

EU2022.CZ

Czech Presidency of the Council
of the European Union



Programme

Expert Conference on oncology

*Modern Cancer Control: Saving Lives through Smart
Solutions*

Brno, Czech Republic

13.-14. 7. 2022

Belgian Cancer Registry



Modernizing Cancer Registry

Example of Belgium

www.kankerregister.org | www.registreducancer.org

Liesbet Van Eycken

BRNO, 13th of July 2022



A cancer registry is a basic tool for cancer surveillance

a. To serve public health by monitoring changes in cancer occurrence and prognosis (epidemiology) and evaluating mass interventions like screening, descriptive epidemiology: incidence, survival and prevalence.



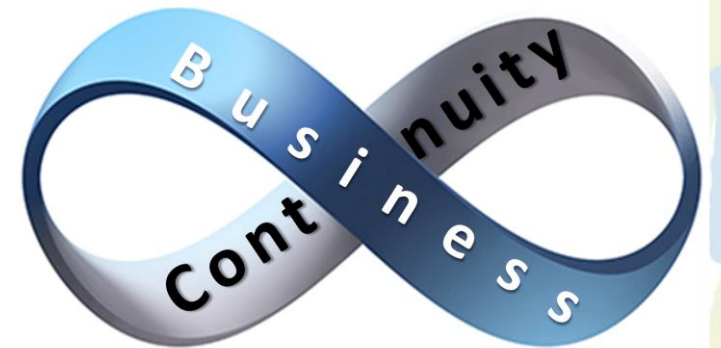
Introduction & Overview

- Modernizing on...
 - Information (variables) to be collected
 - Data sources
 - (Innovative) Techniques and Technology
 - Training
 - Subjects for research
- In order to gain on...
 - Timeliness and Continuity
 - Quality and Completeness
 - Relevance of Information
 - Data Protection and Accessibility



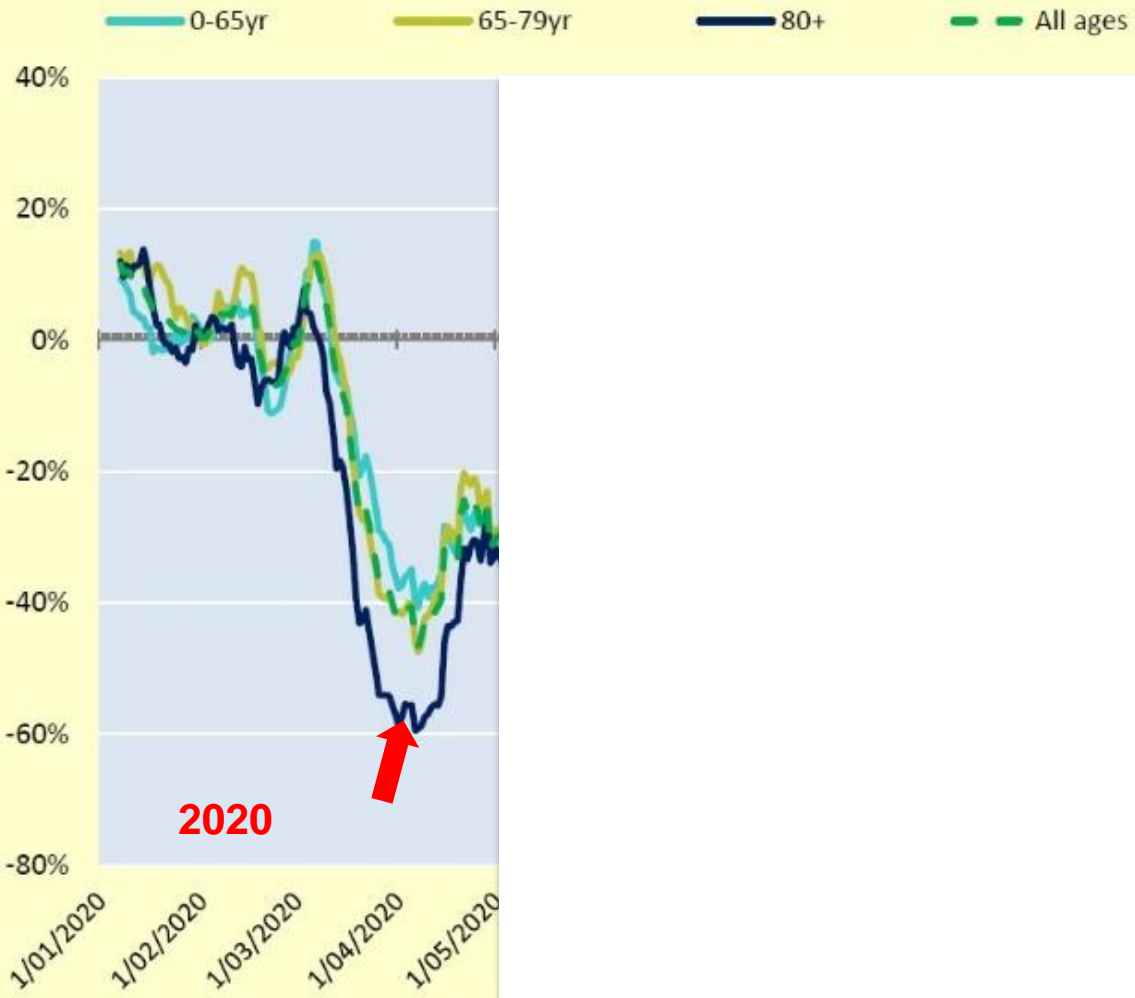
1. Timeliness and Continuity

- **Shorten** the period between diagnosis and reporting on cancer incidence
- **Technology:** Dynamic and continuous data flow, health data platforms
- **Continuity:** Avoid gaps in information



Comparison of number of new cancer diagnoses* in Belgium from January 2020-December 2021 compared with the same period in 2019 (%)

* All cancers excl. non-melanoma skin cancer



The daily results of the number of new cancer diagnoses were calculated based on a 14-day moving average.

