

Meeting with Adrian Bauman

# Mortality Follow-up of the Swiss MONICA Study

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# Lack of data in Switzerland

- In Switzerland: no cohort (general population) available
- Alternative (?): Swiss National Cohort (SNC)

# Swiss National Cohort

- Anonymised linkage of
  - census,
  - death and
  - emigration records
- Censuses 1990 (n=6.8 Mio) and 2000 (n=7.3 Mio)
- Mortality-follow-up, continuously updated (latest: 2008)



Source: Bopp, et. al, *Int J Epidemiol.* 2009; **38**: 379-384

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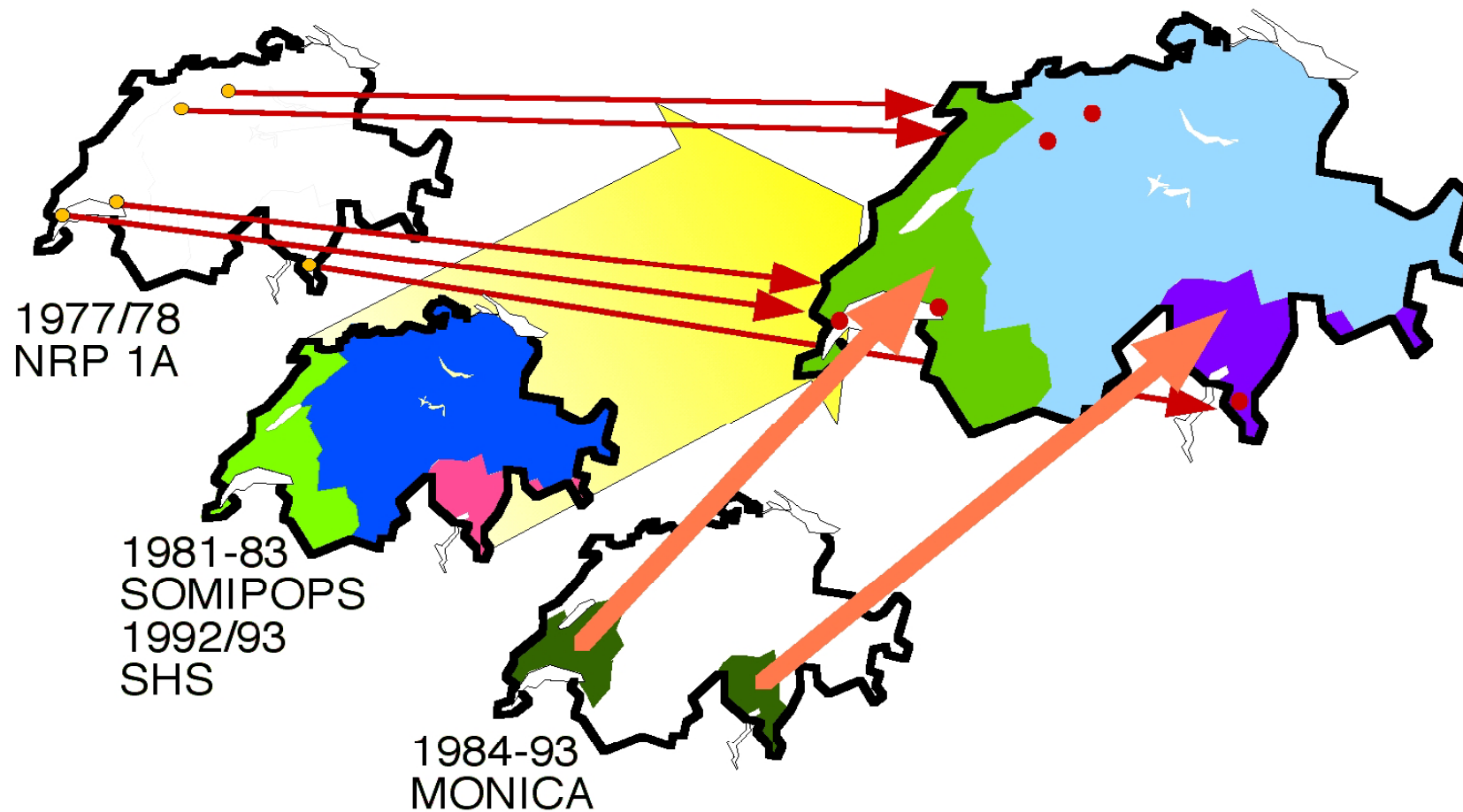


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# Shortcoming of the SNC

- SNC virtually no information on clinical and behavioural risk factors
- Solution: Record linkage of the SNC with historical surveys
- Most obvious with MONICA





# Linkage SNC with MONICA

## Minimal requirements:

- sex
- exact date of birth
- place of residence

## Additional helpful information:

- nationality, marital status, occupation, educational level, place of birth, religious affiliation, household/family information

Source: Bopp, et. al, *BMC Public Health*. 2010; **10**: 562

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# MONICA

- WHO project
- MONItoring of trends and determinants in Cardiovascular disease
- General population (men and women)
- Age: 25-74 years
- Participation: 54-78%

