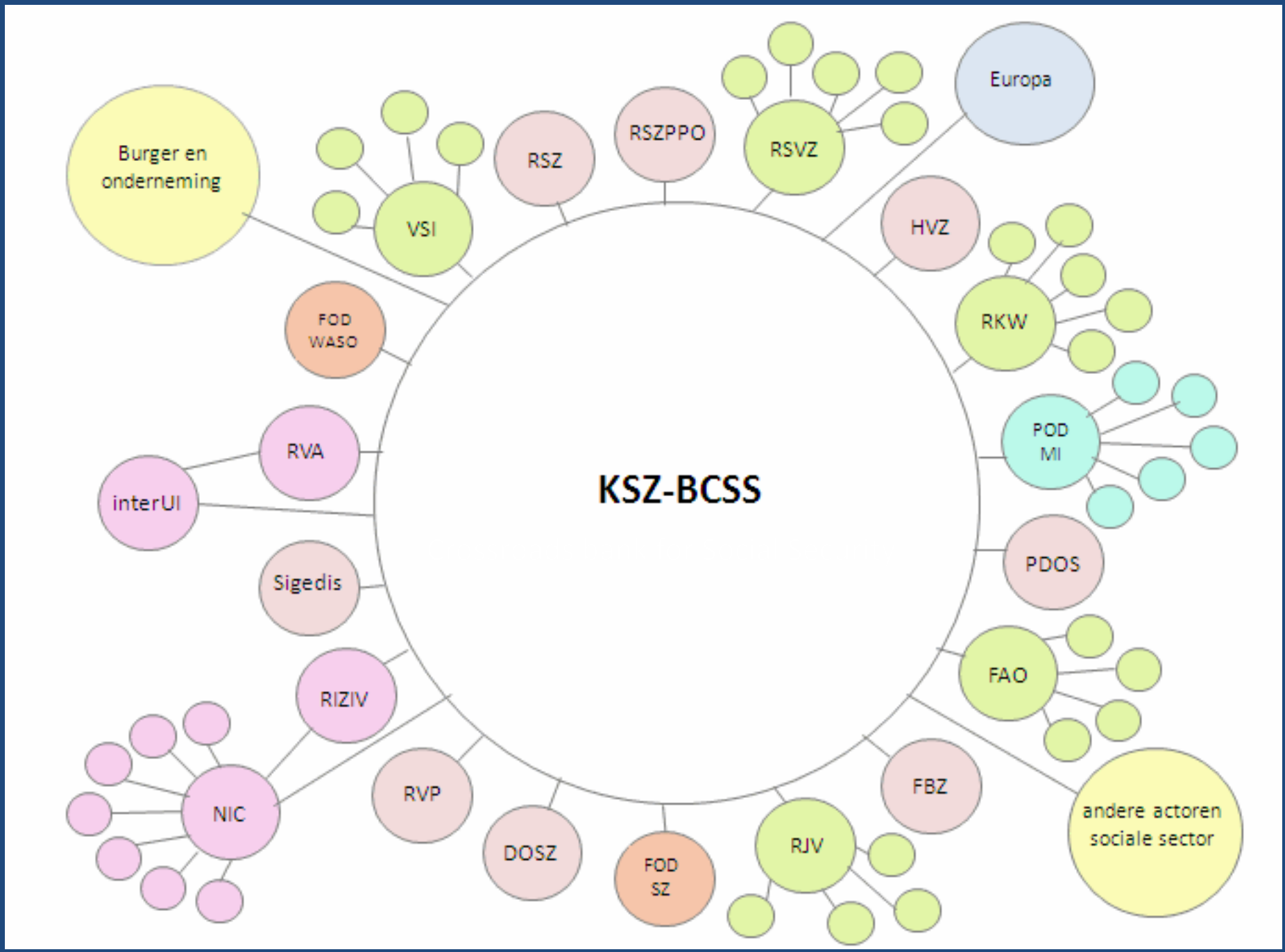
- Construction of a unique data set including the complete period 2004-2008
- Final data set:
  - 171.125 persons still alive and in Belgium after 4 years
  - 4.527 died during the observation period
  - 2.135 “disappeared” during the observation period: mostly emigrated, (other?)
- These data are linked to information from the Belgian Social Security system

Data

The Belgian social security system includes:

- 3 social insurance systems (employees, self-employed persons and civil servants), covering 7 social risks (work incapacity, industrial accident, occupational disease, unemployment, old age, child care and holiday pay - the so-called branches of social security)
- 4 subsistence systems (allocations for disabled persons, family allowances, minimum income and income guarantee for the elderly)

The Belgian social security covers about 98% of all persons living in Belgium (not included persons depending from social security in other countries & cross-border workers)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Burger en onderneming
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Data

