

SMOKING ATTRIBUTABLE BURDEN

Assessing the contribution of smoking to the disease burden in Belgium, 2013-2020

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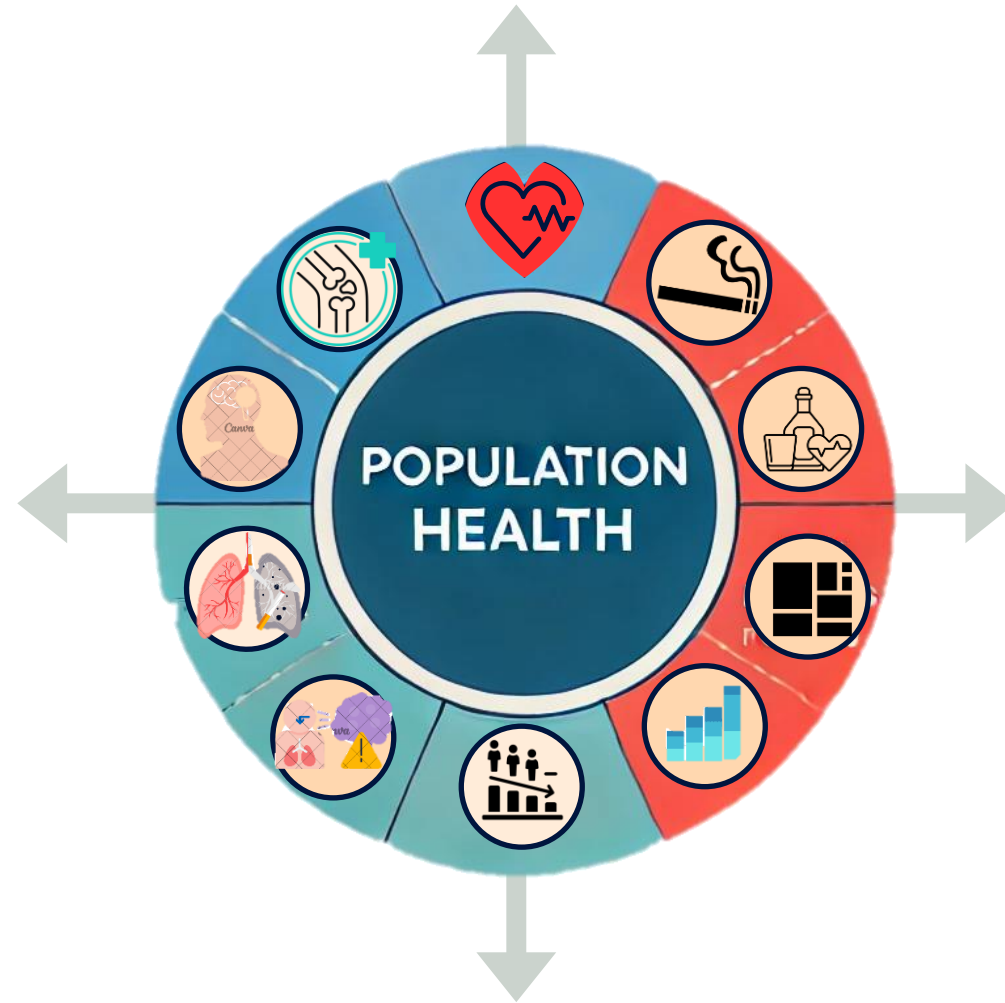
Brecht Devleesschauwer

Burden of disease



What are the most relevant **diseases** in a country?

What would health be like in the population if you could eliminate or **reduce exposure** to risk factors?



Which **risk factors** are the strongest contributors to disease and death?

How much of a disease can be **attributed** to those risk factors?



Attributable burden of substance use in Belgium

- Tobacco and alcohol use are major contributors to death, disability, healthcare and social costs worldwide
- Existing burden estimates are not tailored to the Belgian context
- No monitoring mechanisms currently for tracking the burden of disease attributable to substance use in Belgium

Attributable burden roadmap

comparative risk assessment



Belgian Health Interview Survey

Cross-sectional survey

Every 5 years

Data on tobacco use is **self-reported**

From BeBOD

Exposure in the population and TMREL

Relative risk of outcome from exposure



sciensano

PAF =

$$\frac{P_{never} + P_{former} * RR_{reduce} + P_{current} * RR_{current} - 1}{P_{never} + P_{former} * RR_{reduce} + P_{current} * RR_{current}}$$

Population attributable fraction (%)

