

# ESTIMATING THE BURDEN OF CANCER IN THE BELGIAN NATIONAL BURDEN OF DISEASE STUDY

European Burden of disease network

12/06/2024

.be

# Overview

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- 3 Disease model
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- 5 Limitations, strengths and future

# Background

- Belgian national burden of disease study (BeBOD)
- Assessing impact of morbidity (YLD) and mortality (YLL) for most important diseases in Belgium
- YLL estimation based on causes of death register
- YLD estimation based on registers (Belgian cancer register) or ad hoc analysis

Gorasso et al. *BMC Cancer* (2022) 22:58  
<https://doi.org/10.1186/s12885-021-09109-4>

BMC Cancer

RESEARCH

Open Access

## The non-fatal burden of cancer in Belgium, 2004–2019: a nationwide registry-based study



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# Non-fatal burden of cancer

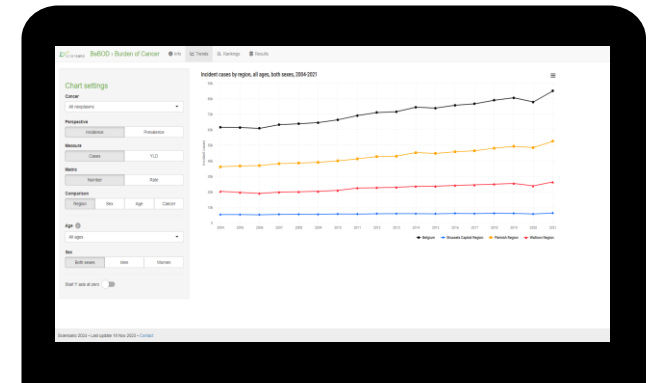
Belgian cancer register



Belgian Cancer Registry

- Cancer incidence
- Cancer survival

Application



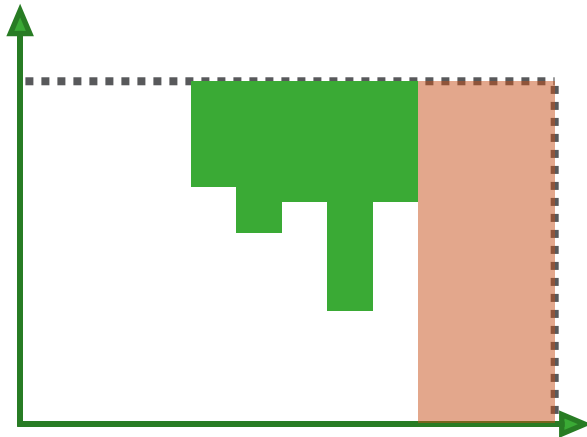
- DALY
- **YLD**
- YLL

# Non-fatal burden of cancer

Estimating the Years Lived with Disability (YLD)

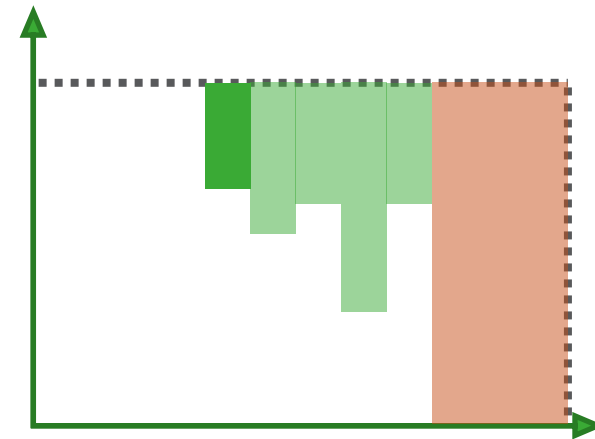
## Incidence-based approach

- Count future burden
- Evaluate the impact of preventive measures



## Prevalence-based approach

- Count current burden
- Evaluate current impact on healthcare system



# Belgian cancer register



Population based registry with incidence and cancer survival



Nationally representative and exhaustive



Collecting data from the oncological care programs (clinical network) and pathology laboratories (pathological network)