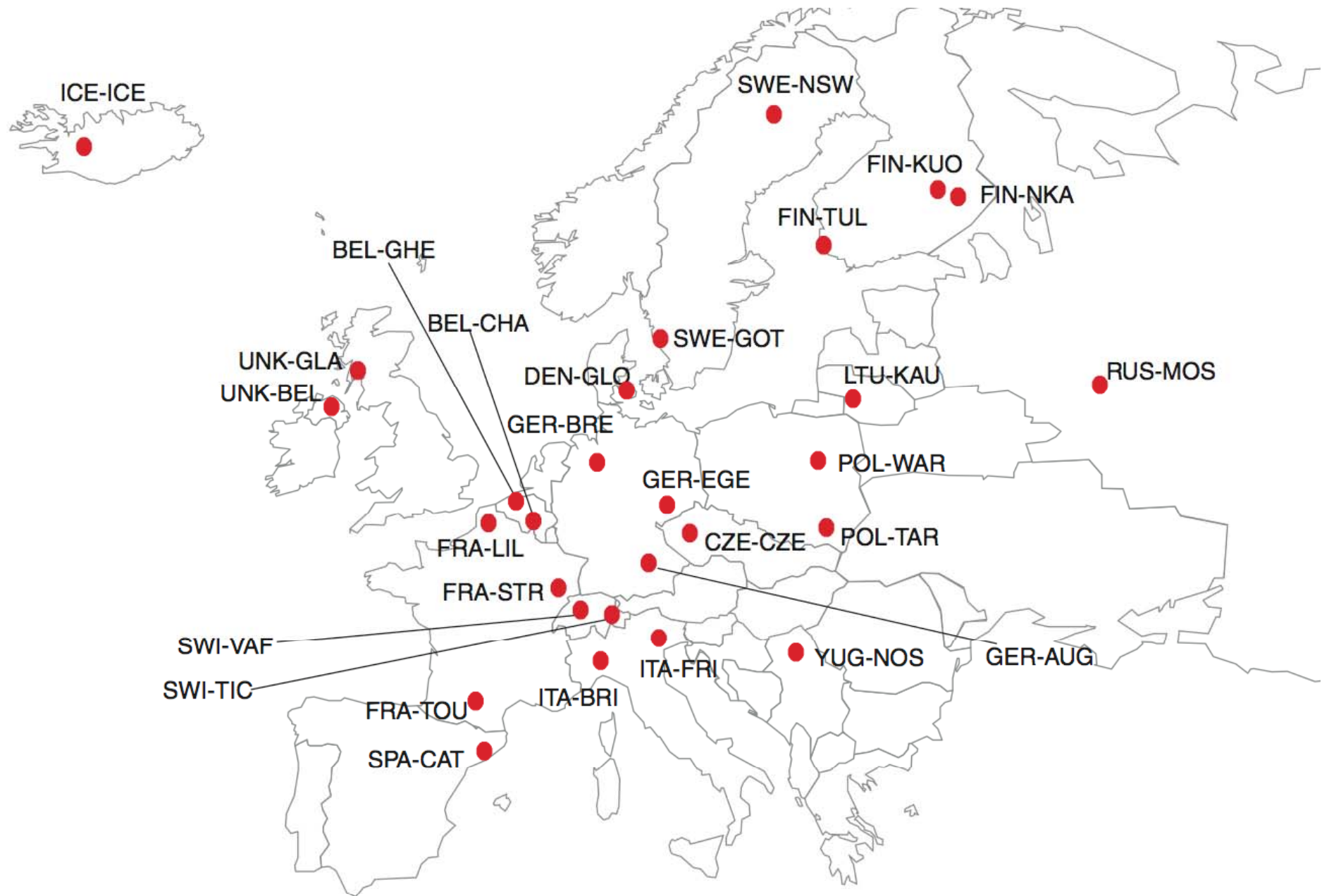
Source: Bopp, et. al, *BMC Public Health*. 2010; **10**: 562

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## G1 Populations outside Europe used in testing the MONICA hypotheses



# MONICA Switzerland

- 2 centres: VD/FR & TI
- 3 waves: 1984-86, 1988-89, 1992-93

| <b>Wave</b>        | <b>N</b>      |
|--------------------|---------------|
| <b>I (84-86)</b>   | <b>3,442</b>  |
| <b>II (88-89)</b>  | <b>3,466</b>  |
| <b>III (92-93)</b> | <b>3,252</b>  |
| <b>total</b>       | <b>10,160</b> |

Source: Bopp, et. al, *BMC Public Health*. 2010; **10**: 562

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# MONICA: Overall

- 97.8% (9,940/10,160) linked
- 1,526 deaths (until end of 2008)
- Loss to follow-up 1990-2000: 4.7%
- 9,853 for survival analysis

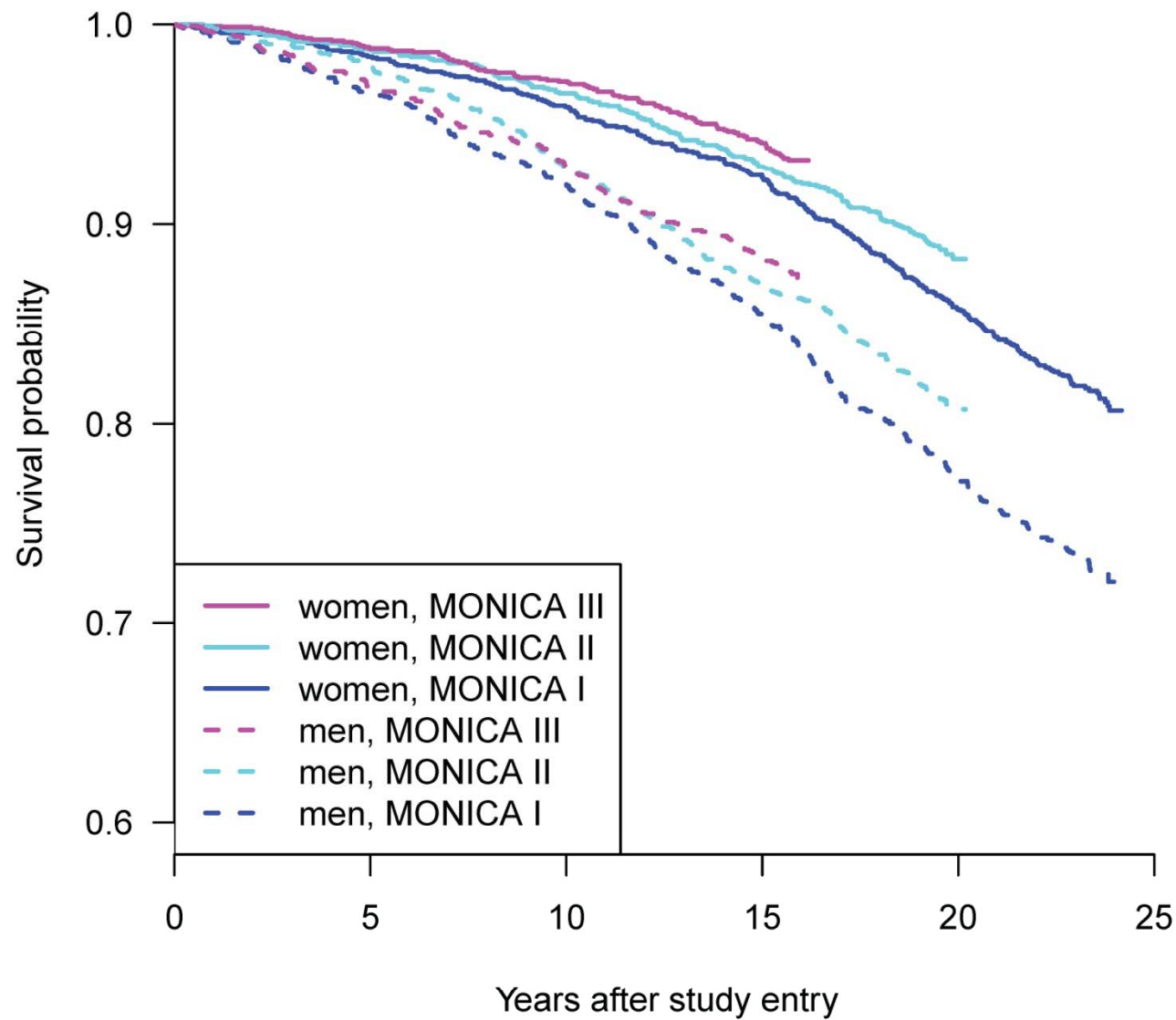
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Source: Bopp, et. al, *BMC Public Health*. 2010; **10**: 562

