

**WCE**

WORLD CONGRESS OF EPIDEMIOLOGY 2024



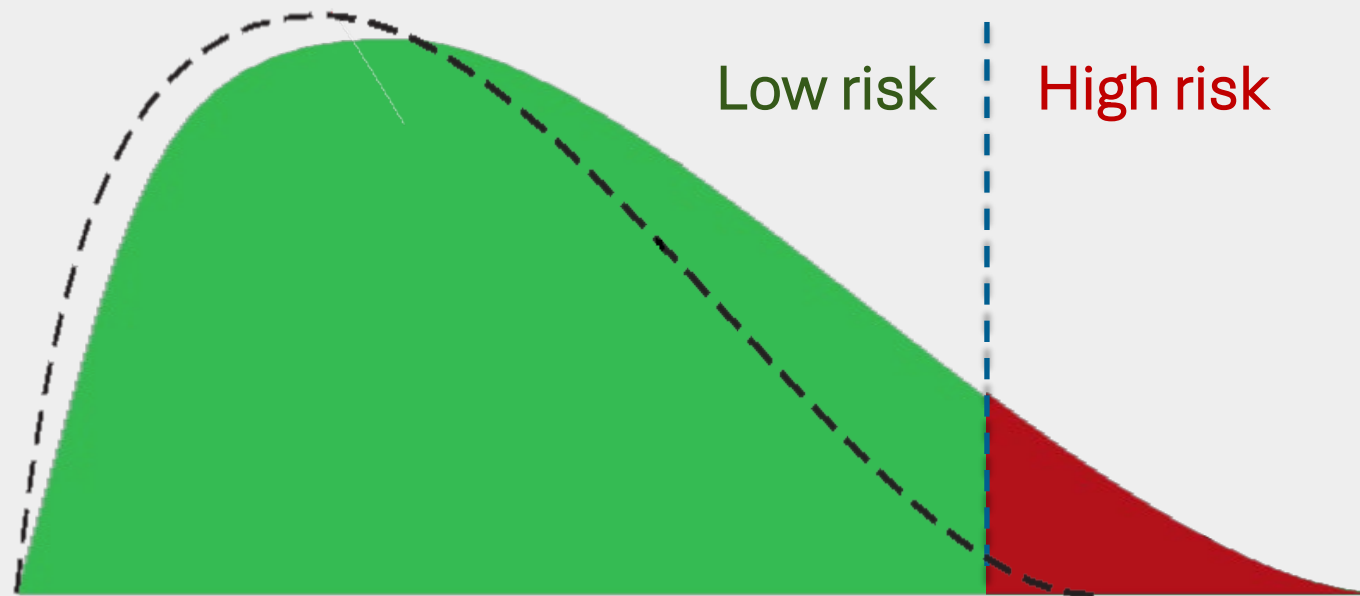
# Prevalence of elevated cardiovascular risk among South African adults: trends and socioeconomic disparities 1998-2017

Annibale Cois

Cardiovascular diseases (CVDs) are the leading cause of death globally.

An estimated 19.8 million people died from CVDs in 2022, representing about one third of all global deaths.

Over three quarters of CVD deaths take place in low- and middle-income countries.





Secondary joint analysis of multiple population survey datasets

Trends in CVD risk and determinants in South Africa and England between 1998 and 2017

Adult population (15+/16+): 155000 + 168000 records

Harmonised reweighted dataset/harmonisation code available

- 9 nationally representative surveys conducted in South Africa between 1998 and 2017
- 51000 individuals aged 40-74 years without history of CVD.
- 10-year CVD risk (office-based **Globorisk score**)
- GAMs to recover temporal trends in the prevalence of elevated risk (**risk score >20%**), by sex, age, population group, education level, and rural vs urban residence.
- **Multiple imputation** to deal with missing data.