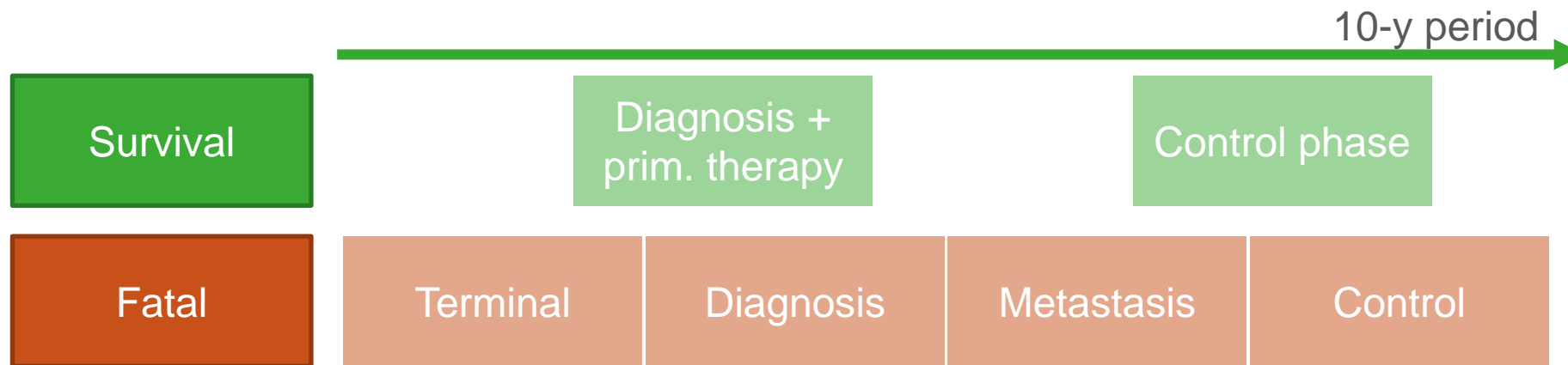
ICD-10 classification of cancers: total of 54 cancer groups



Belgian Cancer Registry

# Disease model

- In line with GBD methodology (Health states with DW and durations)

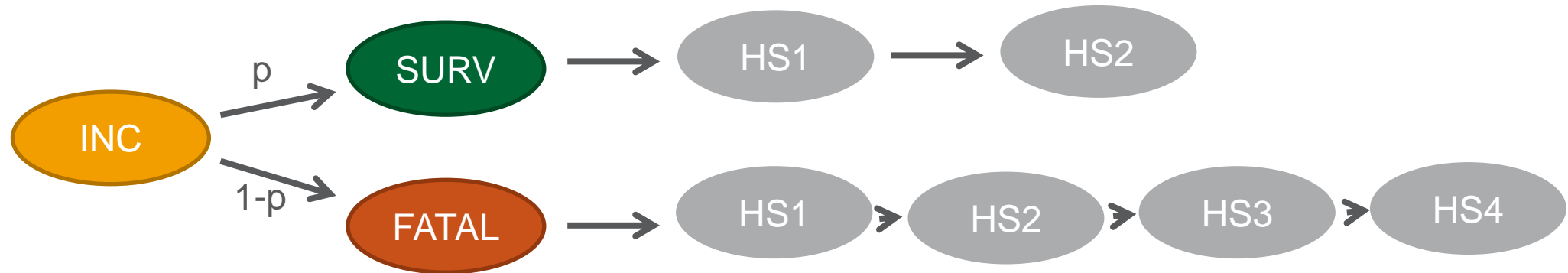


- Specific complications and assumed proportions



# Incidence to prevalence

- Information on incidence based on BCR (2004-2021)
- 10-year survival information based on Kaplan-Meier analysis
- Microsimulation model (year/month)