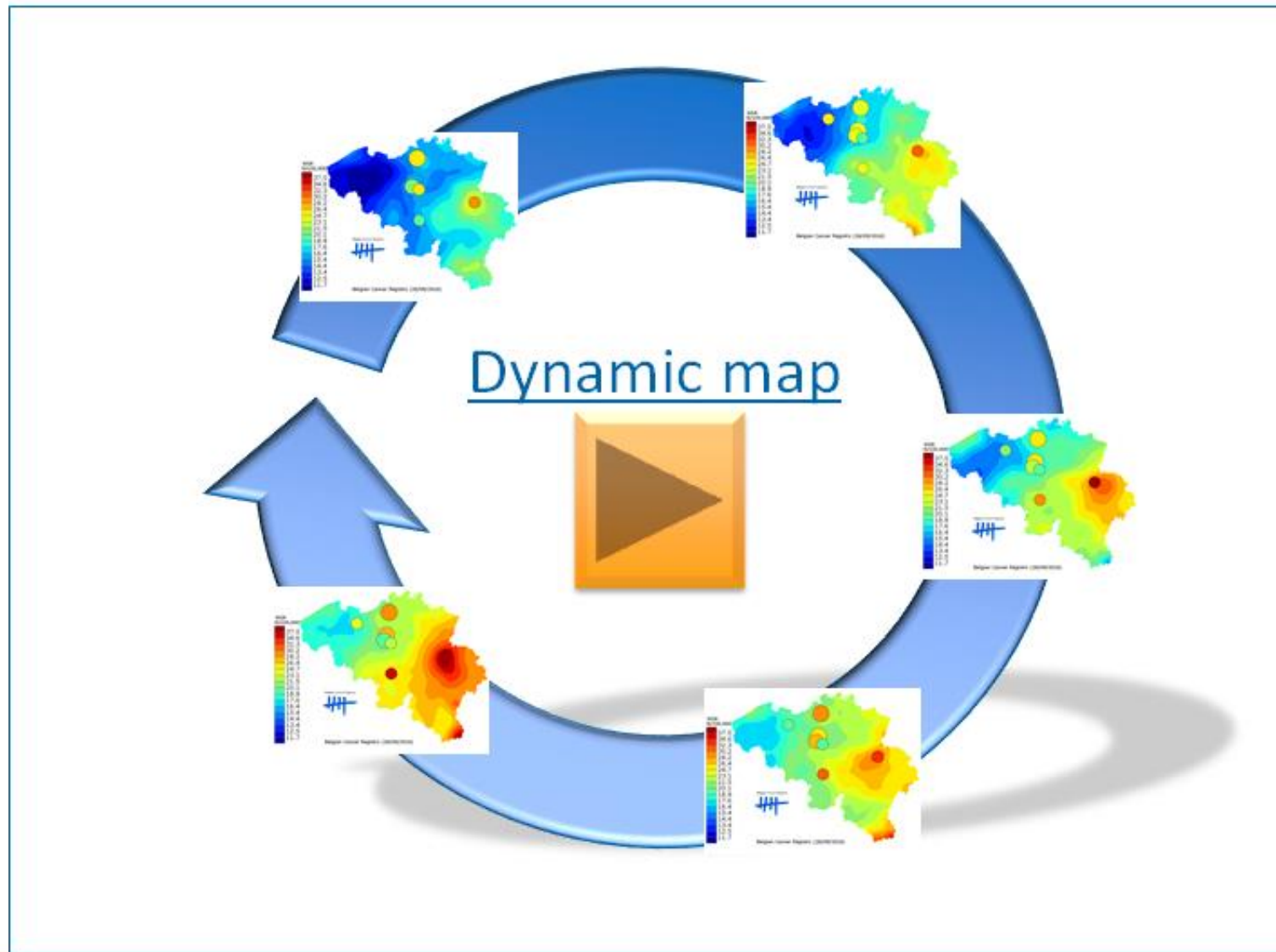
ESMO ORIGINAL ARTICLE
ESMO OPEN CANCER HORIZONS

Decline and incomplete recovery in cancer diagnoses during the COVID-19 pandemic in Belgium: a year-long, population-level analysis

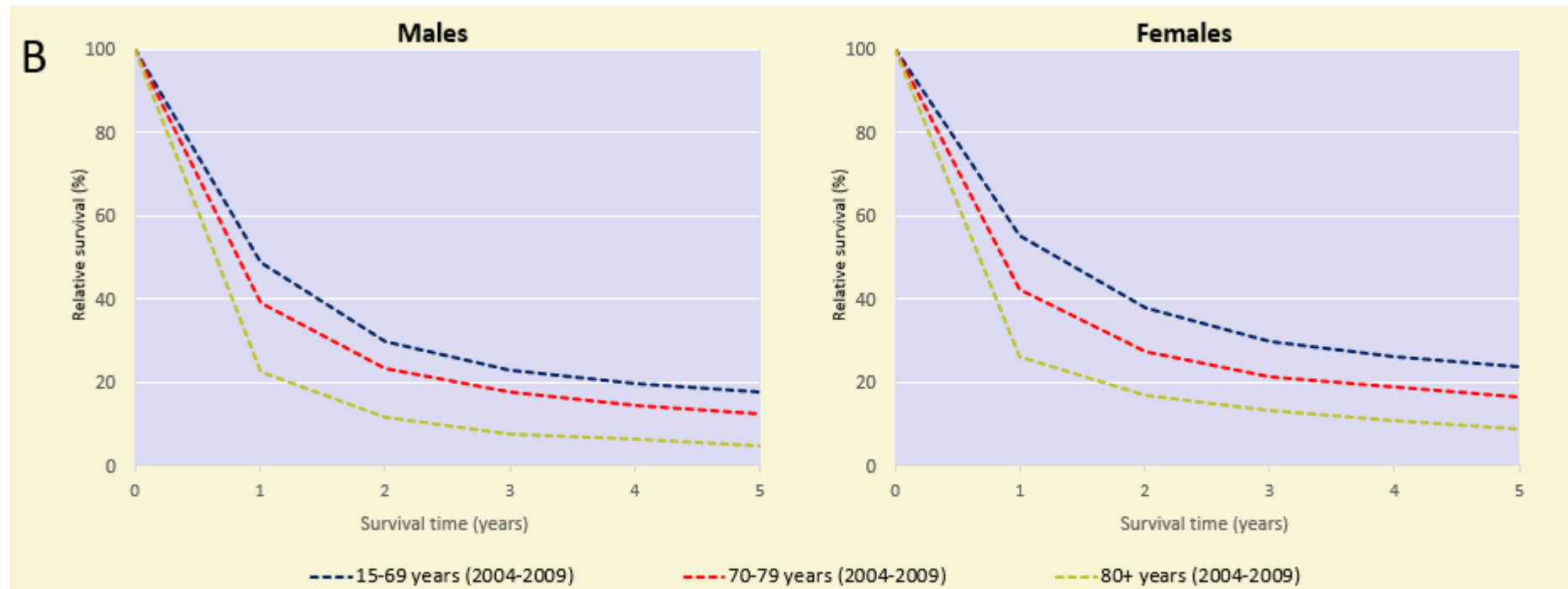
H. M. Peacock¹, T. Tambuyzer¹, F. Verdoort¹, F. Calay, H. A. Peirel, K. De Schutter, J. Francart, N. Van Damme & L. Van Eycken¹

Belgian Cancer Registry, Brussels, Belgium

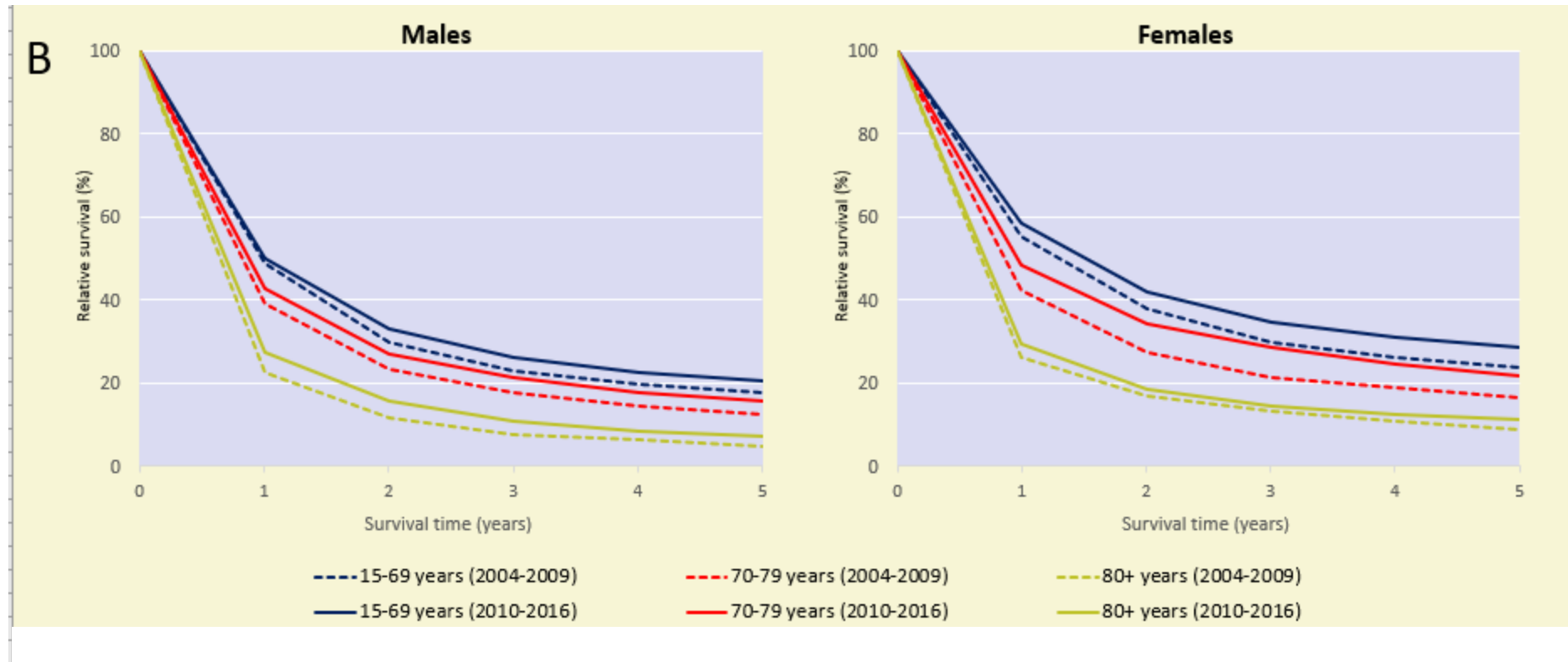
Lung Cancer Incidence in Belgium, females, 2004-2017