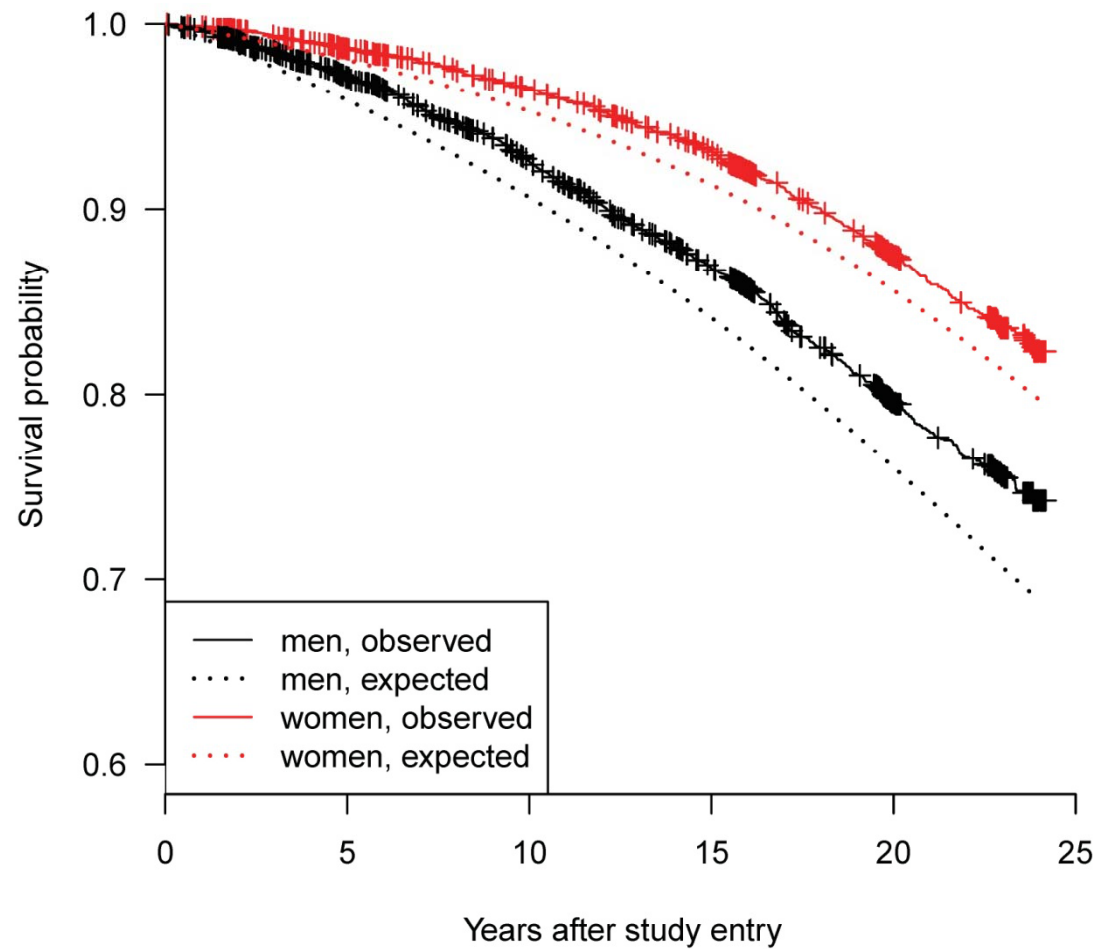
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# Available variables MONICA

## Biological

- Height (measured)
- Weight (measured)
- Cholesterol (total, HDL, LDL)
- Blood pressure
- Blood lead
- Thiocyanates
- Vitamin D
- Lipoprotein(a)
- Apolipoprotein A1
- Apolipoprotein B

## Socio-demographic

- Nationality
- Marital status
- SES (educational level, socio-professional class)

## Lifestyle

- Smoking (status, type, number of cigarettes)
- Diet
- Alcohol consumption (type)
- Physical activity