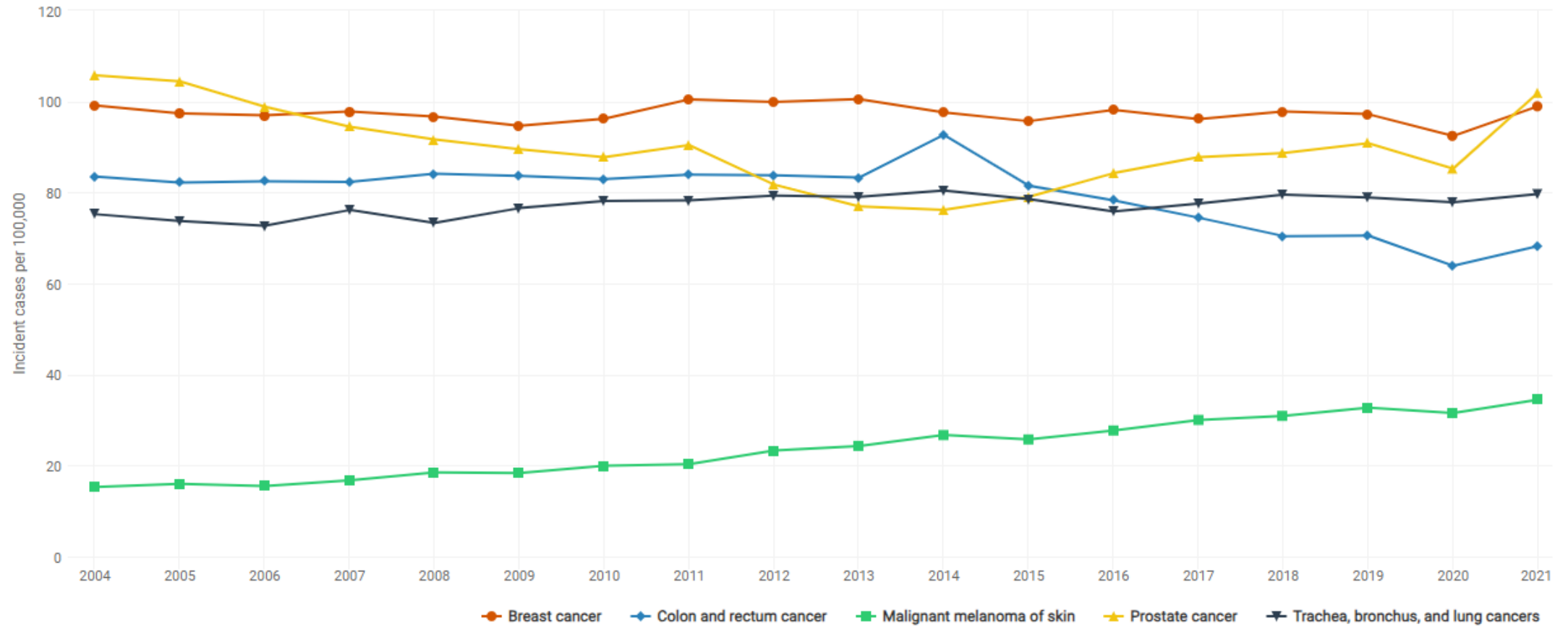


- Prevalence data only available for 2013-2021
- Sum the time in each health state (weighted for the disability)