**Protocol:**

Adjaye-Gbewonyo K, Cois A. Explaining population trends in cardiovascular risk: protocol for a comparative analysis of health transitions in South Africa and England using nationally representative survey data. BMJ Open. 2022;12(3):e061034. doi:[10.1136/bmjopen-2022-061034](https://doi.org/10.1136/bmjopen-2022-061034)

**ExPoSE datasets & code:**

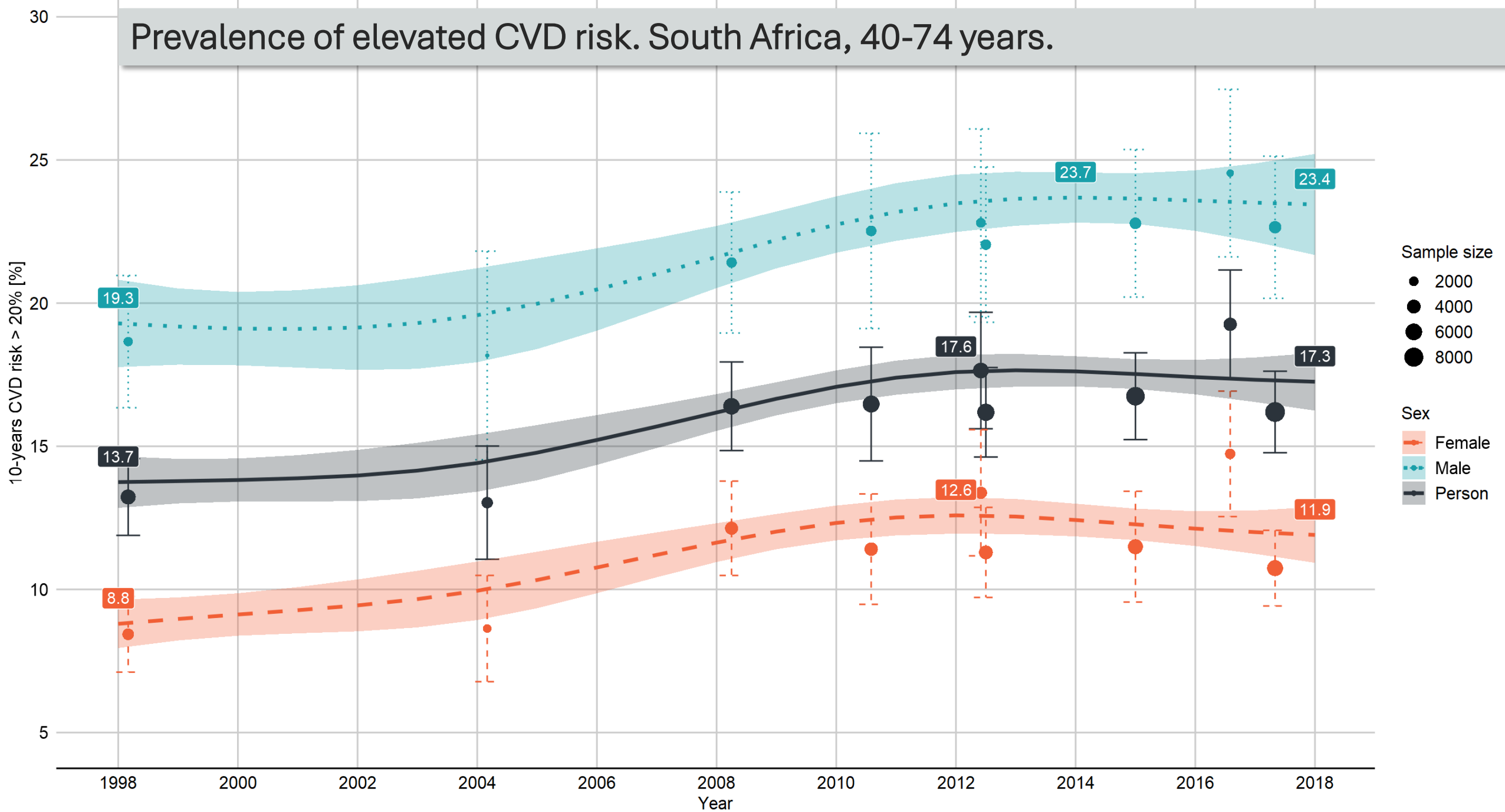
<https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/981>