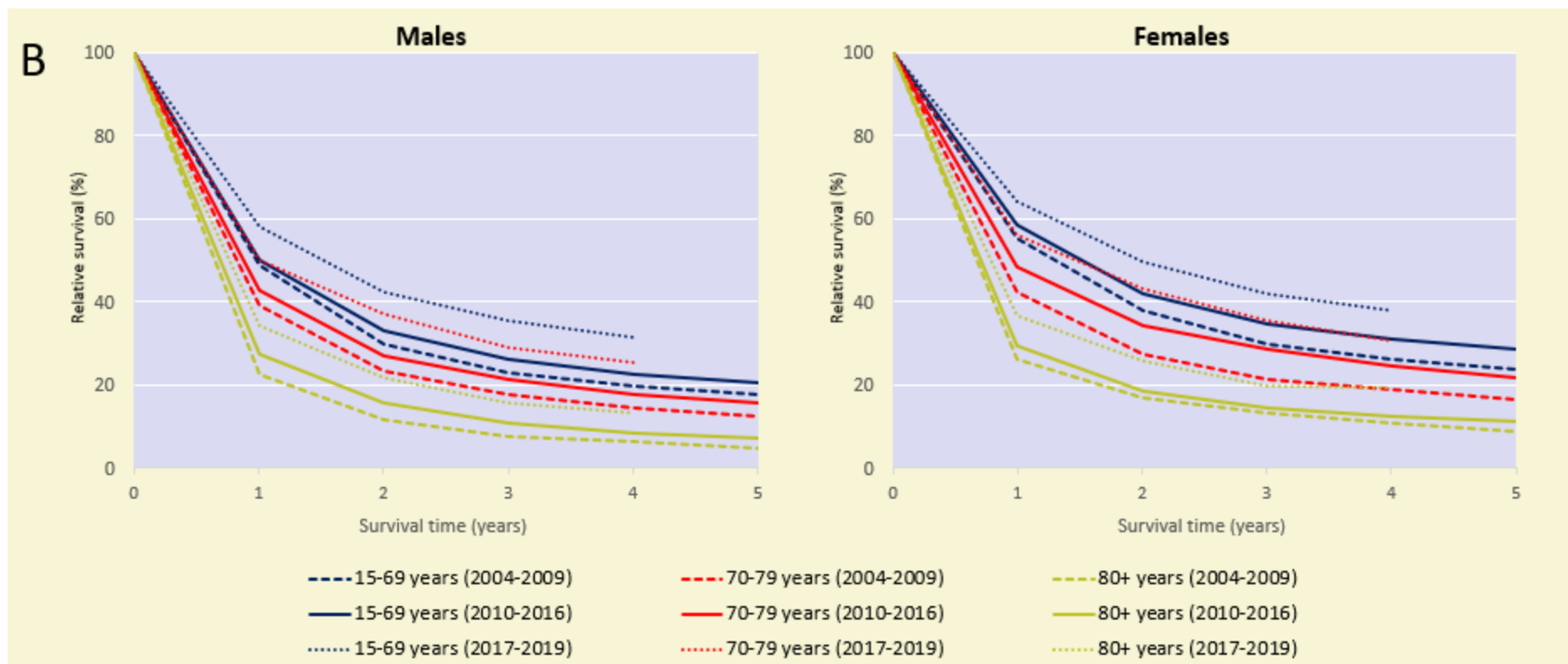
Lung Cancer, Belgium, 5-year relative survival, 2004-2009



Lung Cancer, Belgium, 5-year relative survival, 2004-2009, 2010-2016



Lung Cancer, Belgium, 5-year relative survival, 2004-2009, 2010-2016, 2017-2019



2. Prerequisites for Quality & Completeness



- Collaboration with experts
 - Physicians, Academic - Universities, Oncology and RT departments, Knowledge Centers, Screening Organisations, Authorities, ...
- High level of training and expertise for internal staff
 - Raw data => Information
- Training for data managers: 'Tumour verification officers'
 - Complexity: Master level needed, accredited data managers
 - E-learning, webinars, exercises online, chatbox

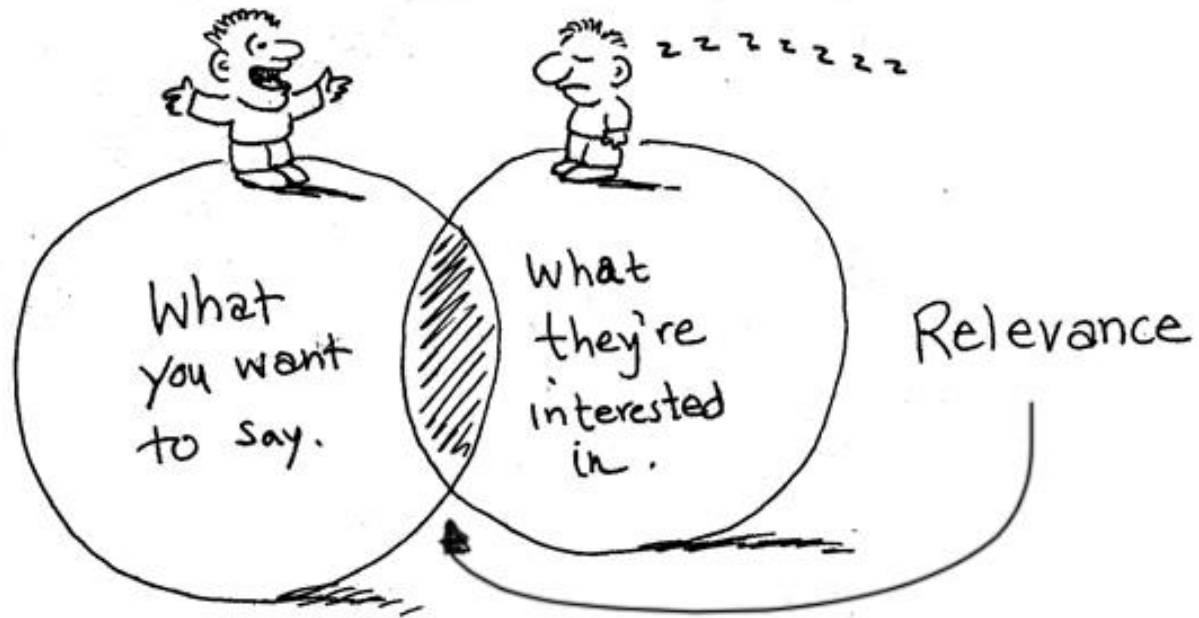


A cancer registry is a basic tool for cancer surveillance

a. To serve public health by monitoring changes in cancer occurrence and prognosis (epidemiology) and evaluating mass interventions like screening
descriptive epidemiology: incidence, survival and prevalence.

b. To serve **oncology** by studying access and variation in quality of care and outcomes, including the patient perspective, and cause-specific mortality. The methods of quality of care research also include interpretation of context and regular feedback to the clinicians involved.