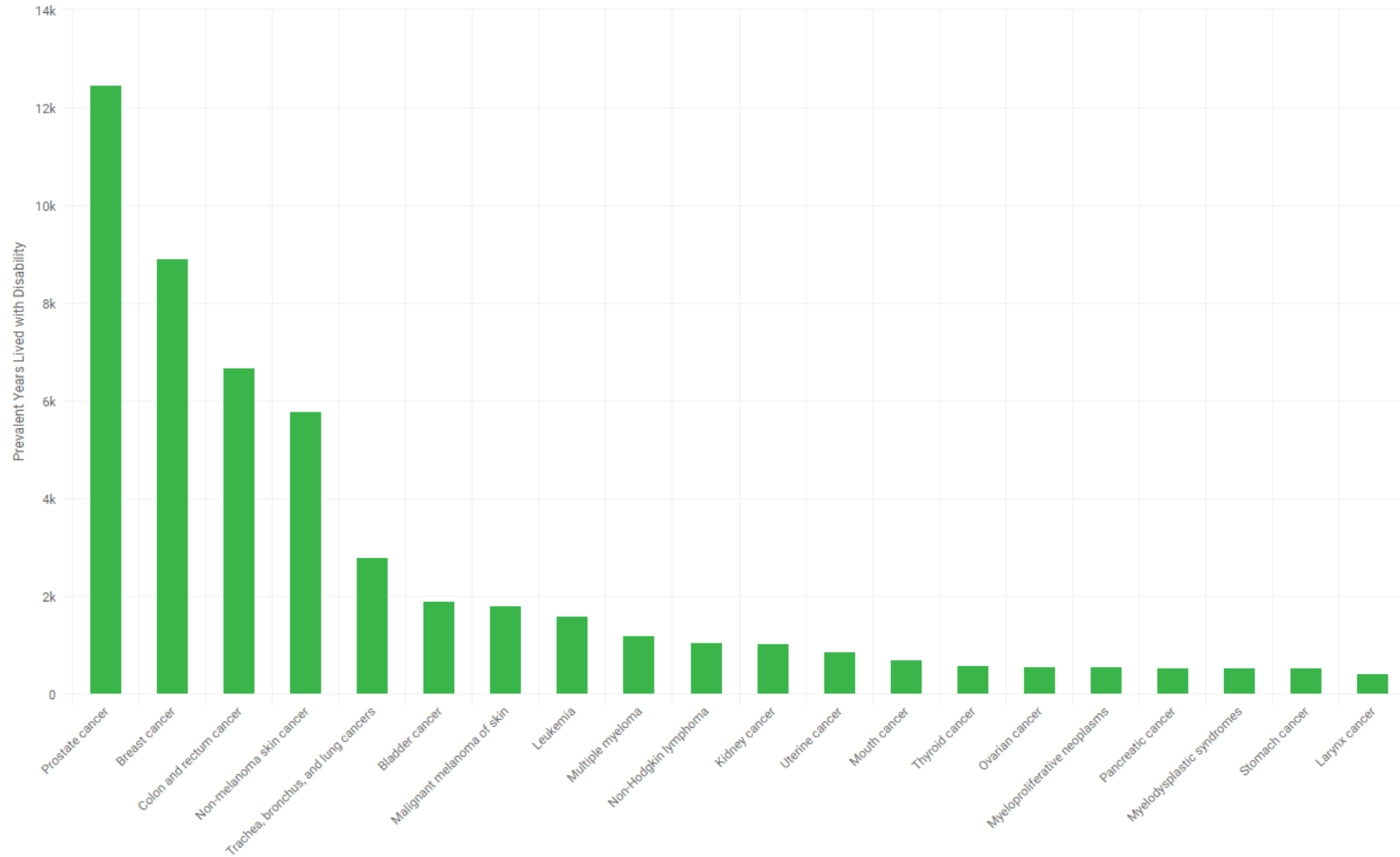
# Key results

Incident cases per 100,000 by cancer, age-standardised (BSP), both sexes, Belgium, 2004-2021