**Study website**

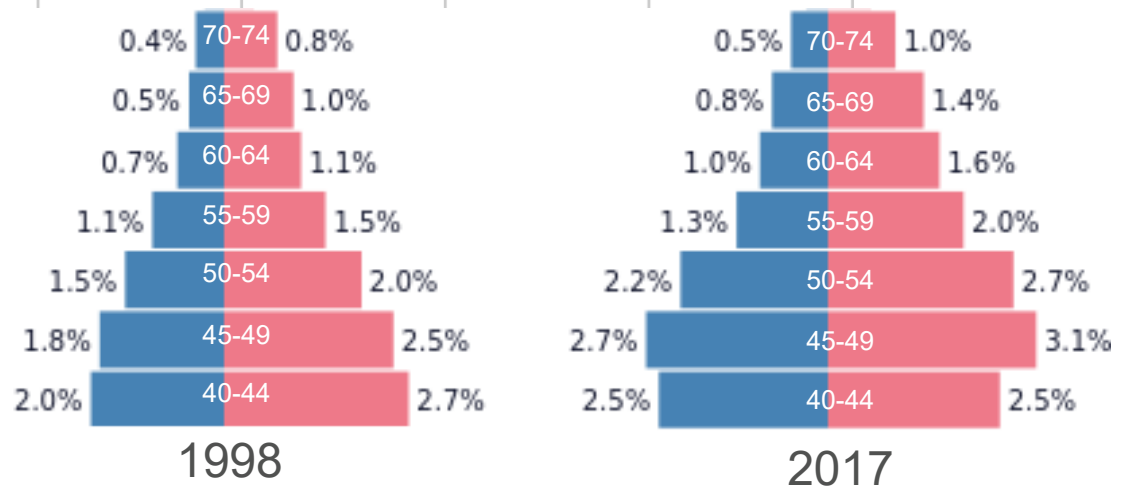
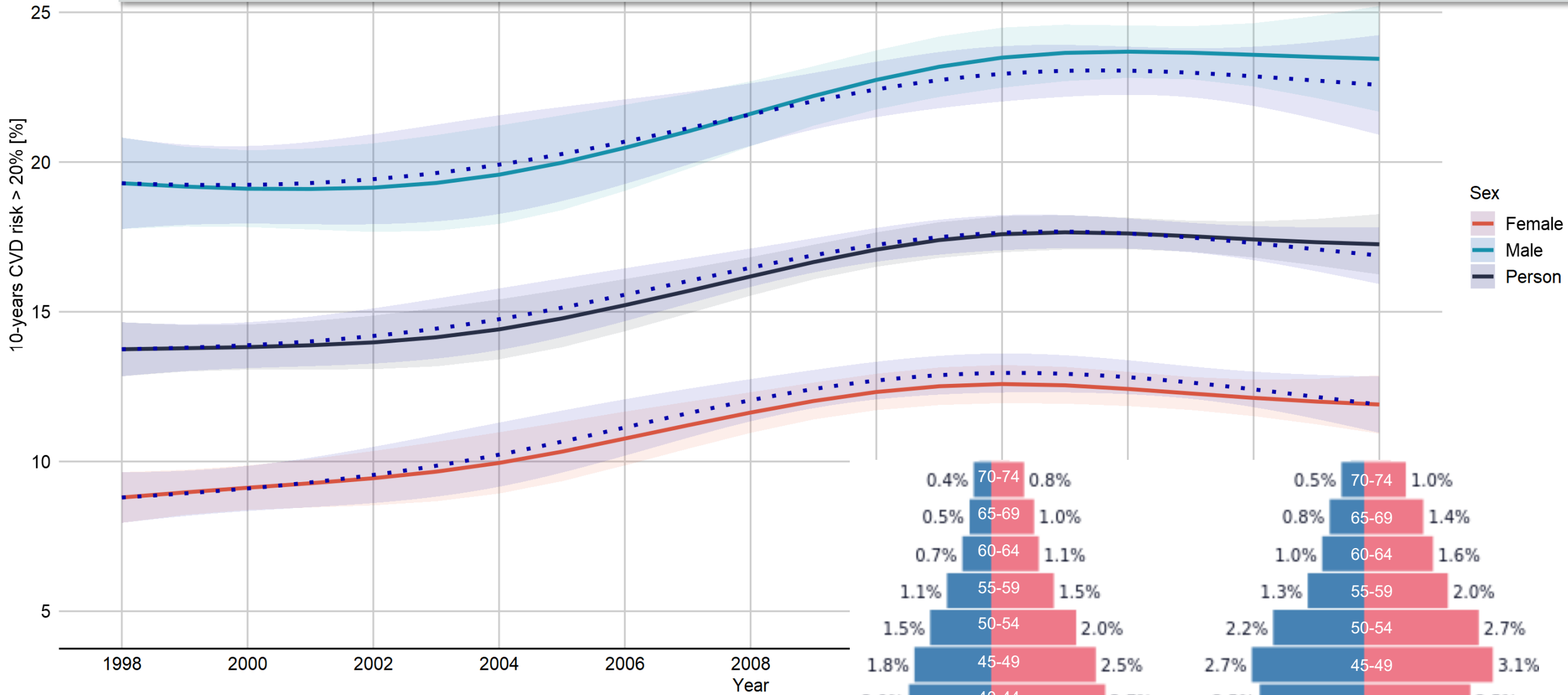
<https://www.exposeproject.net/>