3. Relevance...

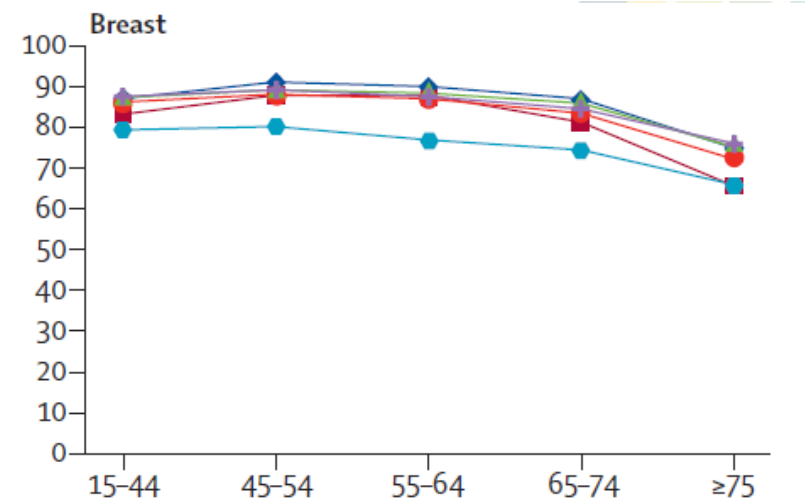
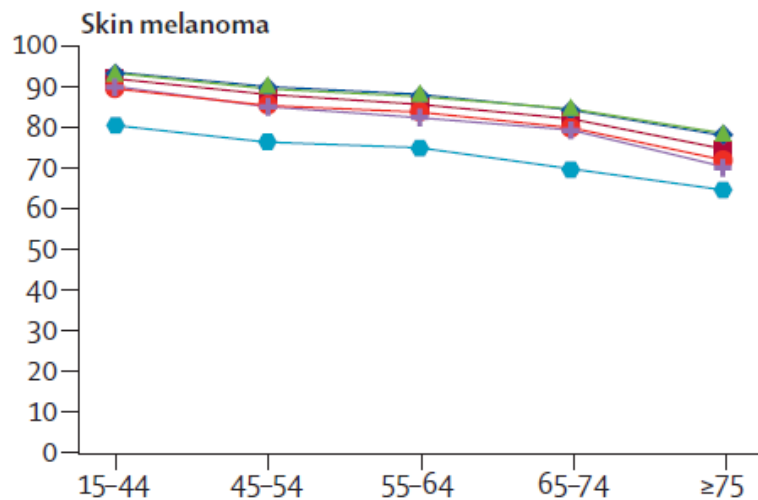
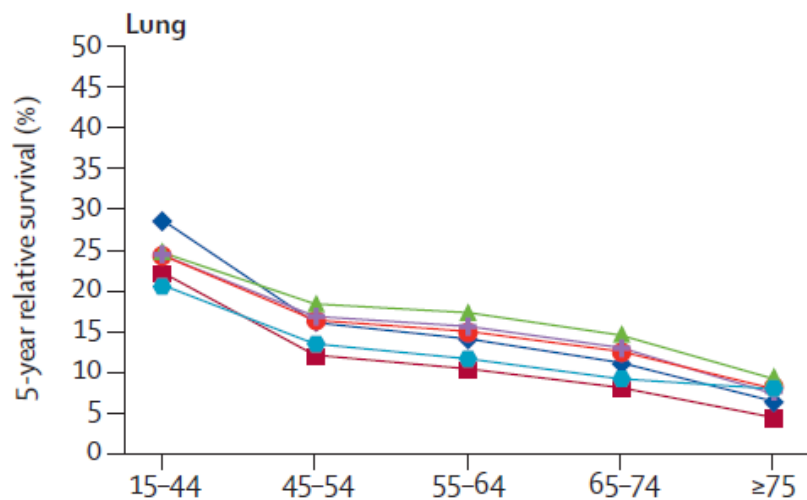
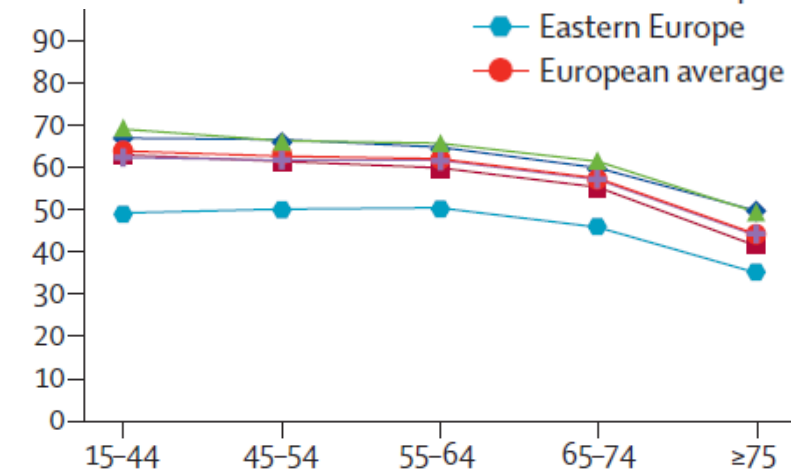
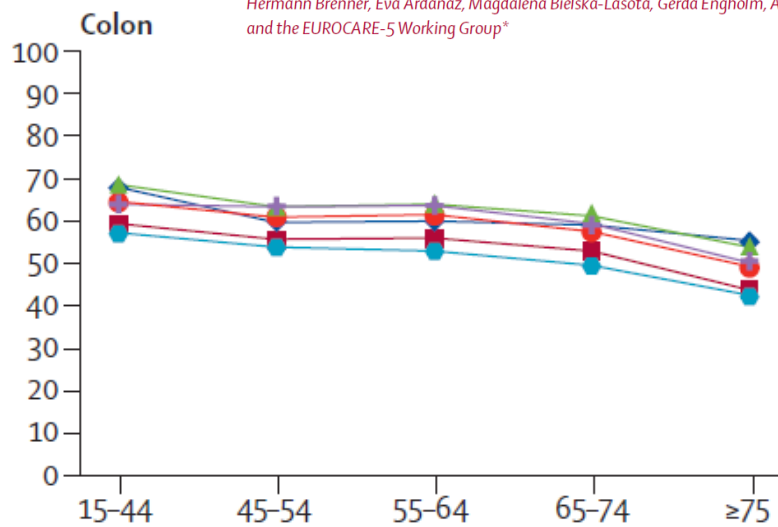
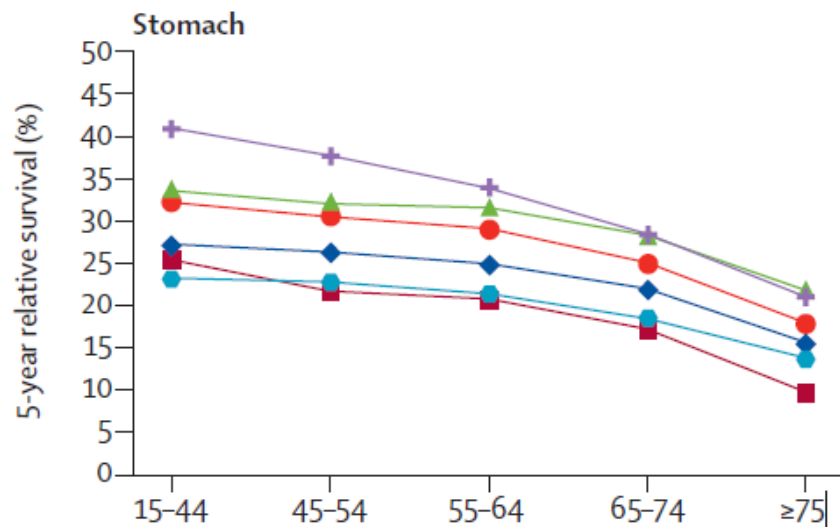


Lancet Oncol 2014; 15: 23–34

Cancer survival in Europe 1999–2007 by country and age: results of EURO CARE-5—a population-based study

Roberta De Angelis, Milena Sant, Michel P Coleman, Silvia Francisci, Paolo Baili, Daniela Pierannunzio, Annalisa Trama, Otto Visser, Hermann Brenner, Eva Ardanaz, Magdalena Bielska-Lasota, Gerda Engholm, Alice Nennecke, Sabine Siesling, Franco Berrino, Riccardo Capocaccia, and the EURO CARE-5 Working Group*

- ◆ Northern Europe
- UK and Ireland
- ▲ Central Europe
- ✦ Southern Europe
- Eastern Europe
- European average



Survival results: Variability?