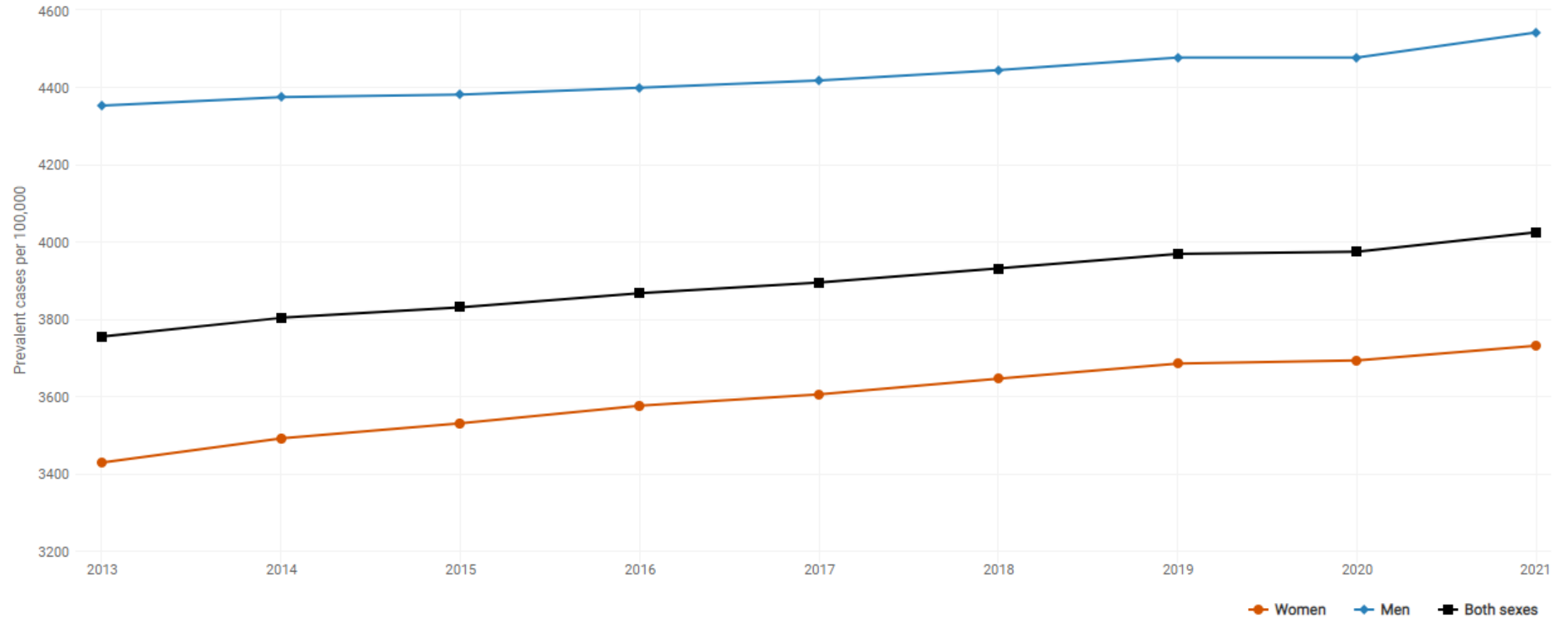
# Key results

Top 20 cancers according to prevalent Years Lived with Disability, all ages, both sexes, Belgium, 2021



# Key results

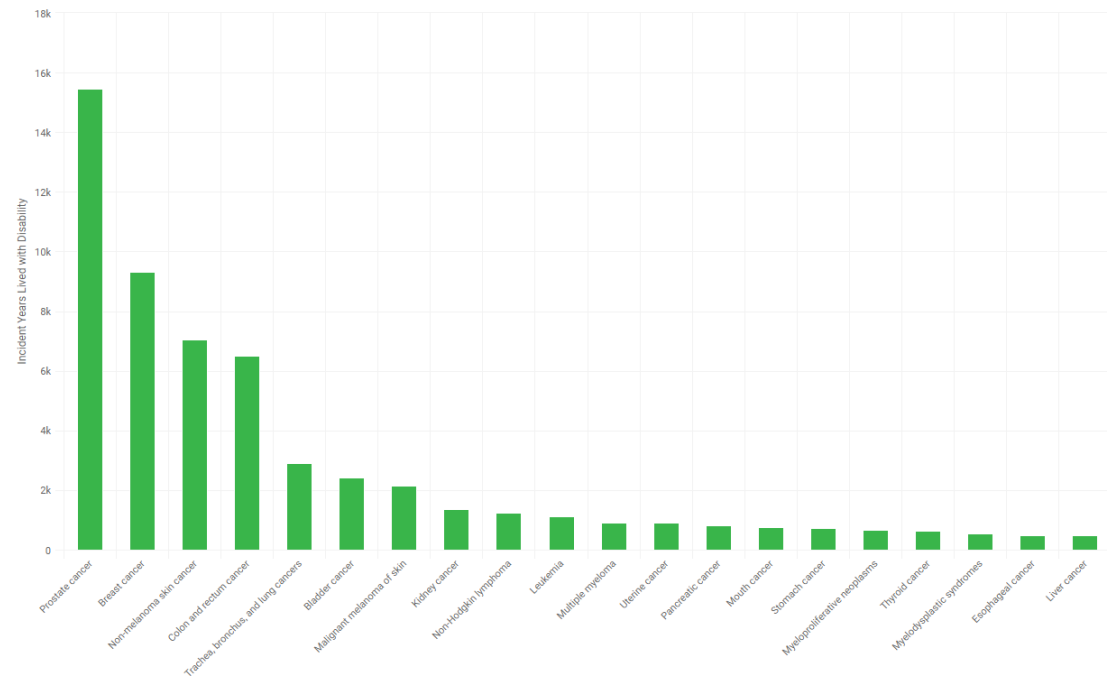
Prevalent cases per 100,000 by sex, age-standardised (BSP), Belgium, 2013-2021