Result1:  
A changing trend

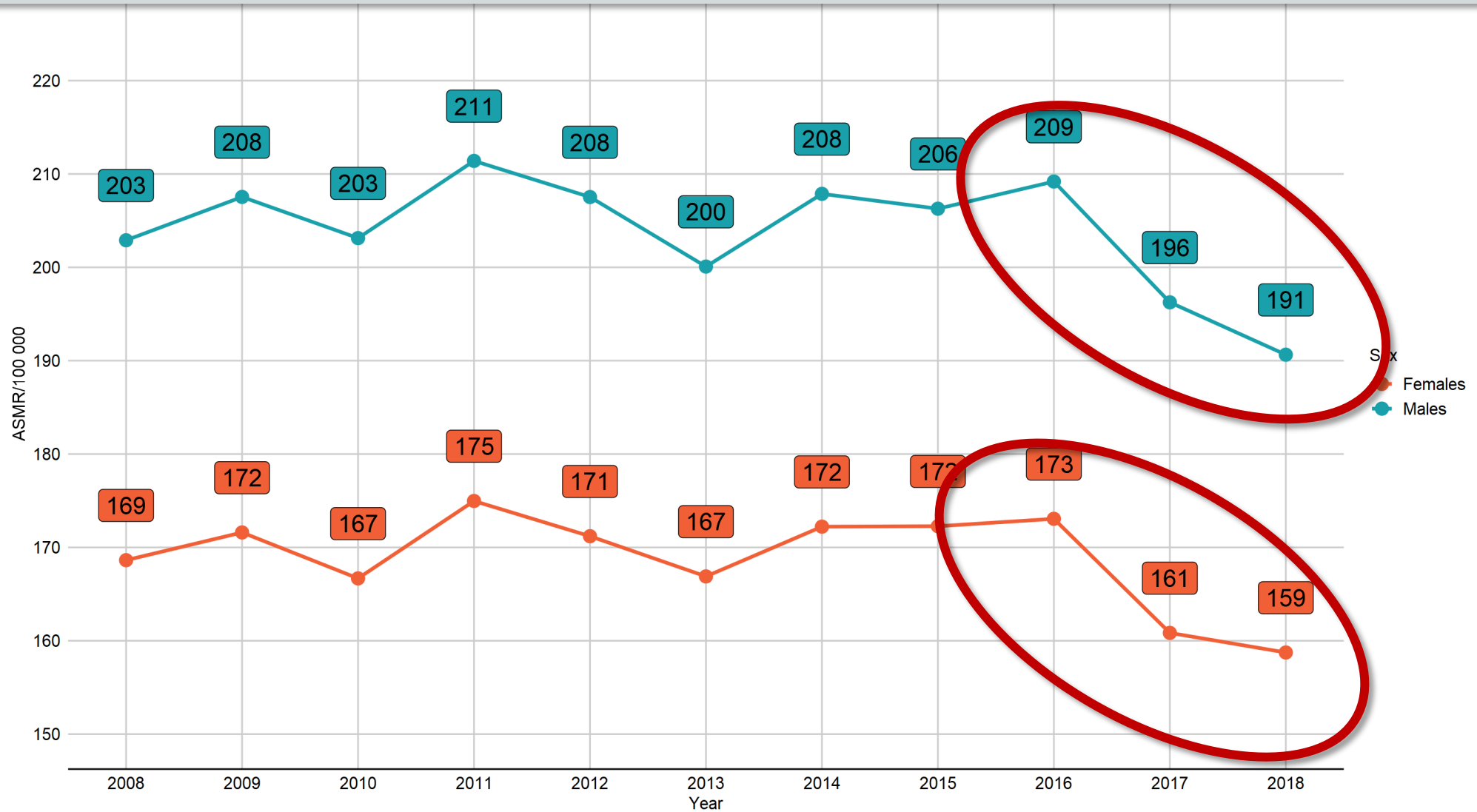
# Prevalence of elevated CVD risk. South Africa, 40-74 years.