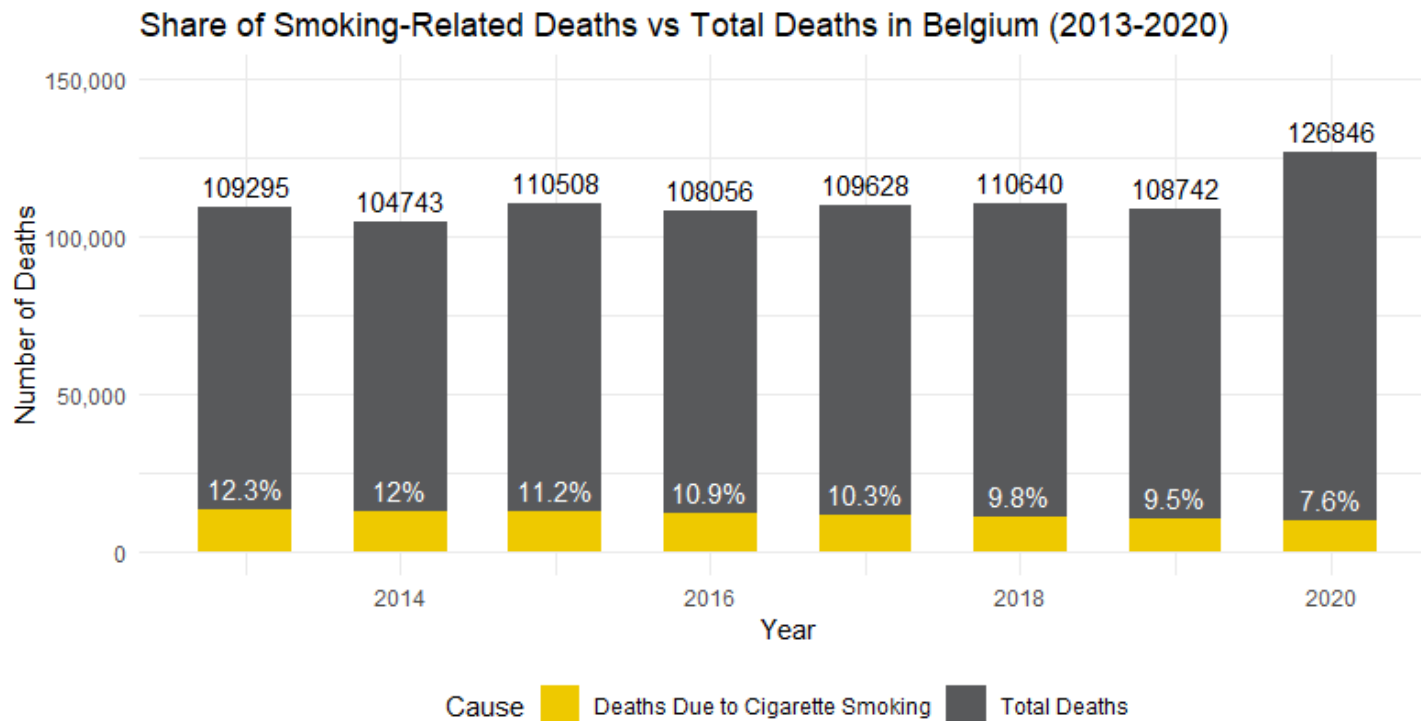
Burden of disease estimates

Attributable burden (DALYs)

STATBEL
Belgium in figures

.be

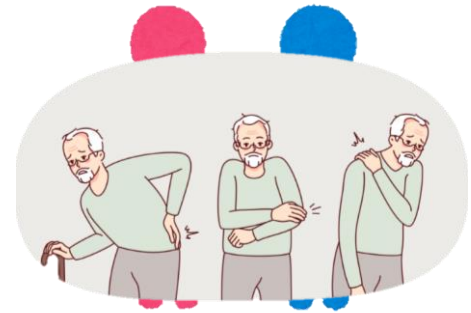
Smoking-related deaths are decreasing over time