## Diagnosis/Treatment

- Scores of the BORTNER scale
- CVD medication
- Patients with hypertension

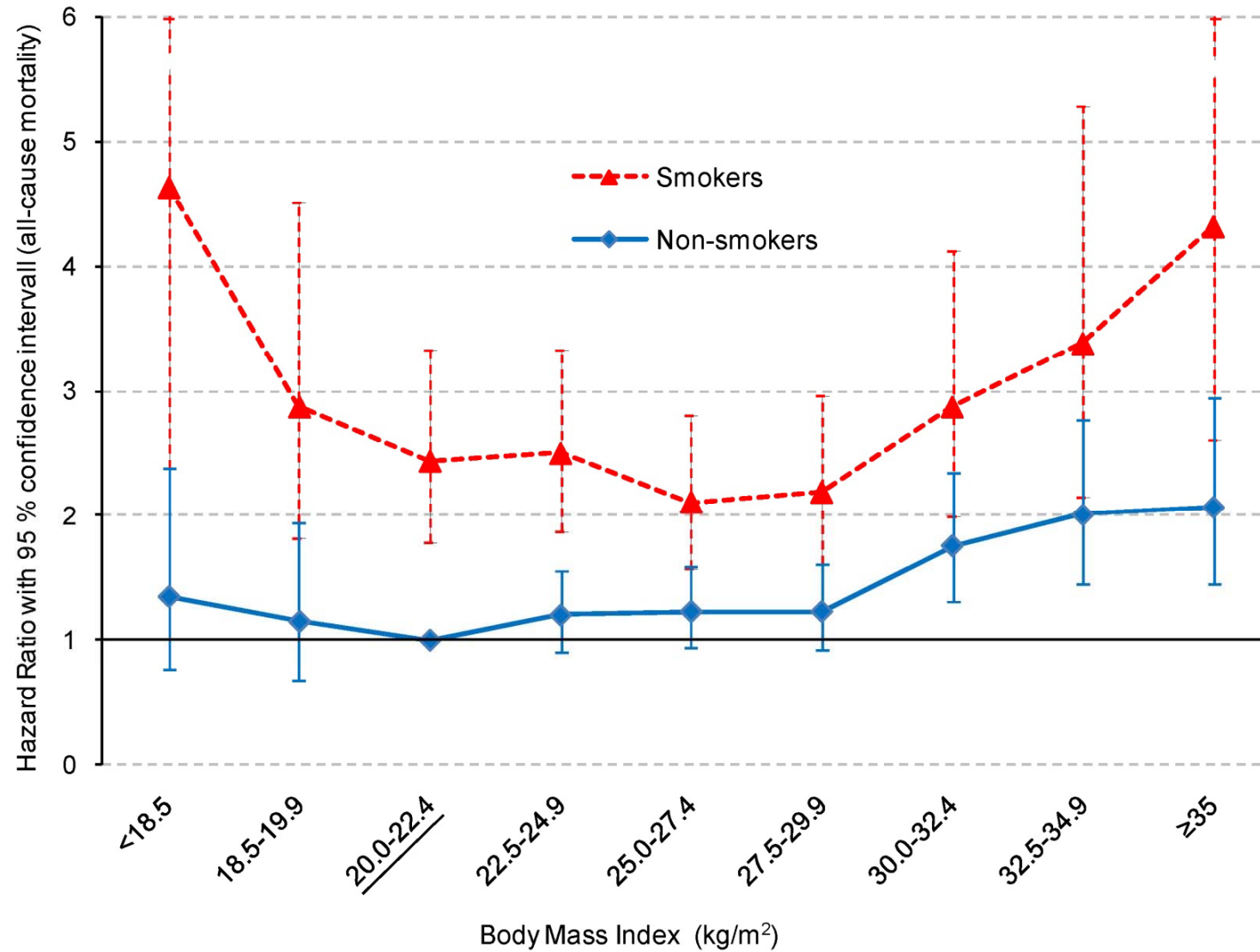
Source: Bopp, et. al, *BMC Public Health*. 2010; **10**: 562

