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BACKGROUND

- **Adult early-onset cancers**, diagnoses **before the age of 50**, appear to be **on the rise** in many countries, raising **major concern** among the public and health authorities.
- **Confusion** between key **epidemiological measures**: absolute numbers, crude rates and age-standardized rates.
- **Lack of comparison** with **later-onset** cancers, making it difficult to assess whether the observed trends are **age-specific**.

OBJECTIVE

To describe **long-term changes** in the burden of **adult early-onset cancers**, compared to **later-onset** cancers, from **1982 to 2021** in **Switzerland**.

METHODS

- Population-based cancer data from the Swiss National Institute for Cancer Epidemiology and Registration.
- **All primary invasive malignant cancers (C00-43, C45-97, ICD-10)** from 1982 to 2021 in Switzerland included, except non-melanoma skin cancer (C44, ICD-10).
- **Adult early-onset cancers**: cancer diagnoses or deaths between ages **20 to 49**
later-onset cancers: **50 or older**.
- **Absolute numbers of cases and deaths, crude incidence and mortality** rates per 100,000, and **age-standardized incidence and mortality** rates per 100,000 (**2013 European standard population**). Stratification by age group, cancer sites and sex.
- **Absolute and relative changes** from 1982 to 2021.

PRELIMINARY RESULTS

- In 2021: **adult early-onset cancers accounted for 10%** of 48,850 diagnosed cases, compared to 13% in 1982.
- From 1982 to 2021:
 - **Absolute number of new cases**:
 - **+56%** in **early-onset** cancers
 - **+111%** in **later-onset** cancers
 - **Crude incidence rates**: (Graph 1)
 - **Increased by 26 cases per 100,000 in early-onset cancers**
 - Men: increased by 9 per 100,000
 - Women: increased by 46 per 100,000
 - **Increased by 170 cases per 100,000 for later-onset cancers**
 - Men: increased by 184 per 100,000
 - Women: increased by 130 per 100,000
 - **Age-standardized incidence rates**: (Graph 2)
 - **Increased similarly** in early- (+12%) and later-onset cancers (+12%)
 - Men: stable in early- (−0.2%) and increased in later-onset cancers (+5%)
 - Women: increased similarly in early- (+22%) and later-onset cancers (+26%)
 - **Age-standardized mortality rates**:
 - **Decreased by -64%** in **early-onset** cancers
 - **Decreased by -41%** in **later-onset** cancers

KEY MESSAGES

- **Long-term changes** in cancer trends were **not specific to early-onset cancers**, and these cancers still represent a **minor portion of the overall cancer burden**
- **Distinguishing** between **absolute numbers, crude rates** and **age-standardized cancer rates** is essential:
 - **Absolute numbers and crude rates** reflect the **actual burden** on the **healthcare system**.
 - **Age-standardized rates** provide insight into changes in **cancer risk** over time.

Relative change in **absolute numbers** of
new cancer cases
(1982-2021)