# Prevalence of elevated CVD risk. South Africa, 40-74 years. Observed & age-standardised

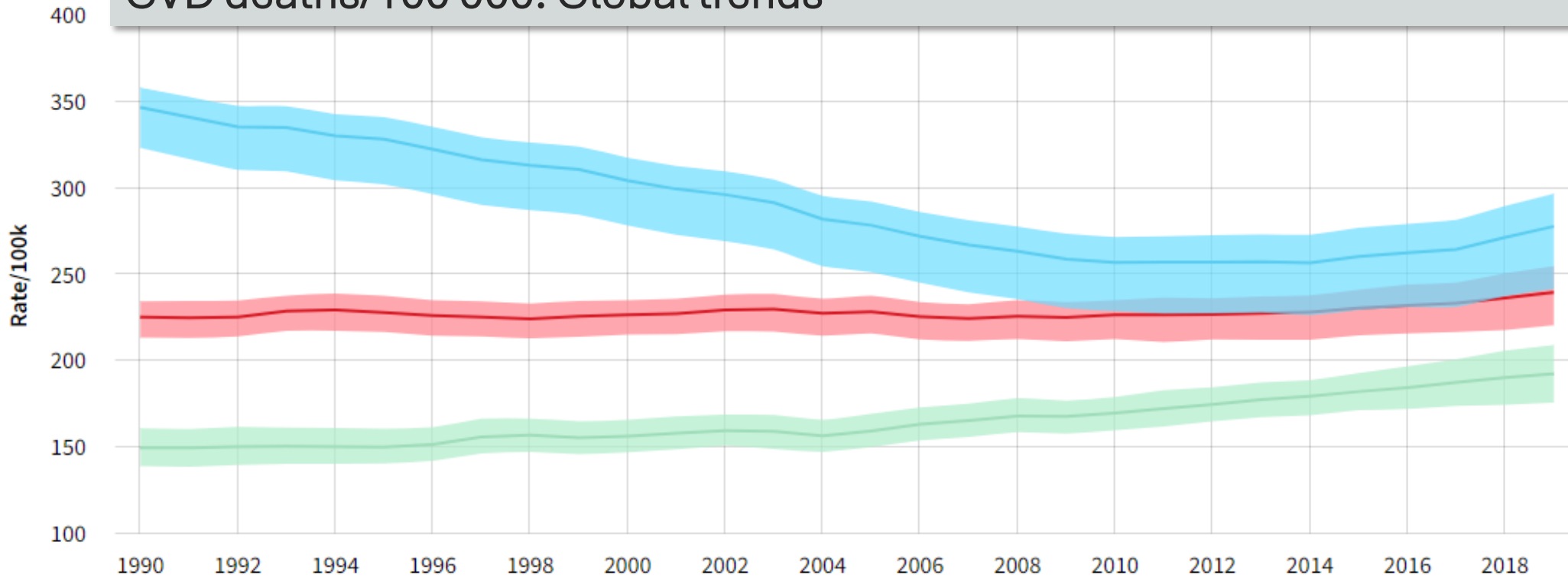


# CVD deaths/100 000. South Africa, all ages.



Statistics South Africa. Non-Communicable Diseases: Findings from Death Notifications, 2008-2018. Statistics South Africa; 2023. <https://www.statssa.gov.za/publications/Report-03-08-01/Report-03-08-012018.pdf>

# CVD deaths/100 000. Global trends



- Global - Cardiovascular diseases in Both Sexes, Deaths, Rate/100k, All Ages
- High SDI - Cardiovascular diseases in Both Sexes, Deaths, Rate/100k, All Ages
- Low-middle SDI - Cardiovascular diseases in Both Sexes, Deaths, Rate/100k, All Ages
- Uncertainty
- Uncertainty
- Uncertainty