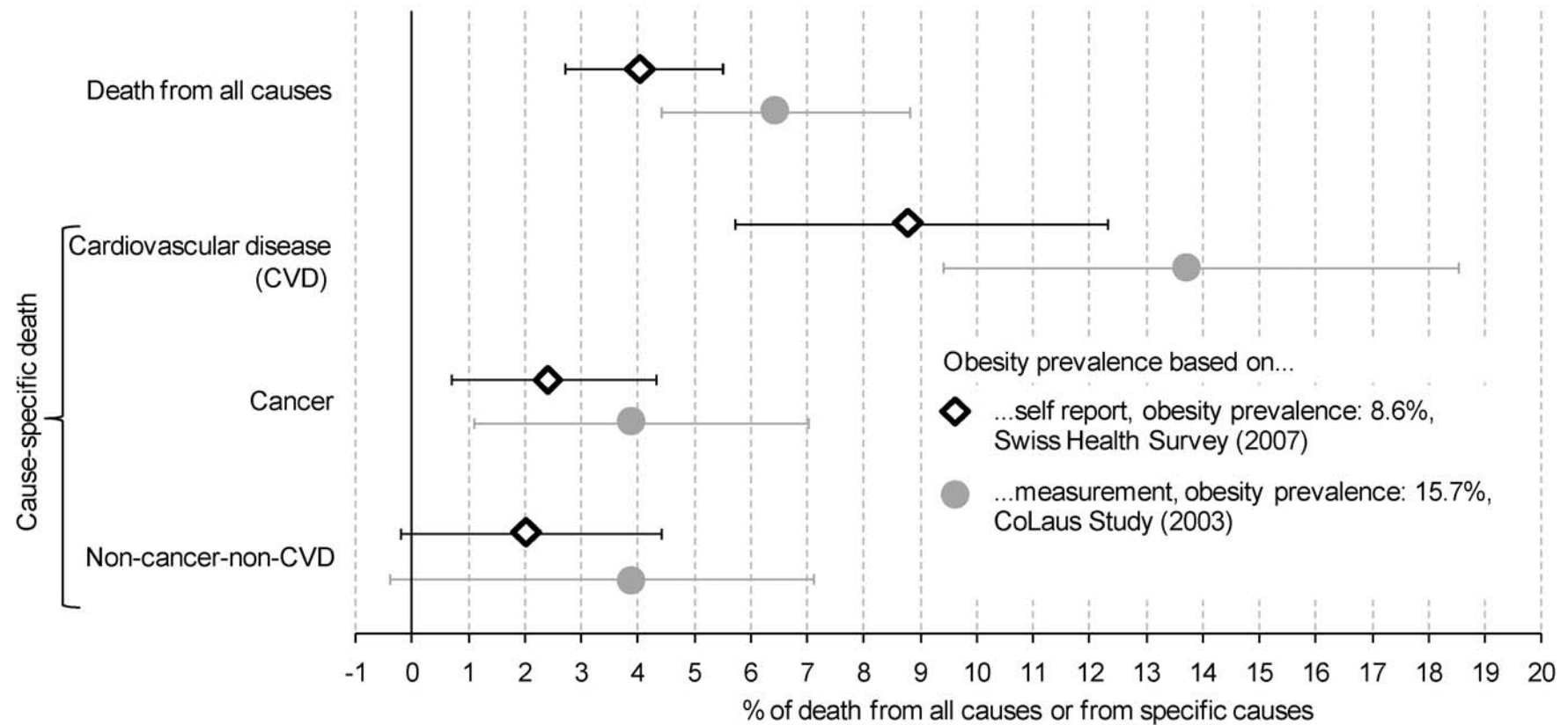
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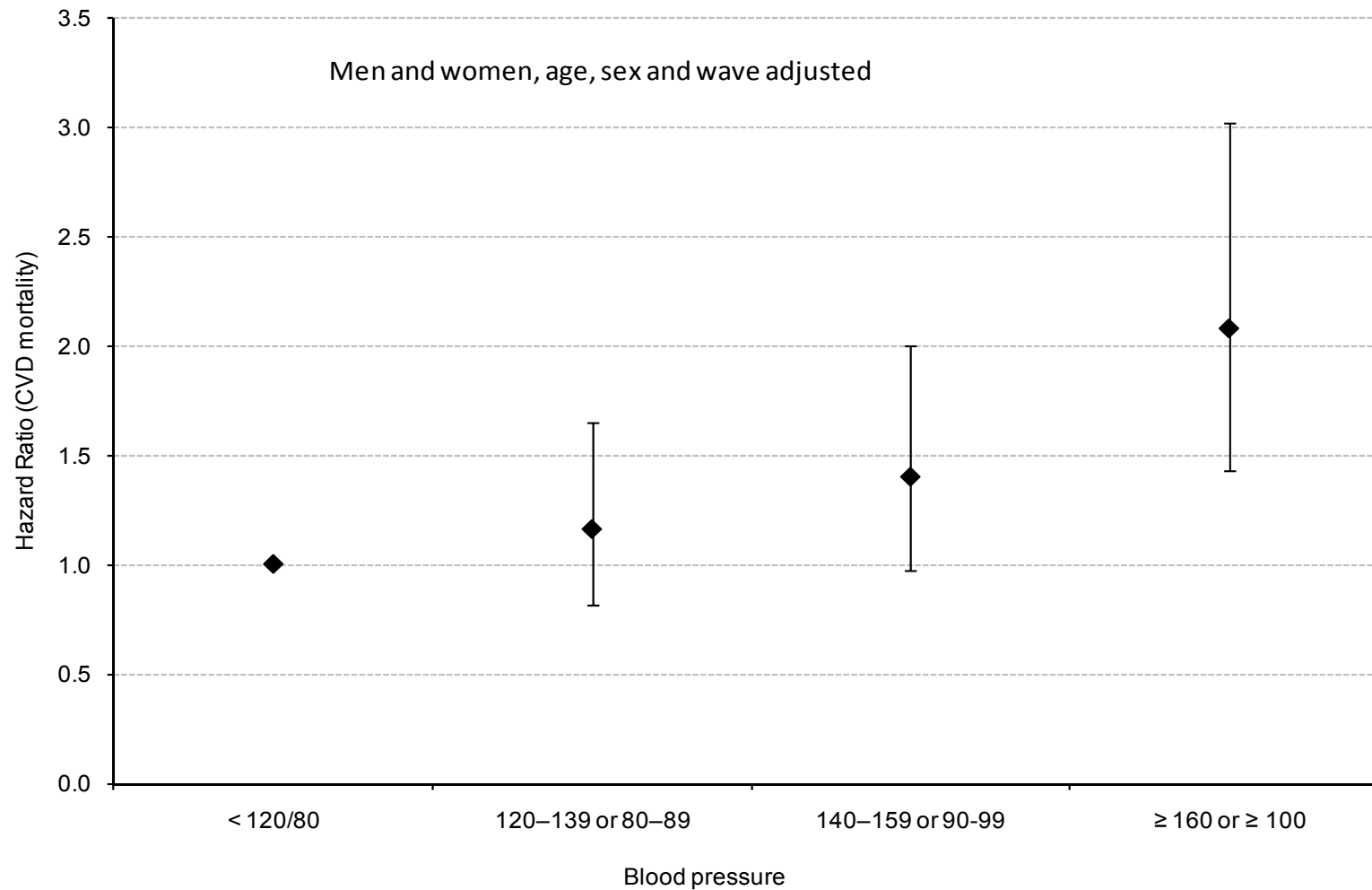


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# Blood pressure and relative mortality risk