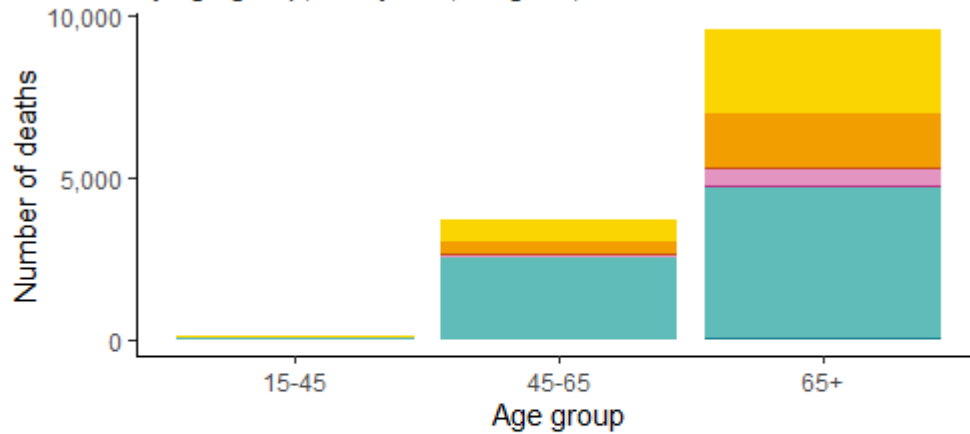
Smoking-related deaths :

- **2013:** 13,469 deaths (PAF = 12,3%)
- **2020:** 9,598 deaths (PAF = 7,6%)

Most smoking-related deaths occur in males, and mainly in old age

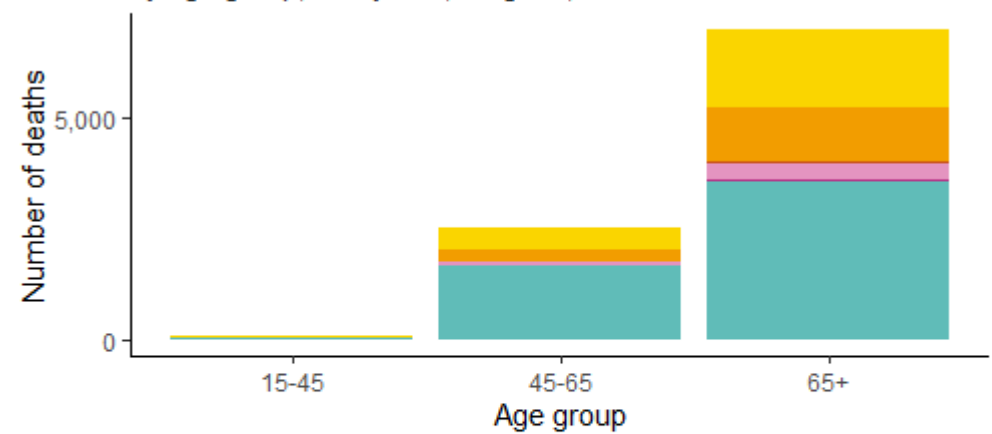


Smoking attributable number of deaths by cause by age group, 15+ years, Belgium, 2013



- Cardiovascular diseases
- Chronic respiratory diseases
- Diabetes, urogenital, blood, and endocrine diseases
- Diarrhea, lower respiratory, and other infections
- Digestive diseases
- HIV/AIDS and tuberculosis
- Musculoskeletal disorders
- Neoplasms
- Neurological disorders

Smoking attributable number of deaths by cause by age group, 15+ years, Belgium, 2020

