

## BACKGROUND

- Cardiovascular diseases (CVD) are the leading cause of death in Switzerland<sup>1</sup>, and over the last years there has been a steady decline in CVD death rates.<sup>2</sup>
- Over the same period the prevalence of overweight (including obesity) - an important risk factor for CVD - has been increasing.<sup>3,4</sup>
- Could this increase have had an impact on CVD mortality rates in Switzerland?
- A study from the US and Australia has shown trends of increasing overweight-related CVD mortality rates<sup>5</sup>.

## OBJECTIVE

To assess trends of overweight-related and -unrelated CVD mortality rates in Switzerland between 1995 and 2021

## METHODS

- We conducted a population-based analysis of all adult deaths recorded in Switzerland between 1995 and 2021 (mortality database of the Swiss Federal Statistical Office)
- We identified overweight-related CVD deaths by implementing a multiple causes of death approach<sup>5</sup>.
  - Identify deaths with CVD reported as either underlying or contributing cause of death. CVD were identified via ICD-10 codes of chapters in the GBD study.
  - Attribute deaths identified at point i as overweight-related if one of these conditions was reported as well in the death certificate: diabetes, chronic kidney disease, obesity, lipidemia, hypertensive heart disease (identified via ICD-10 codes)
  - Attribute deaths identified at point i as overweight-unrelated if none of the conditions listed at point ii were reported in the death certificate
- We age-standardized mortality rates stratified by sex and by specific age groups encompassing all adult ages (20+), younger than 45 years (20–44), from 45 years to 59 years (45–59), from 60 years to 74 years (60–74), and older than 75 years (75+).