- Anonymous data – unique identifier produced by the CBSS for selected datafiles
- As the data are coming from different databases often in consecutive snapshots, different definitions and procedures: many harmonization problems
- Based on the CBSS: Employment Data Warehouse
  - created more than 10 years ago
  - based on large range of employment databases
  - scientific committee, large group of researchers, updating and improving continually: basic classification according to socio-economic position introduced since 2003

Socio-economic classification

- 1. Employed
  - 1.1. Salariat
  - 1.2. Self-employed
- 2. Looking for work
  - 1.1. After full employment & allocation
  - 1.2. Other unemployment status
- 3. Not formally employed
  - time credit
  - unemployed, not available for the labor market
  - basic allowance to survive (including students, artists,...)
  - retired
  - pre-retired
  - unable to work
- 4. Other
  - allowances for students, artists,...
  - persons not included in any of the former systems: housewives, renters, artists, depending of a social security system of another country, ...

Work in progress

- Long process of cleaning, controlling the data for inconsistencies, analyzing the causes of problems, introducing new data demand
- Propositions for new data handling processes or new definitions
- New demand pending extending the observation period

Data

- A large set of demographic and socio-economic data
- Including several transitions of interest
  - between occupational status and class
  - to diagnosed health problems for those in the work force
  - to work inability
  - to retirement
  - to mortality

Preliminary results:

An illustration for men aged 50-59 in 2004

Cox regression: mortality over 48 months follow-up period

- Professionally active men 50-59 in 2003
- Activity status in 2004: working, retired, unemployed or disability pension
- Mortality follow-up as an indicator of health
- Additional control for health through social security data & disability pension
- 10% sample is reduced to 45.270 men

Men 50-59 working in 2003 according to occupational status in 2004: mortality follow-up 2004-2007

	N	Exp(B)	95.0% CI	
Retired	1864	**1.538**	1.156	2.045
Unemployed	560	1.244	0.685	2.257
Disability pension	236	**6.915**	4.638	10.311
Working	41966	1.000		

Men 50-59 working in 2003 according to occupational status in 2004: mortality follow-up 2005-2007

	N	Exp(B)	95.0% CI	
Retired	1861	**1.383**	1.030	1.856
Unemployed	559	1.146	.614	2.140
Disability pension	222	**3.095**	1.706	5.618
Working	41958	1.000		

Occupational status in 2004 according to occupational class

	Working	Retired	Unemployed	Disability
manual workers	10952	695	337	164
private employees	10440	458	142	41
public employees*	10624	640	7	2
self-employed	9910	65	57	27

* legislation makes unemployment exceptional for public employees and persons working in the public service are not registered as unavailable for the labor market because of (permanent) disability

Most common ICD-9 codes at the start of the observation 1/1/2004 for men aged 50-59 in the work force in 2003

Dorsopathies	2332
Neurotic Disorders, Personality Disorders, And Other Nonpsychotic Mental Disorders	2147
IHD, Hypertension, CVA & other BCD	1751
Arthropathies And Related Disorders	799
Malignant neoplasm	783
Fractions	685
Respiratory diseases	509

Dorsopathies, arthropathies and related disorders most often among manual workers; low mortality risk

Men 50-59 working in 2003 according to occupational class: mortality follow-up 2005-2007

	N	Exp(B)	95.0% CI	
Manual workers	12316	**1.652**	1.365	1.999
Private employees	11291	1.196	.976	1.467
Public employees	11363	**1.451**	1.194	1.764
Self-employed	10232	1.000		

Men 50-59 working in 2003 according to professional status & income: mortality follow-up 2005-2007

	N	Exp(B)	95.0% CI	
manual workers (sick leave)	1298	**4.191**	3.232	5.434
manual <100	6205	**1.438**	1.145	1.806
manual 100-150	4367	1.163	.884	1.531
manual >150	446	.749	.308	1.824
private employees (sick leave)	405	**5.673**	3.984	8.077
private <100	1397	1.334	.899	1.980
private 100-150	3866	1.274	.972	1.670
private > 150	5623	.761	.574	1.010
public <100	2557	**2.190**	1.694	2.832
public 100-150	4861	**1.316**	1.026	1.687
public > 150	3935	1.095	.826	1.453
Self-employed	10232	1.000		

Conclusions

- Some conclusions from this particular study:
  - clear confirmation of the higher health risk and the mortality gradient according to occupational class (partially addressing the “healthy worker” effect)
  - Importance of combining occupational class & income
  - Disability pension shows a strong correlation with occupational class: better prevention possible!
- Illustration of the huge potential of administrative data for research on work – health related questions

- Thank you