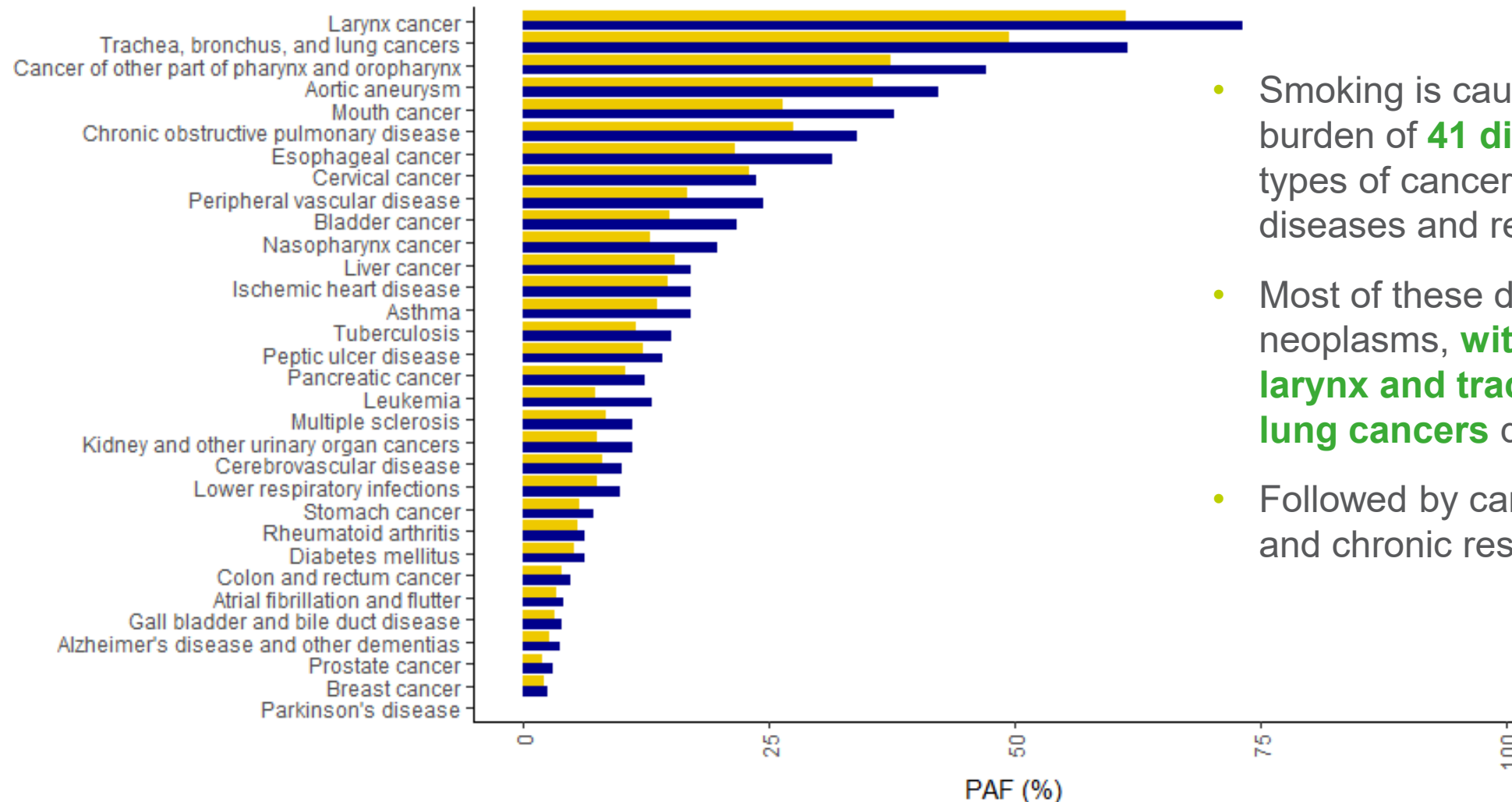


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Tobacco use remains a leading contributor to cancer deaths among both gender



Year ■ 2013 ■ 2020



- Smoking is causally linked to the burden of **41 diseases** including 19 types of cancer, 7 cardiovascular diseases and respiratory diseases
- Most of these deaths are due to neoplasms, **with around half of all larynx and trachea, bronchus, and lung cancers** due to tobacco use
- Followed by cardiovascular diseases and chronic respiratory diseases

Strengths and limitations



Strengths

- Robust data from a nationally representative sample
- Modelling strategy for the modelling of exposure data
- Strategy to identify and quantify sets of ROP
- Use of local data to understand the impact of smoking-related deaths in Belgium and to inform stakeholders to drive the focus :
 - Share of the deaths due to cigarette smoking (**avoidable**)
 - Ranking of smoking-related deaths

Limitations

- Exposure data are **self-reported**
- Modelled exposure data on repeat cross-sectional surveys
- RR are **not age or sex-specific** (under or over-estimation of the burden)
- Changes in tobacco products (e.g., e-cigarettes) are **not addressed**, which could affect the overall burden and trends in smoking-related diseases

Take home message

Despite a decrease in smoking-related deaths in Belgium, tobacco use continues to be a **major public health challenge**, particularly among men. Smoking continues to impose a persistent burden on population health, with specific cancers, such as larynx and lung cancer, being major contributors. There is a critical need for **ongoing monitoring and evaluation of tobacco policies**, alongside **targeted prevention strategies** to further reduce the impact of smoking-related diseases.

Acknowledgements



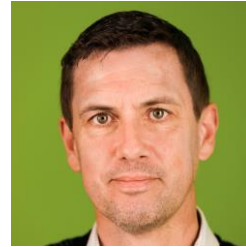
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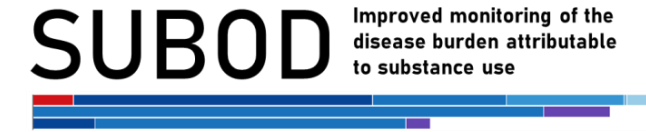
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