Organisation of healthcare

- Access to treatment
- Cancer screening programs
- Financial aspects

Implementation of and adherence to guidelines

- Quality of diagnosis and treatment
- Complexity of procedures and medical acts
- Influence of Age

Stage distribution

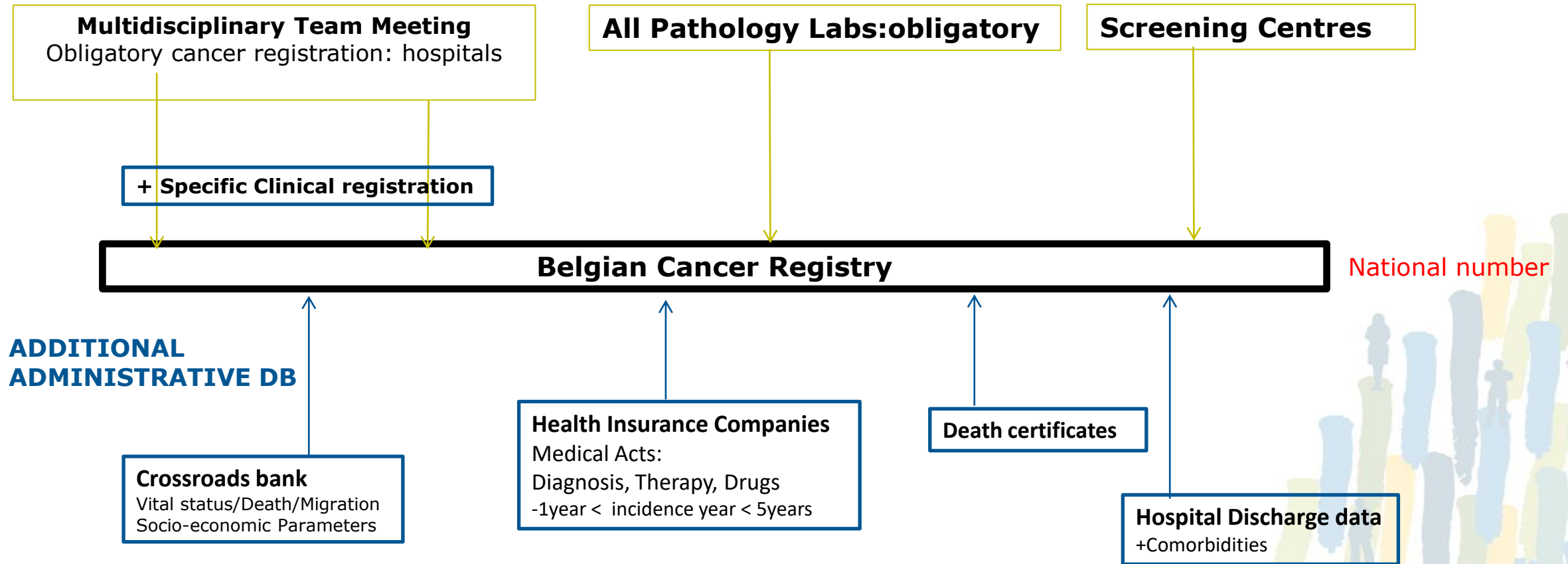
- Availability of information (methodology)
- Evolution of stage: Screening, early detection and diagnosis

“Analytical studies are needed to assess the effect of stage, staging practices, and treatment protocols on survival differences.”

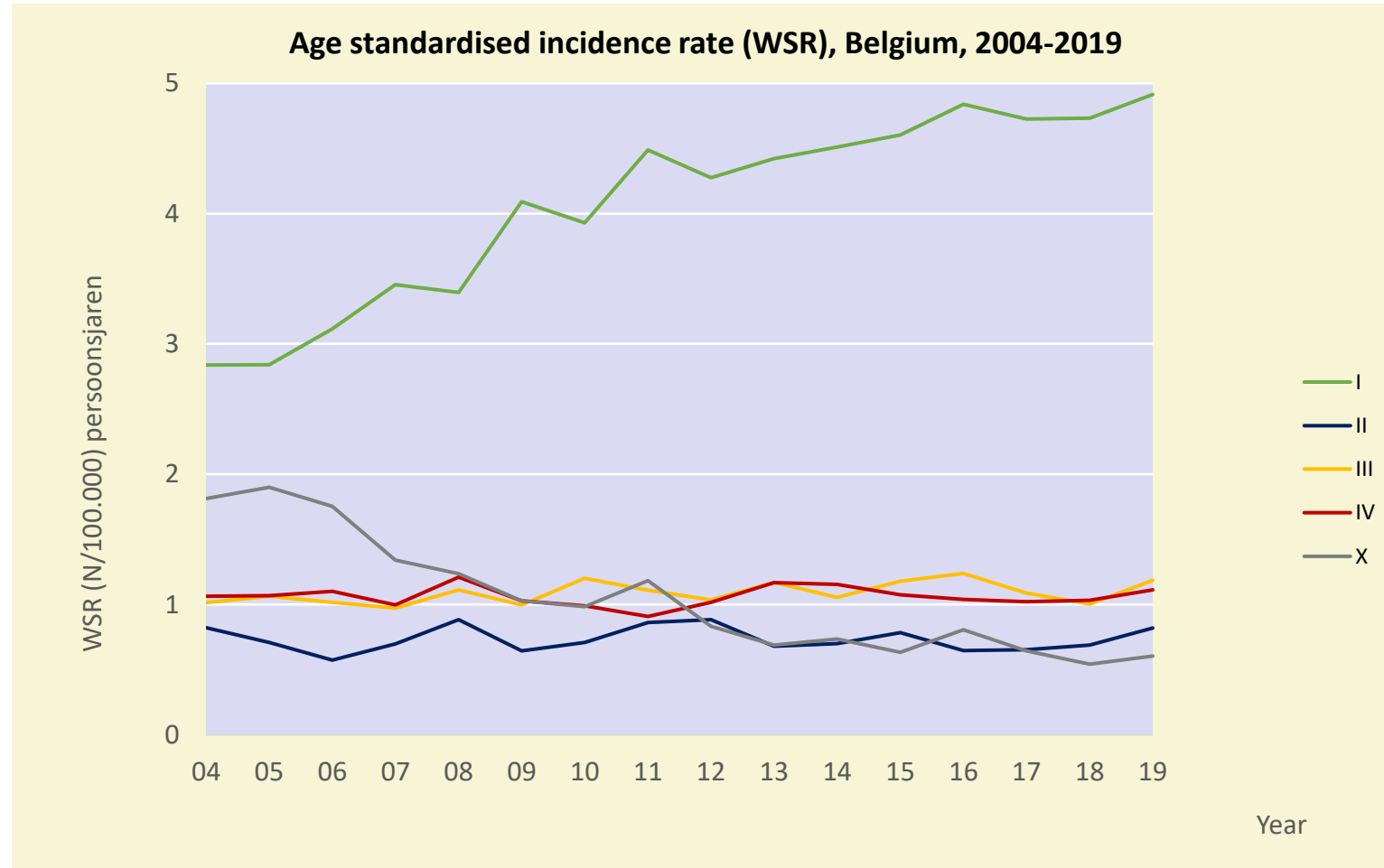
De Angelis et al. Lancet Oncol 2014; 15: 23–34