# Key results

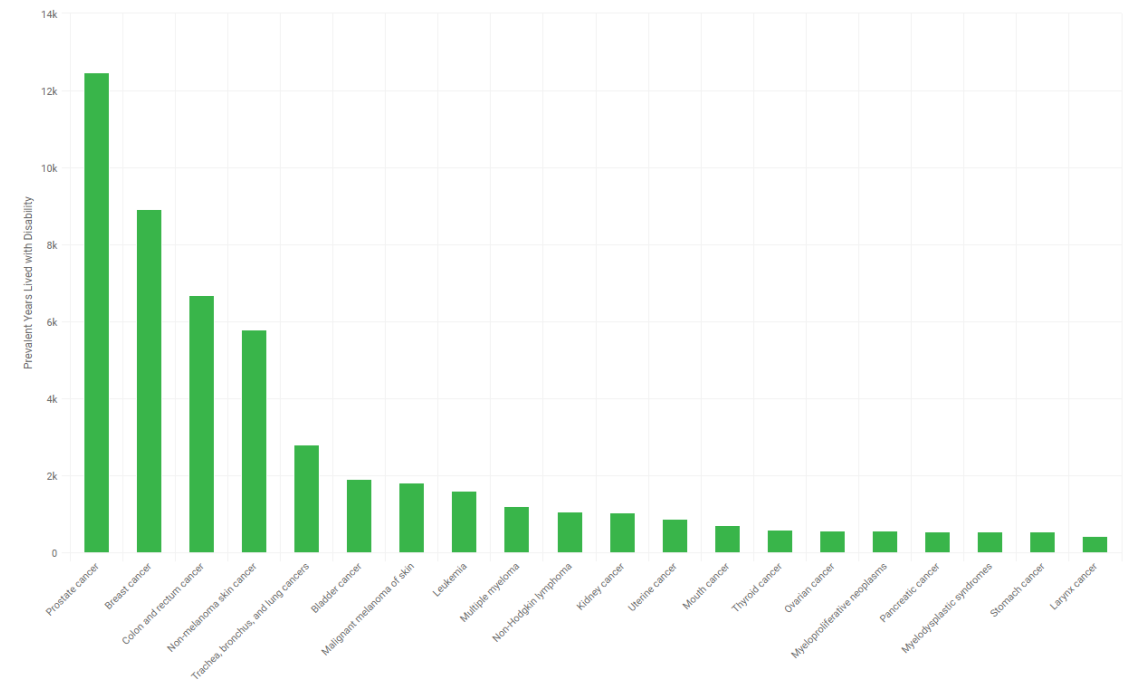
## INCIDENCE

Top 20 cancers according to incident Years Lived with Disability, all ages, both sexes, Belgium, 2021



## PREVALENCE

Top 20 cancers according to prevalent Years Lived with Disability, all ages, both sexes, Belgium, 2021



# Limitation and strengths

## STRENGTHS

- BCR provides complete data on cases (> 95%)
- National survival curves

## LIMITATIONS

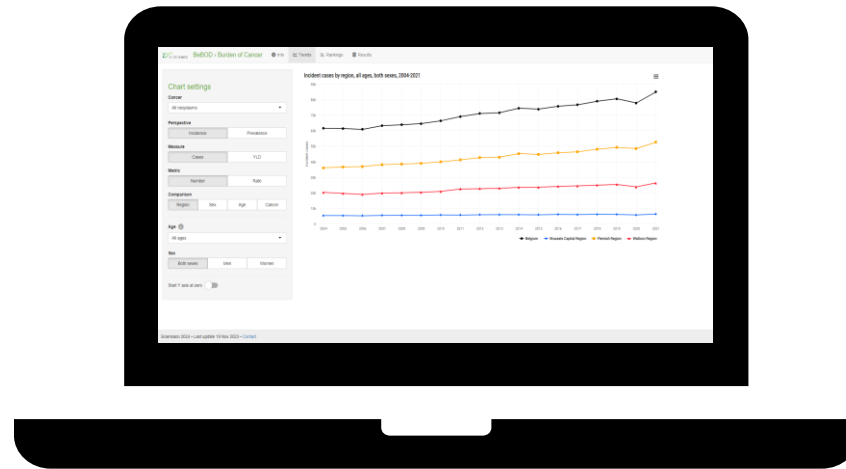
- Disease models in line with GBD (duration in health states)
- Uncertainty not formally assessed

# Future plans

- Full uncertainty analysis
- Data driven complication rate per cancer type

# Availability of estimates

<https://burden.sciensano.be/shiny/cancer>



## Contact

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