Quelle: Faeh et al. unpublished data

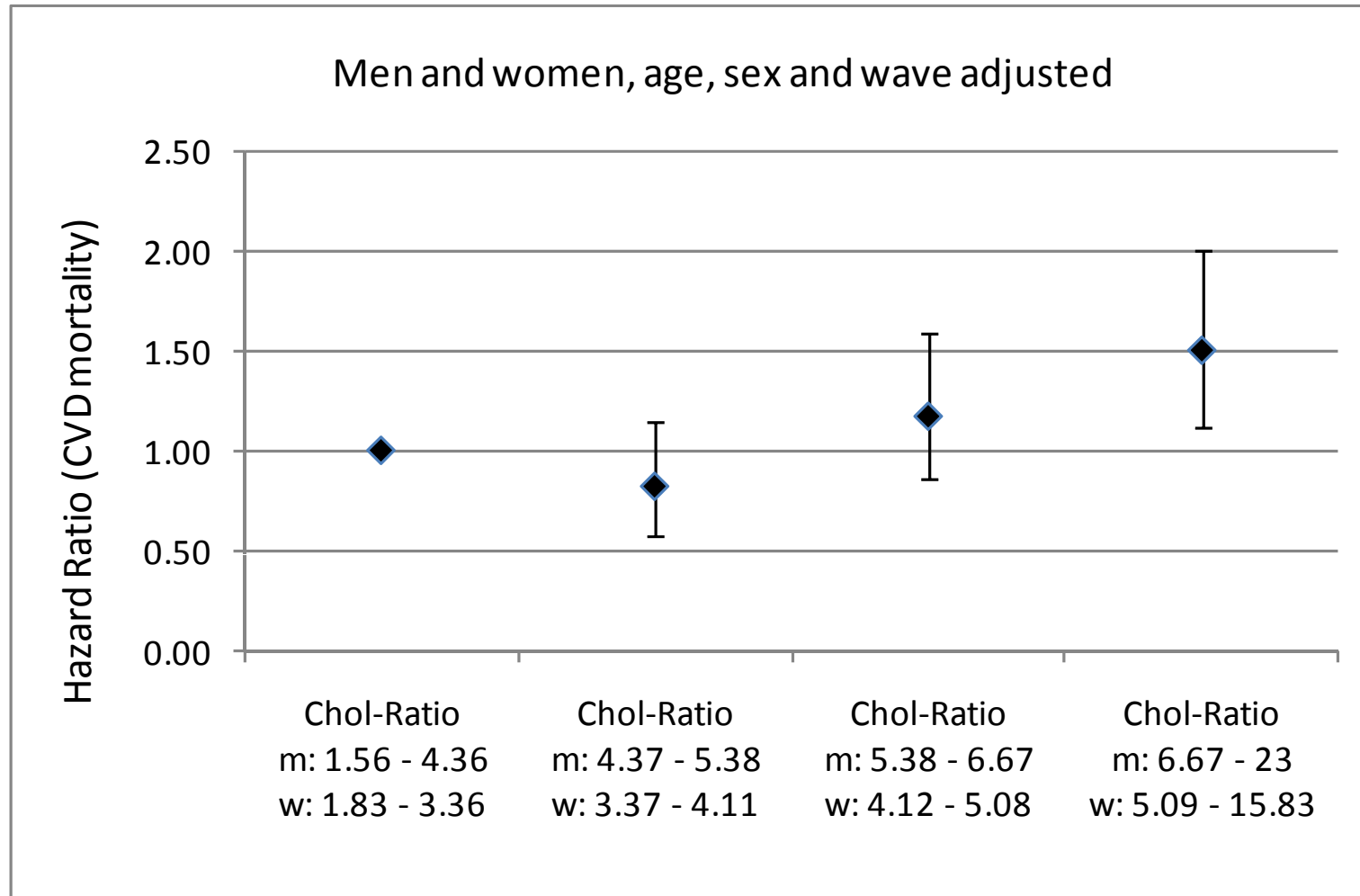
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# Gesamtcholesterin : HDL-Cholesterin und relatives Sterberisiko, Schweiz



Quelle: Faeh et al. unpublished data

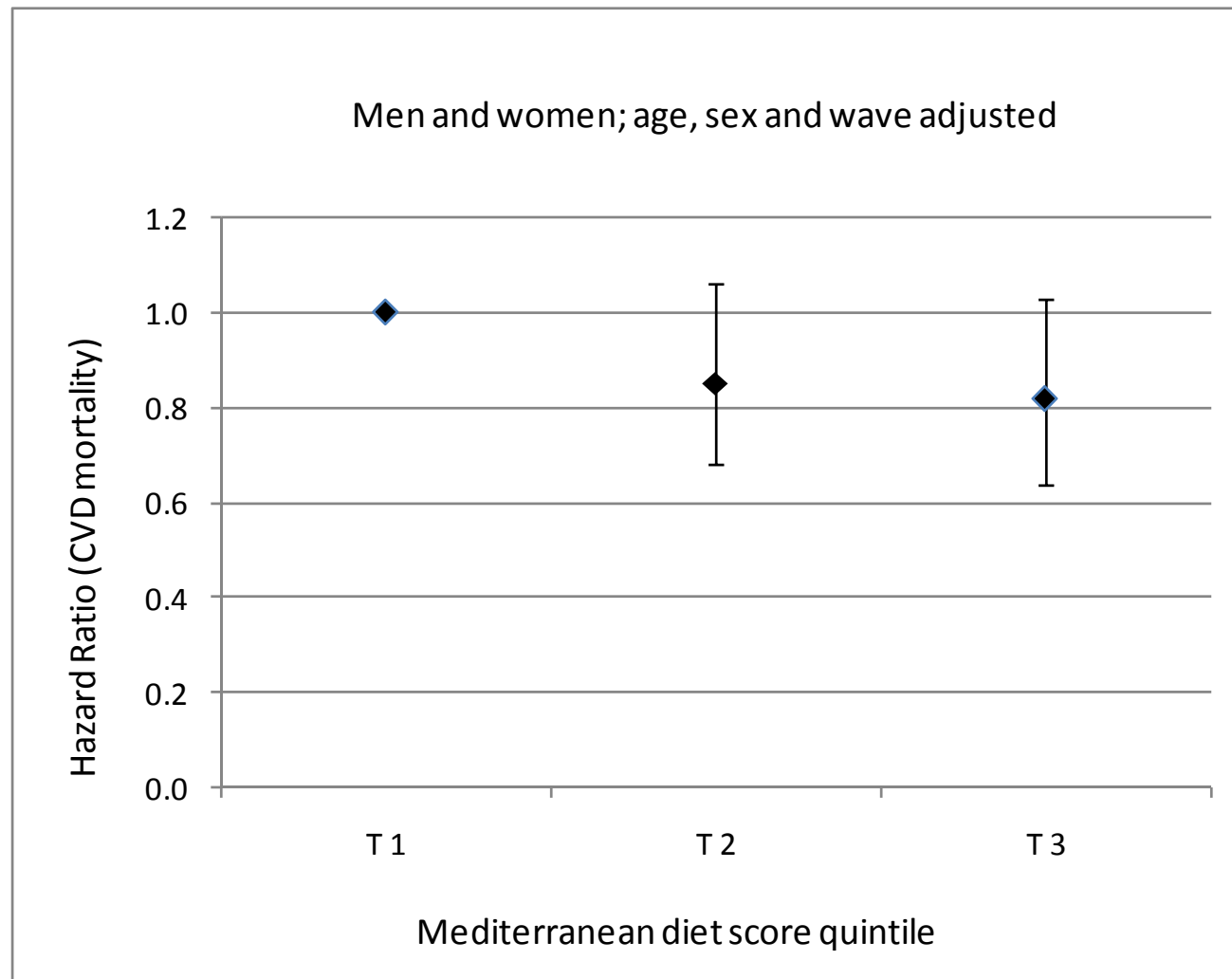
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# Relatives Sterberisiko abhängig von der Anlehnung an die Mediterrane Ernährungsweise, Schweiz