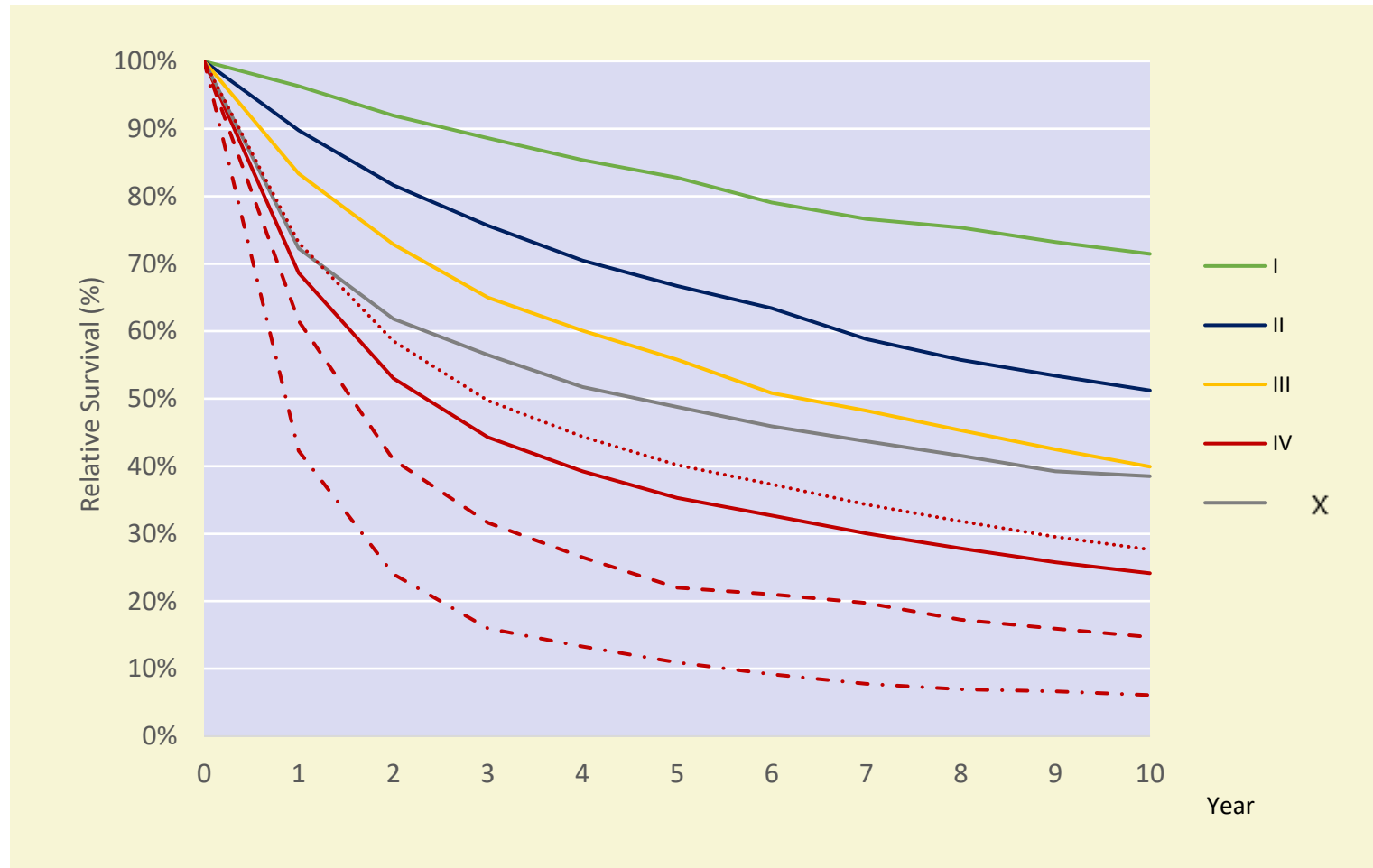
Belgian Cancer Registry: Data sources?



Kidney Cancer Incidence: evolution stage, Belgium 2004-2019



Head and Neck Cancer: relative survival by stage, Belgium, 2010-2019



Automatic extraction of Breslow thickness from free-text skin melanoma protocols to evaluate the clinical impact of COVID-19 in Belgium

Arthur Leloup¹, Philip Georg Demaerel², Julie Francart¹, Marjan Garmyn², Liesbet Van Eycken¹

¹ Belgian Cancer Registry, Brussels, Belgium; ² Department of Dermatology, University Hospitals Leuven, Belgium

Technique:

Regex-based extraction for almost 22.000 melanoma protocols

Result:

No overall effect on Breslow thickness in 2020, but still diagnoses missing...

- ⇒ Use technique for biomarkers
- ⇒ Use standardized reports
- ⇒ Develop synoptic reporting

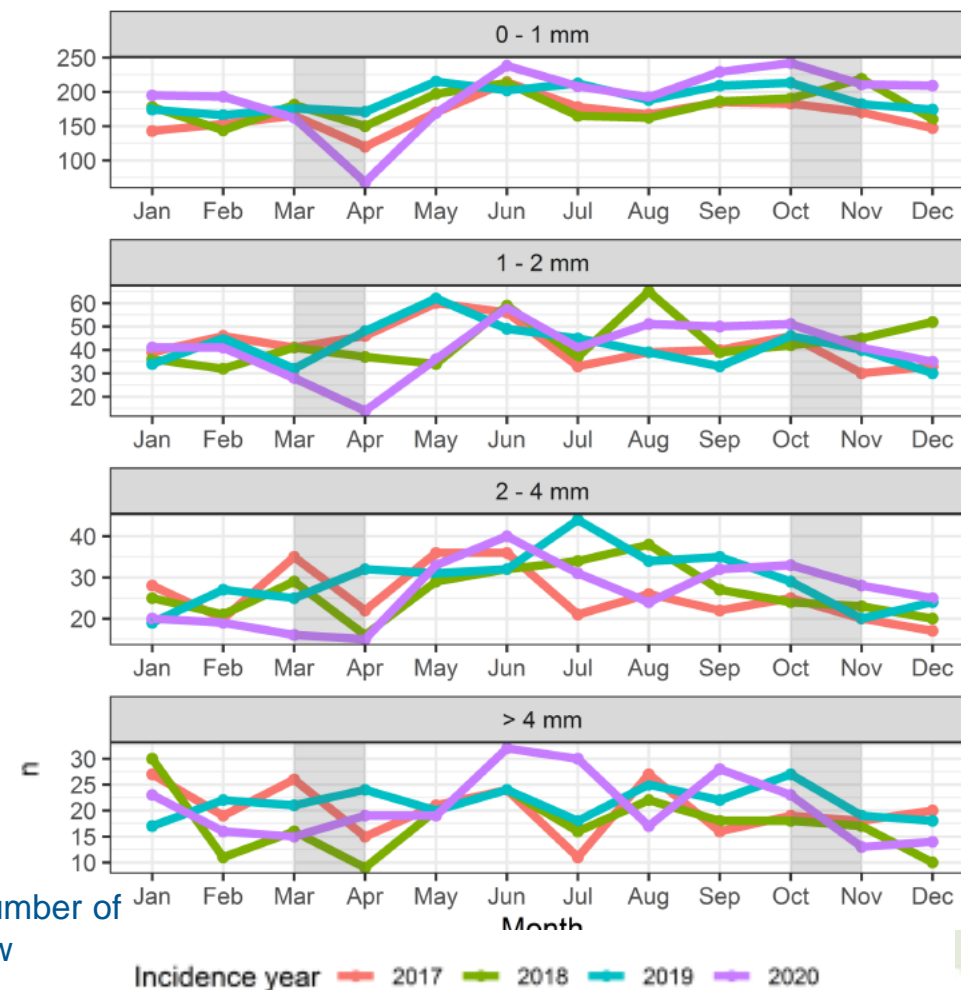
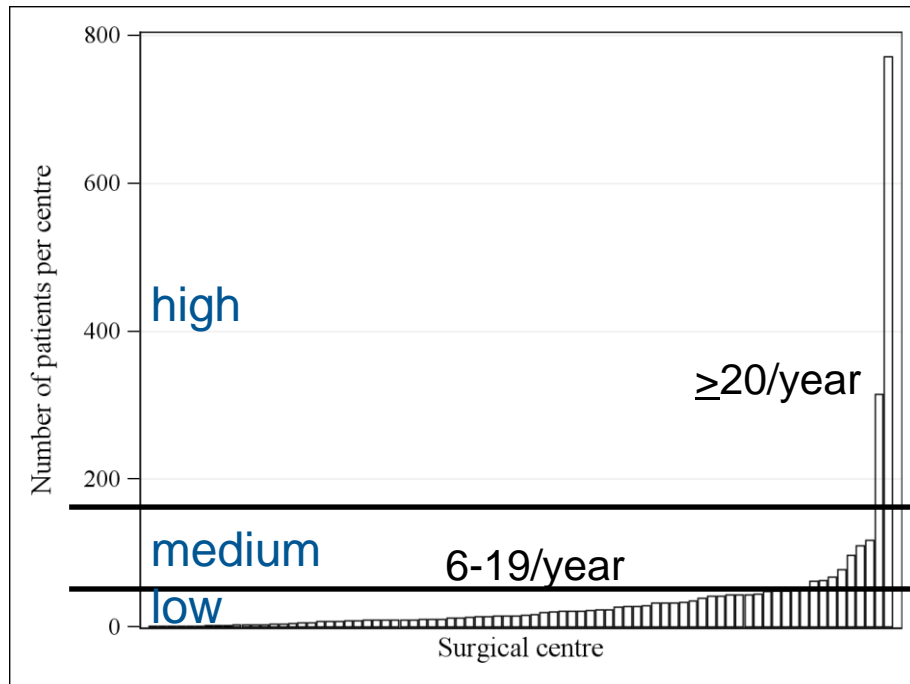