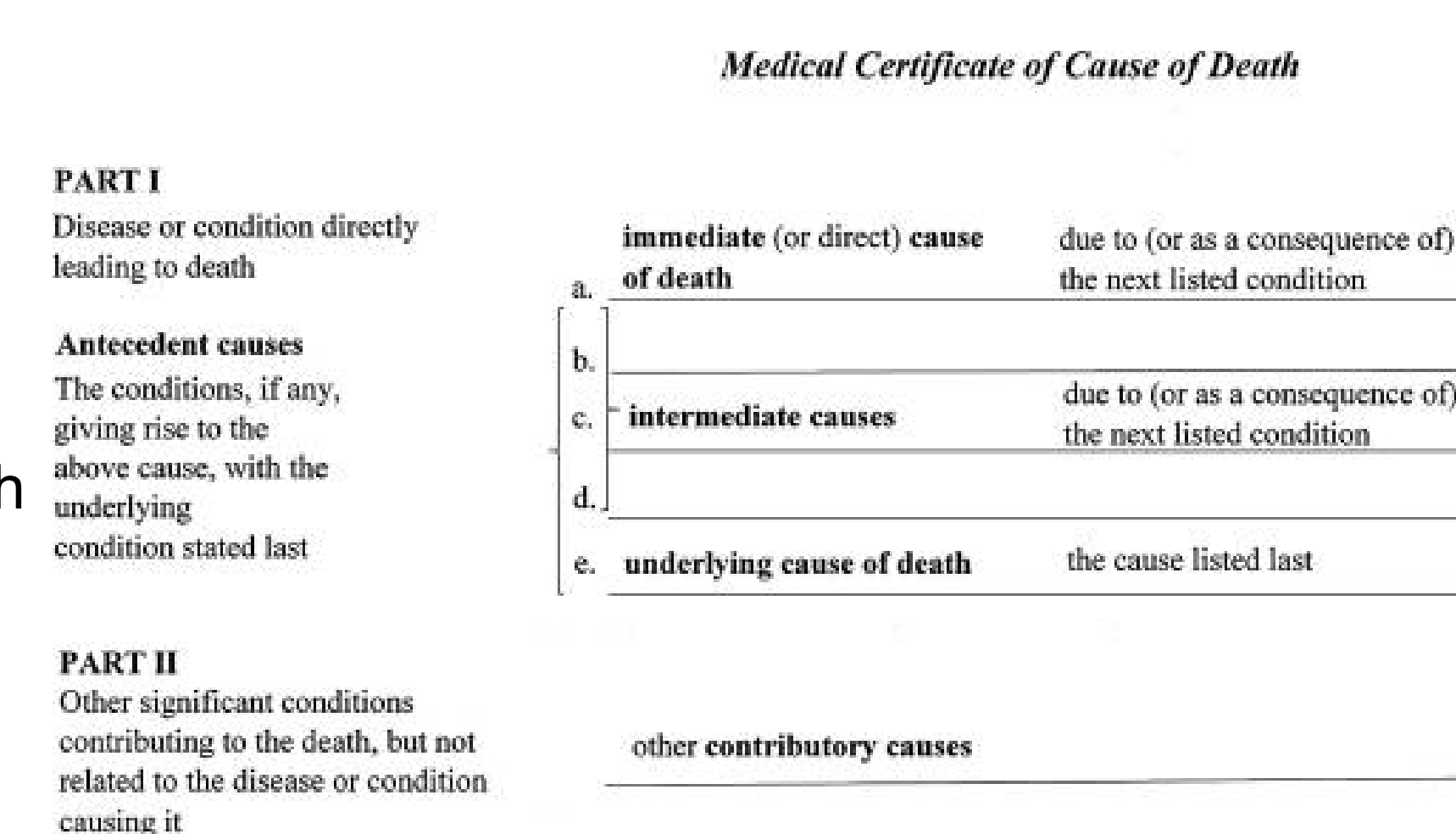


Figure. A maximum of three causes of death were available as the Swiss death certificate reports one underlying cause of death (Part I) and up to two contributing causes (Part II).

## RESULTS

- There were 1 875 909 deaths from all causes between 1995 and 2021 (51.5% women). Among these, 712 234 deaths were associated to CVD (as underlying or contributing cause). Overweight-related CVD deaths were 259 965 (36.5% of identified CVD deaths).
- Overweight-related CVD mortality rates increased between 1995 and 2005 in 75+ adults and decreased slowly afterwards.
- Overweight-related CVD mortality rates in younger age groups, have been stable until early 2000s and have thereafter slowly decreased.
- Overweight-unrelated CVD mortality rates have greatly decreased in men and women across all age groups.
- Overweight-unrelated CVD mortality in age groups 45-74 have plateaued in recent years.

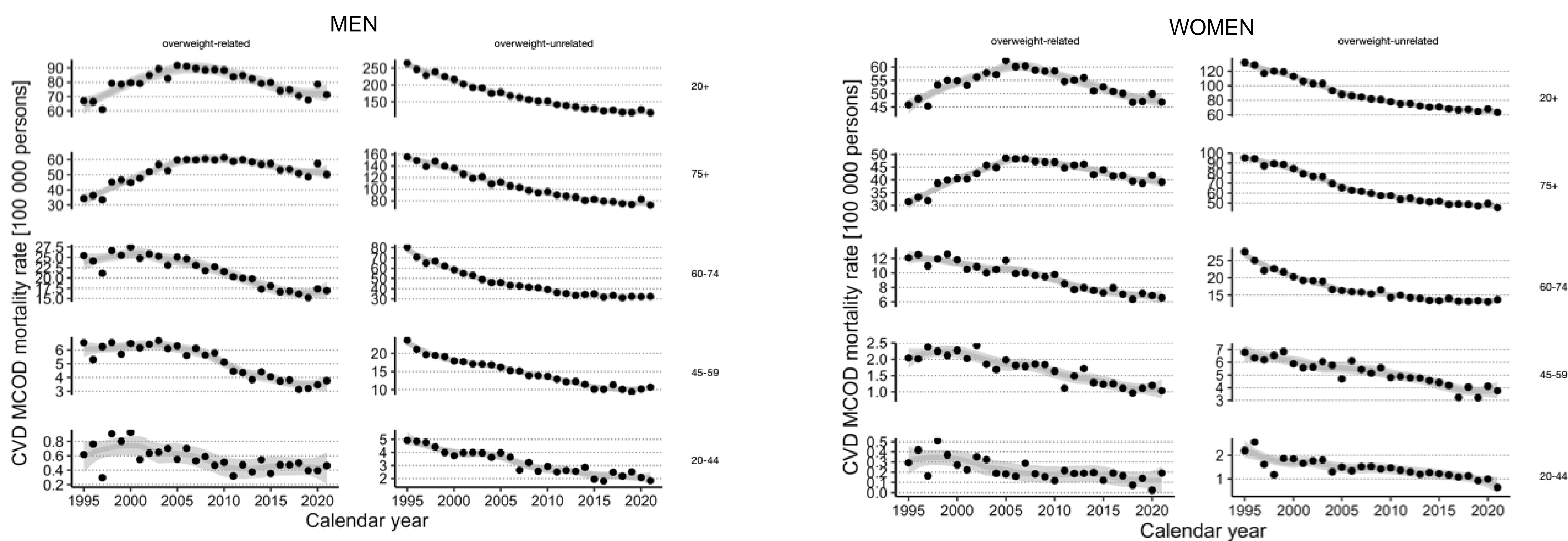


Figure. Trends of CVD mortality rates for men (left) and women (right) as multiple COD (MCOD) portioned into CVD deaths overweight-related and overweight-unrelated.

## KEY MESSAGES

- Overweight-unrelated CVD mortality rates have plateaued after 2015 in age groups 45-74. This trend is in agreement with results of a previous study<sup>2</sup>, further investigations are needed to understand the driving forces behind it.
- Contrary to overweight-unrelated CVD mortality rates, overweight-related CVD mortality rates have not declined between 1995 and 2021 in Switzerland
- Multiple causes of death data are a valuable source of data to track relevant mortality trends

## References

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