Quelle: Faeh et al. unpublished data

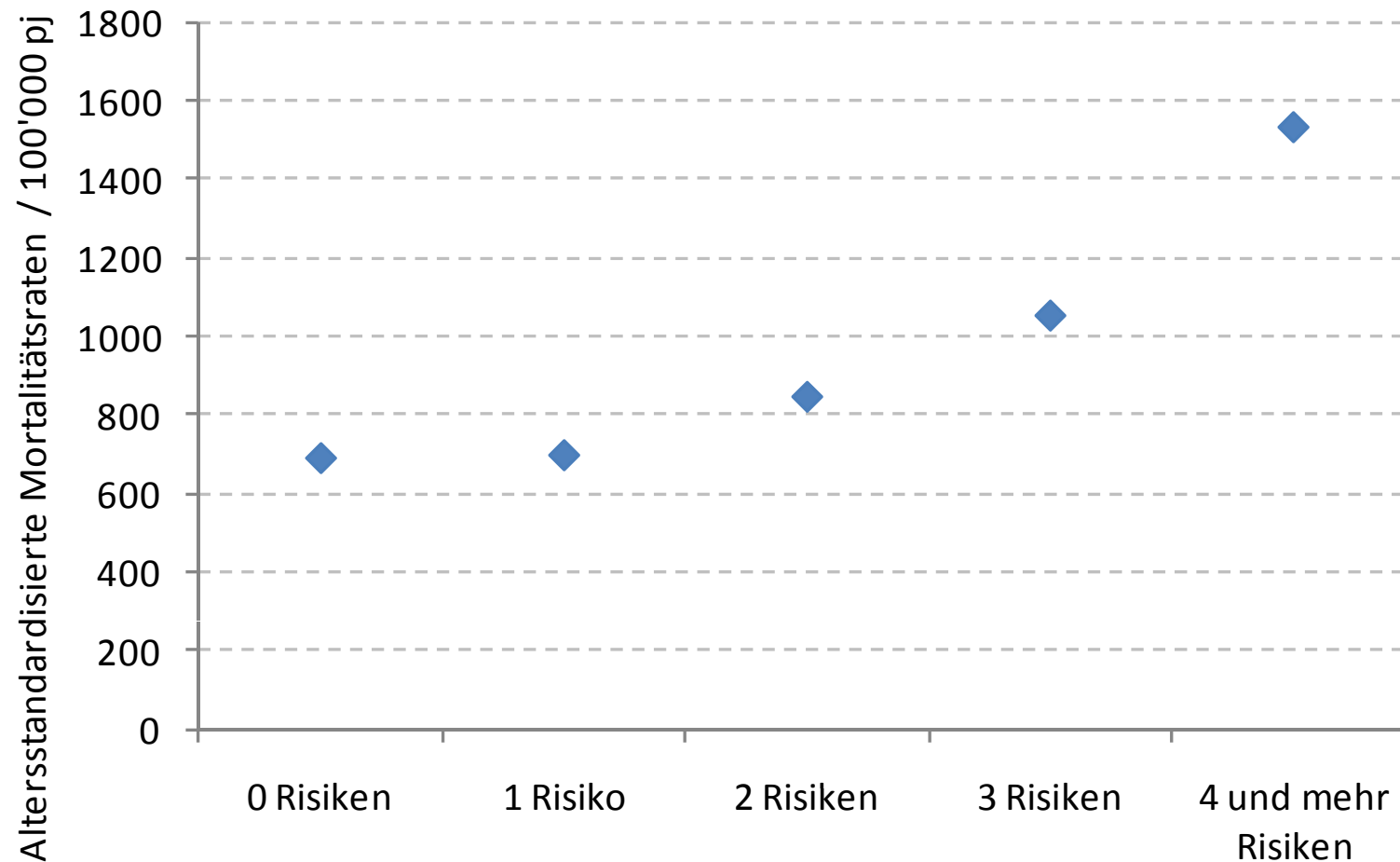
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# Risk factors and CVD mortality



Risikofaktoren:

1. Adipositas, 2. Bluthochdruck, 3. Hypercholesterolämie, 4. Rauchen, 5. Schlechte Ernährung, 6. Bewegungsarmut

Quelle: Faeh et al., unpublished data

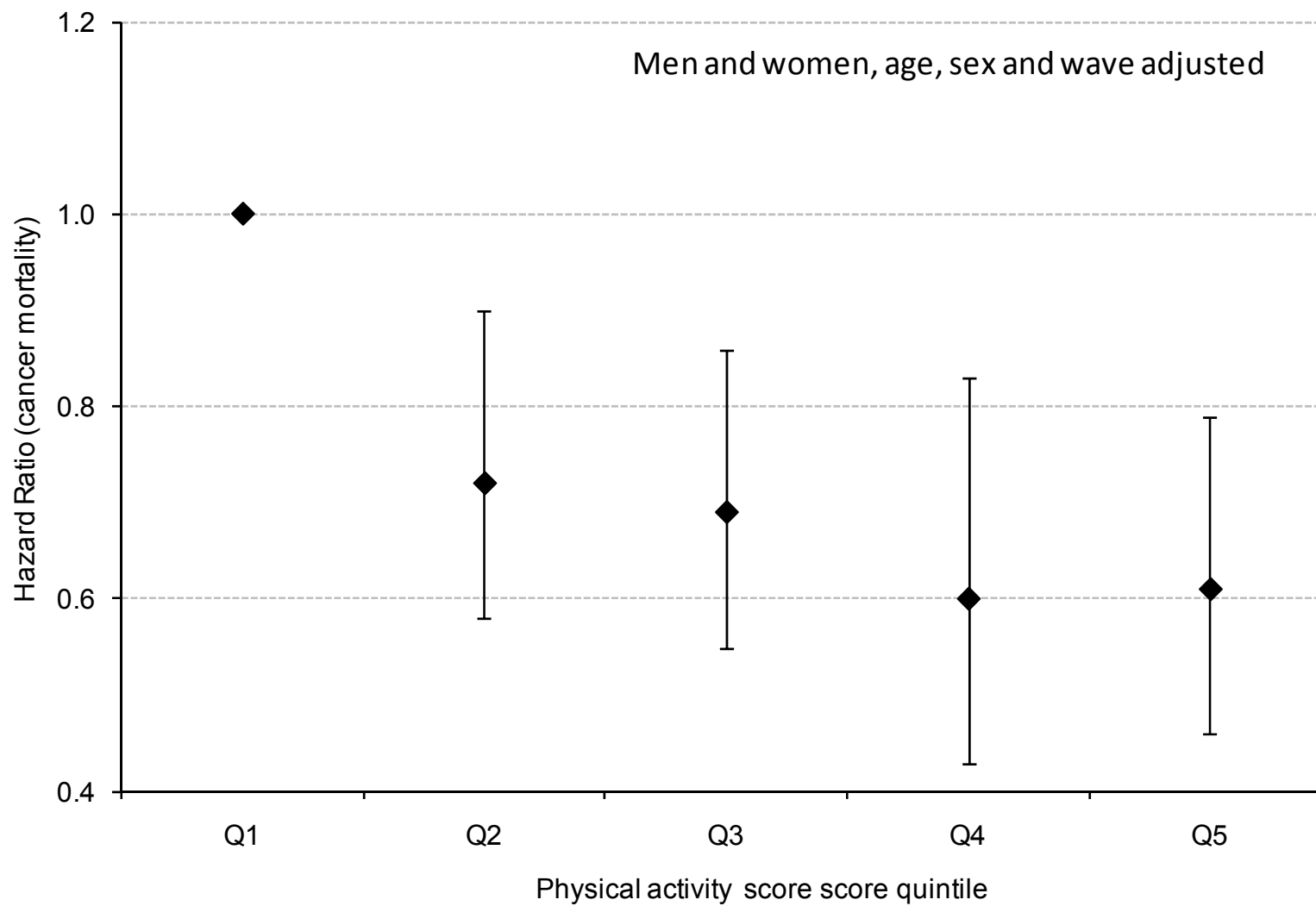
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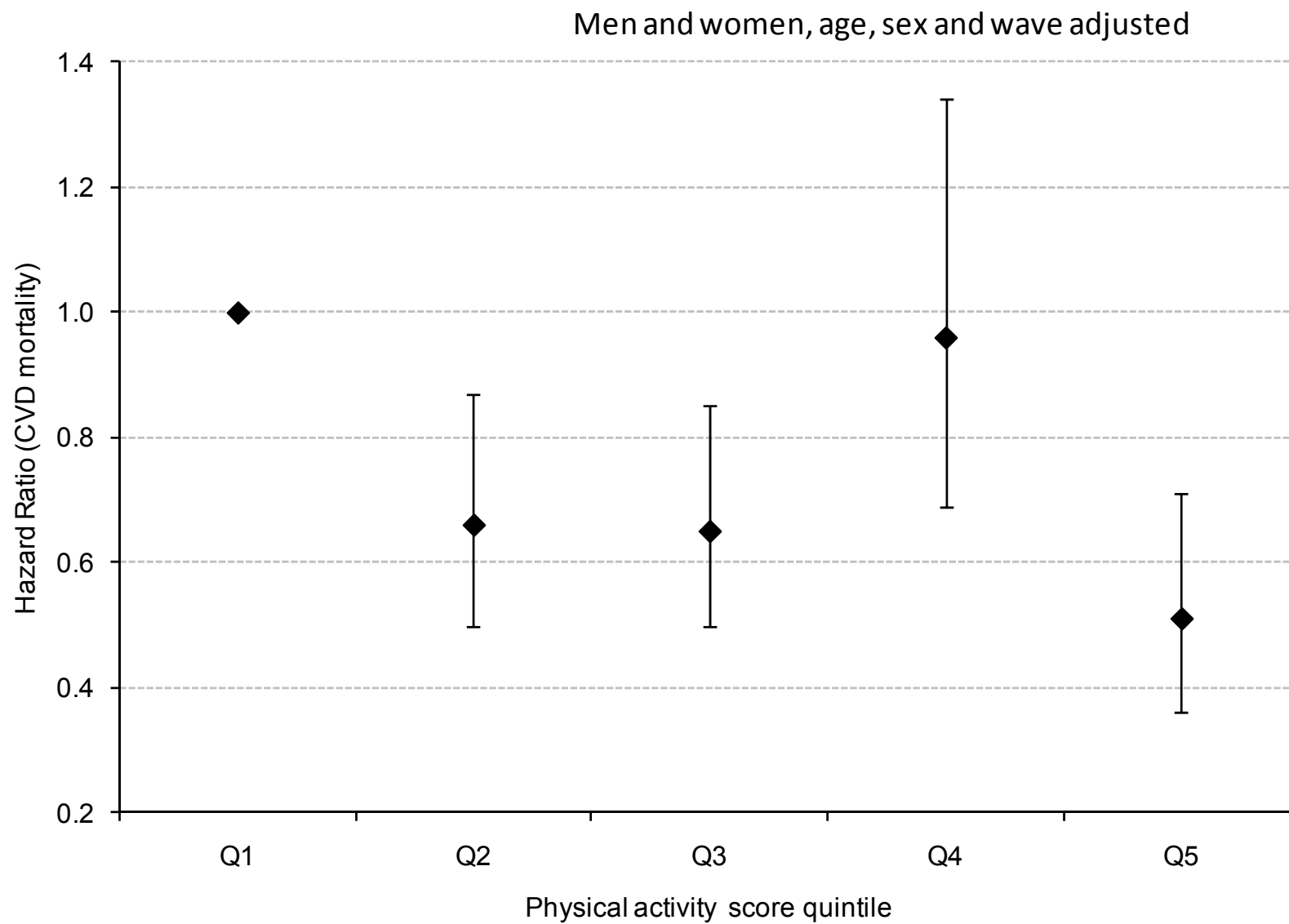
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# Thanks!