FIGURE 2. Monthly variation in the number of skin melanoma diagnoses per Breslow category (cut-offs at 1, 2 and 4 mm)

Surgical Caseload by Hospital 2008-2015

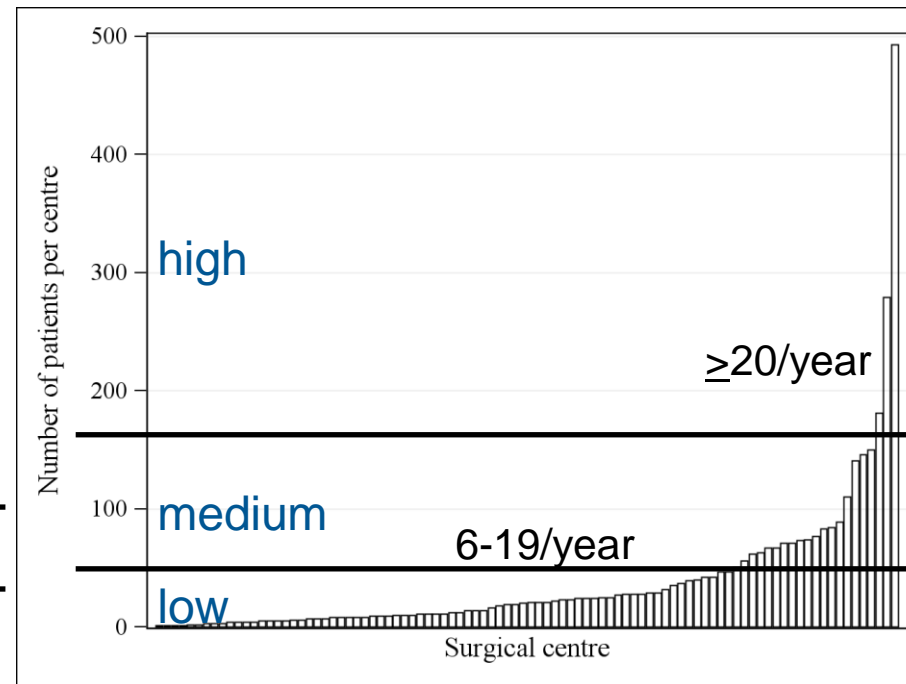
Oesophagus

N=80, range 1-771 surgeries



Pancreas

N=94, range 1-493 surgeries



90-Day Post-operative Mortality, 2008-2015

Oesophagus

	90-day post-op mortality		
	N	%	95% CI
Overall	2,982	9.3	[8.2, 10.3]
<i>Volume per year</i>			
low	1,055	12.1	[10.2, 14.1]
medium	841	10.9	[8.9, 13.1]
high	1,086	5.2	[4.0, 6.6]

p < 0.0001

Pancreas

	90-day post-op mortality		
	N	%	95% CI
Overall	3,651	8.1	[7.3, 9.0]
<i>Volume per year</i>			
low	1,166	9.9	[8.2, 11.7]
medium	1,533	8.5	[7.1, 9.9]
high	952	5.4	[4.0, 6.8]

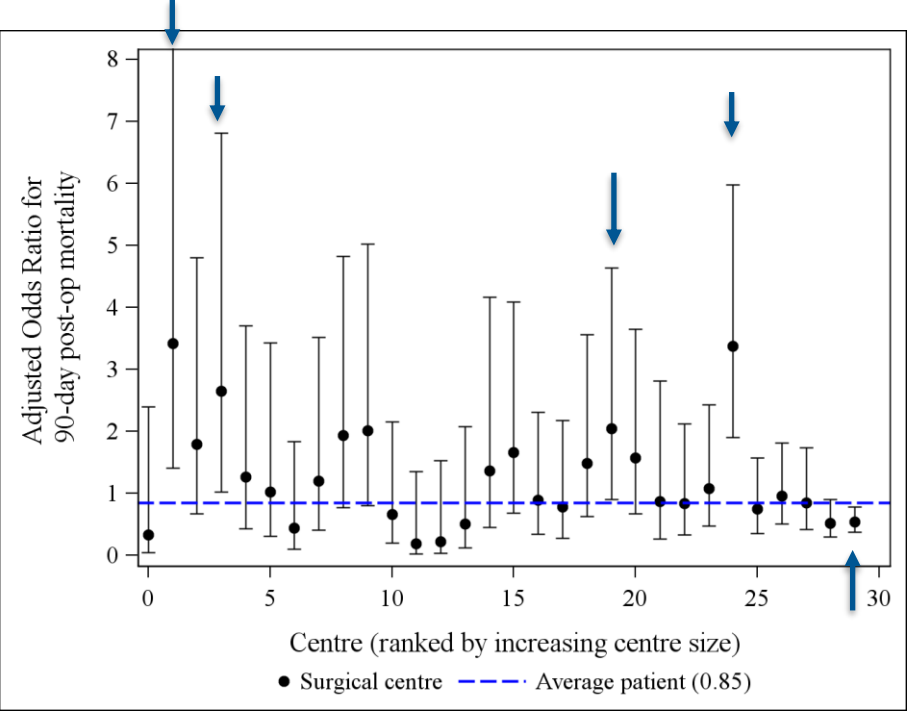
p = 0.0005

1/7/2019

Resulted in a Political Decision: Centralisation of surgical procedures for oesophagus (n=10 centres) and pancreas (n=15)