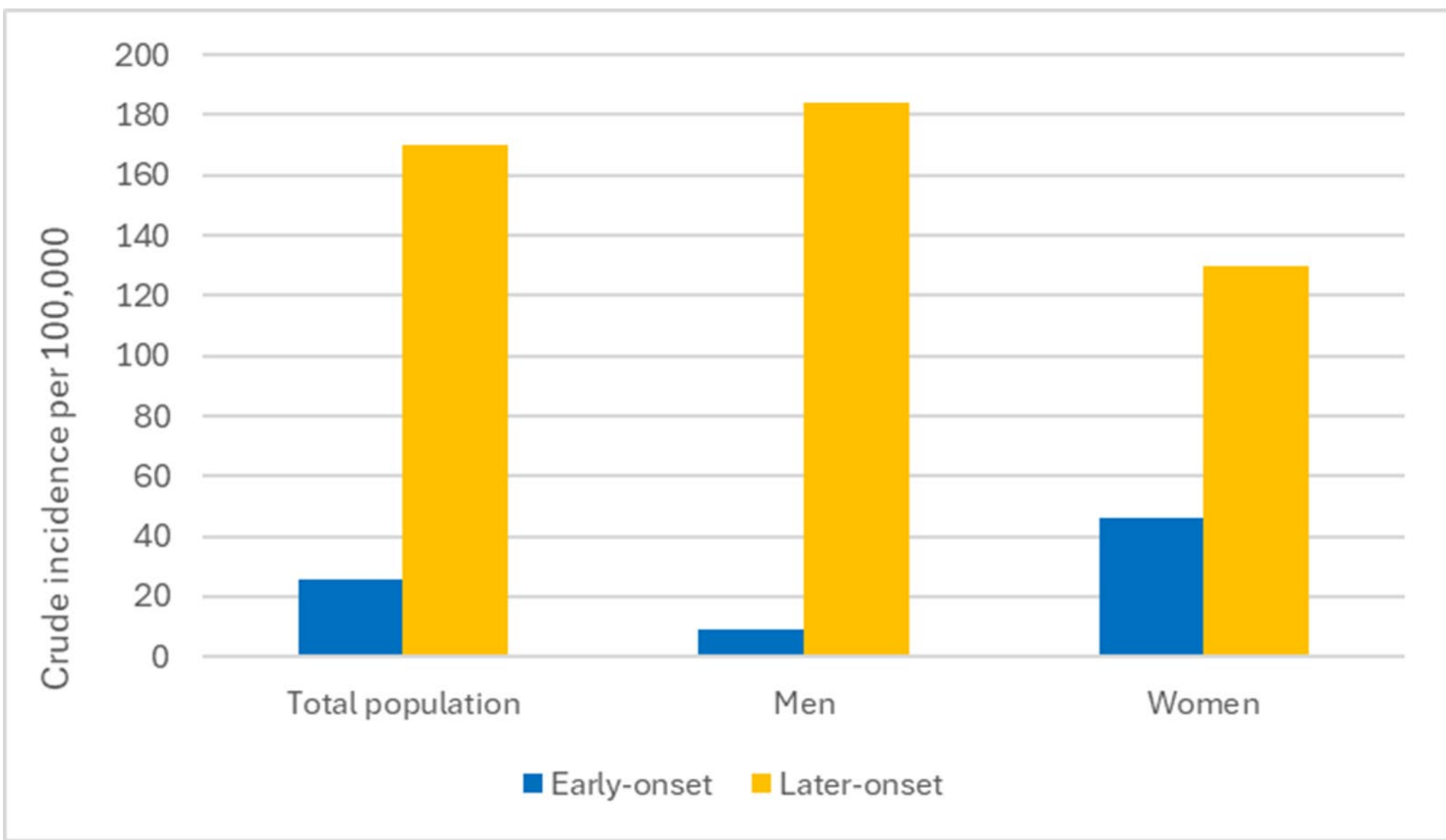
Early-onset

+56%

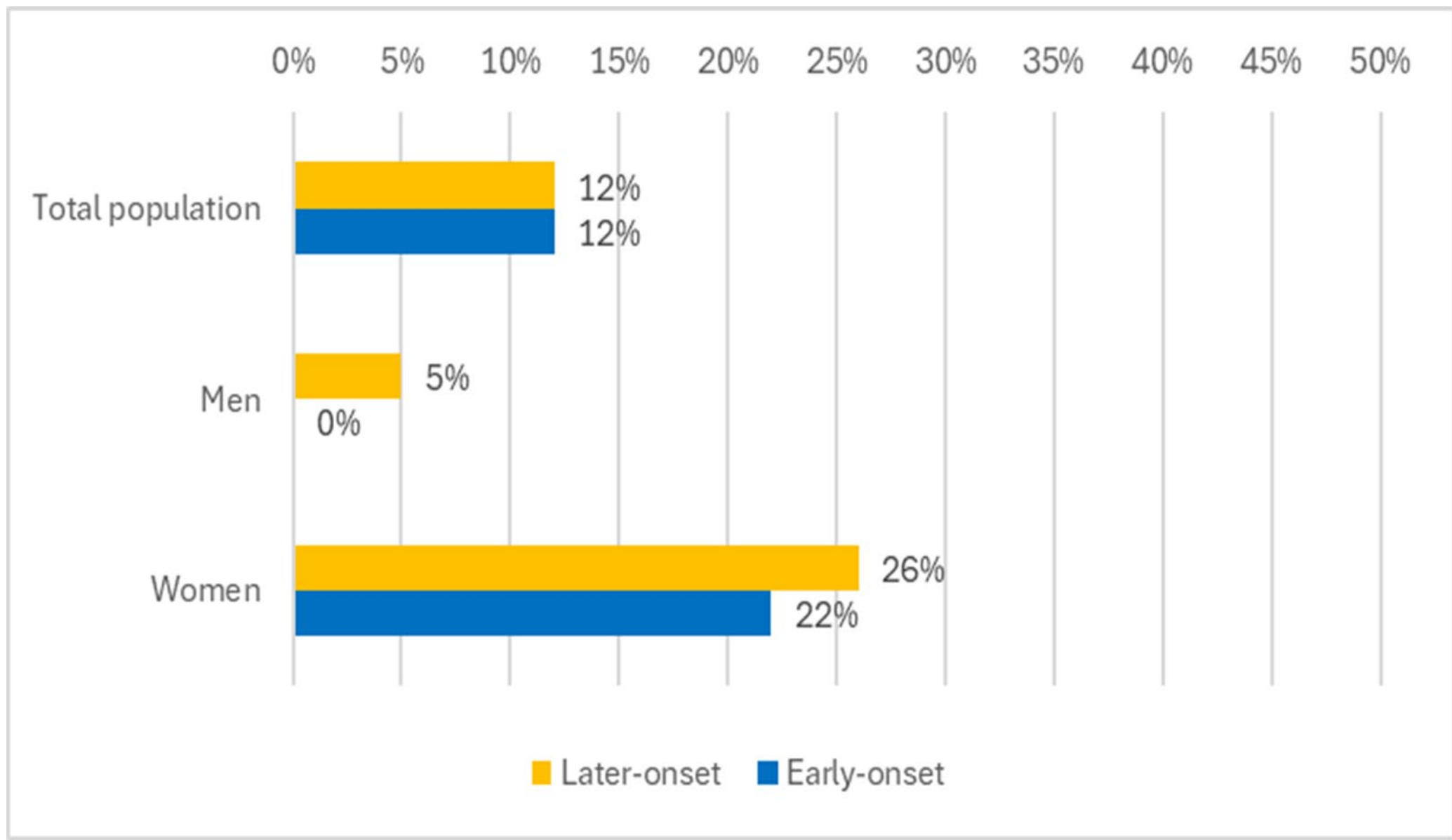
Later-onset

+111%

Graph 1: Absolute changes in **crude incidence** (1982-2021)



Graph 2: Relative changes in **age-standardized incidence** (1982-2021)



Relative change in **age-standardized mortality**
(1982-2021)

Early-onset

-64%

Later-onset

-41%

RISK

Age-
standardized
rates

BURDEN

Absolute
numbers &
crude rates