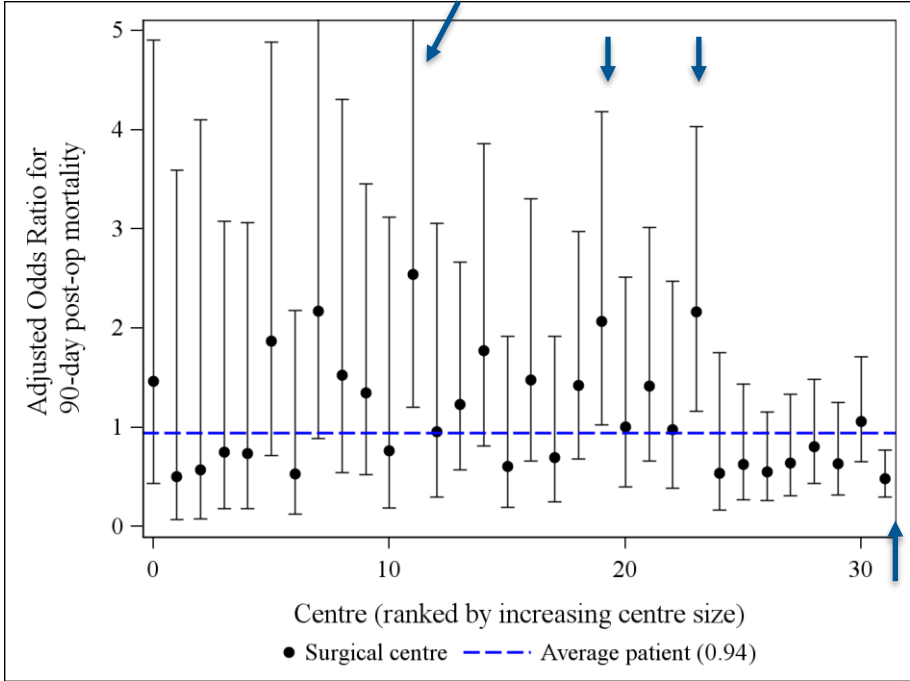
Centre Variability - Case Mix Adjusted, 2008-2015

Oesophagus



Centres with at least 25 surgeries

Pancreas



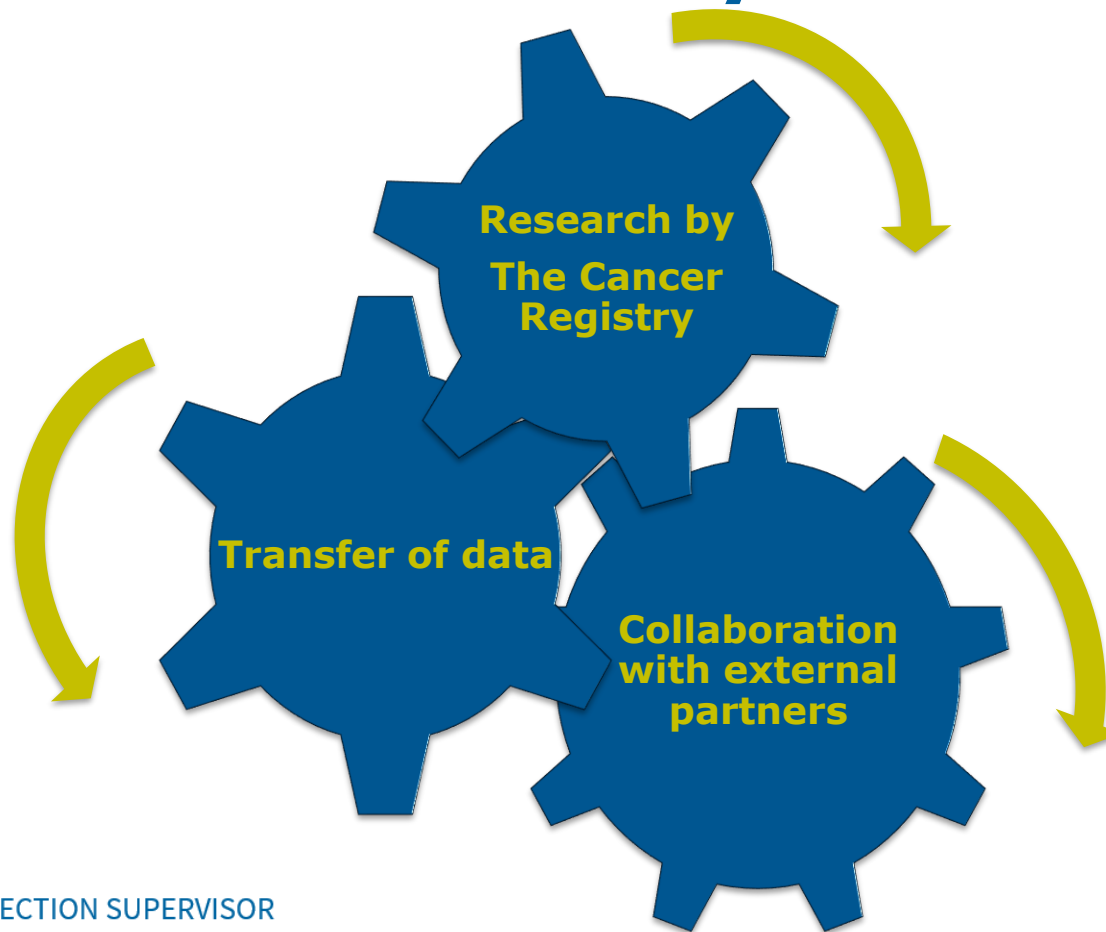
Centres with at least 28 surgeries

Adjustment: Sex, age, stage, WHO performance, previous inpatient days, comorbidities, neo-adjuvant therapy (oesophagus), clustering of patients into hospitals



4. Data protection – Accessibility

Research



EUROPEAN DATA PROTECTION SUPERVISOR
The EU's independent data protection authority

Belgian Cancer Registry



FAIR DATA: Findable, Accessible, Interoperable, Re-usable

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The Cancer Registry is essential to cancer control, and cancer control is essential to (the survival of) the cancer registry.

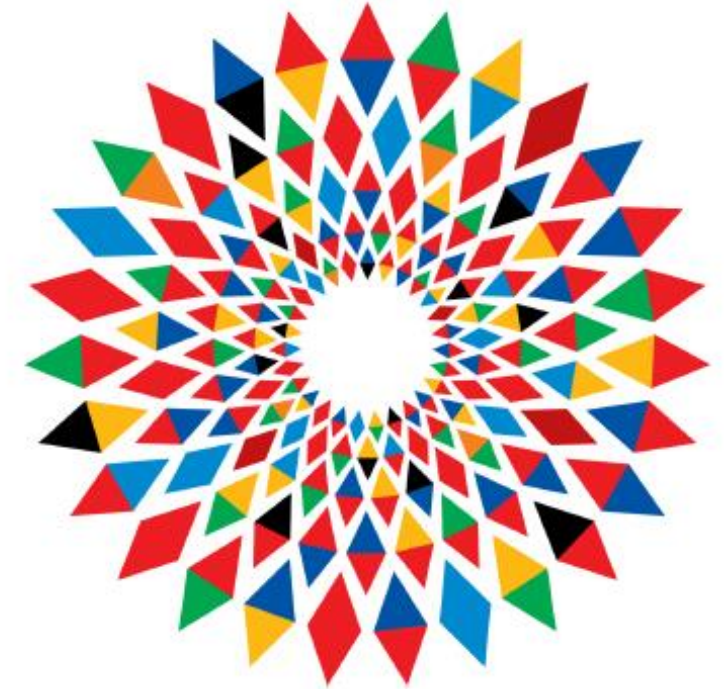
Bruce K. Armstrong, 1992 Cancer Causes and Control, 3,569-579



Thank you for your attention!

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