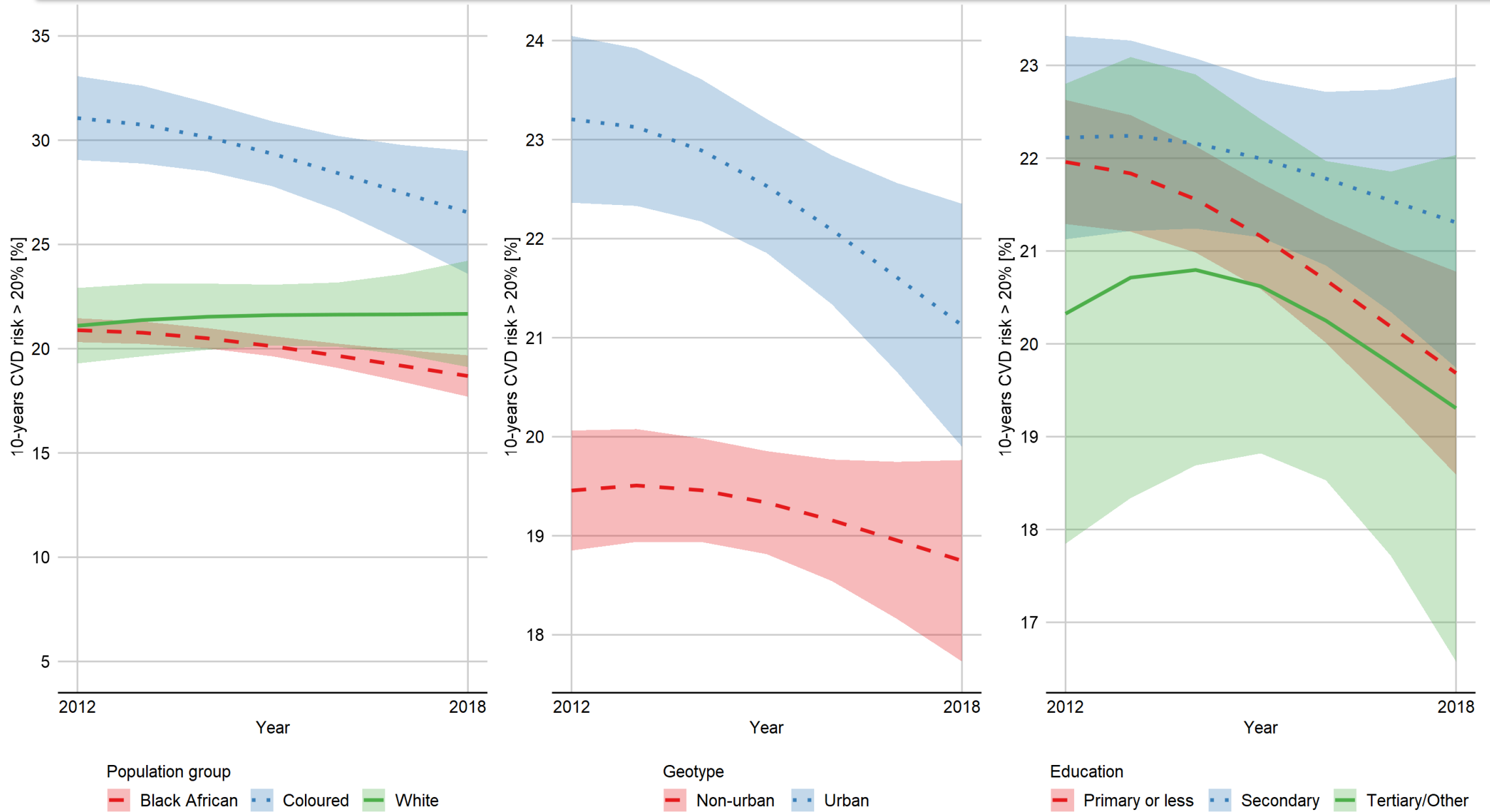


Results 2:  
large differences across  
population strata

# Number at elevated CVD risk. South Africa, 40-74 years.

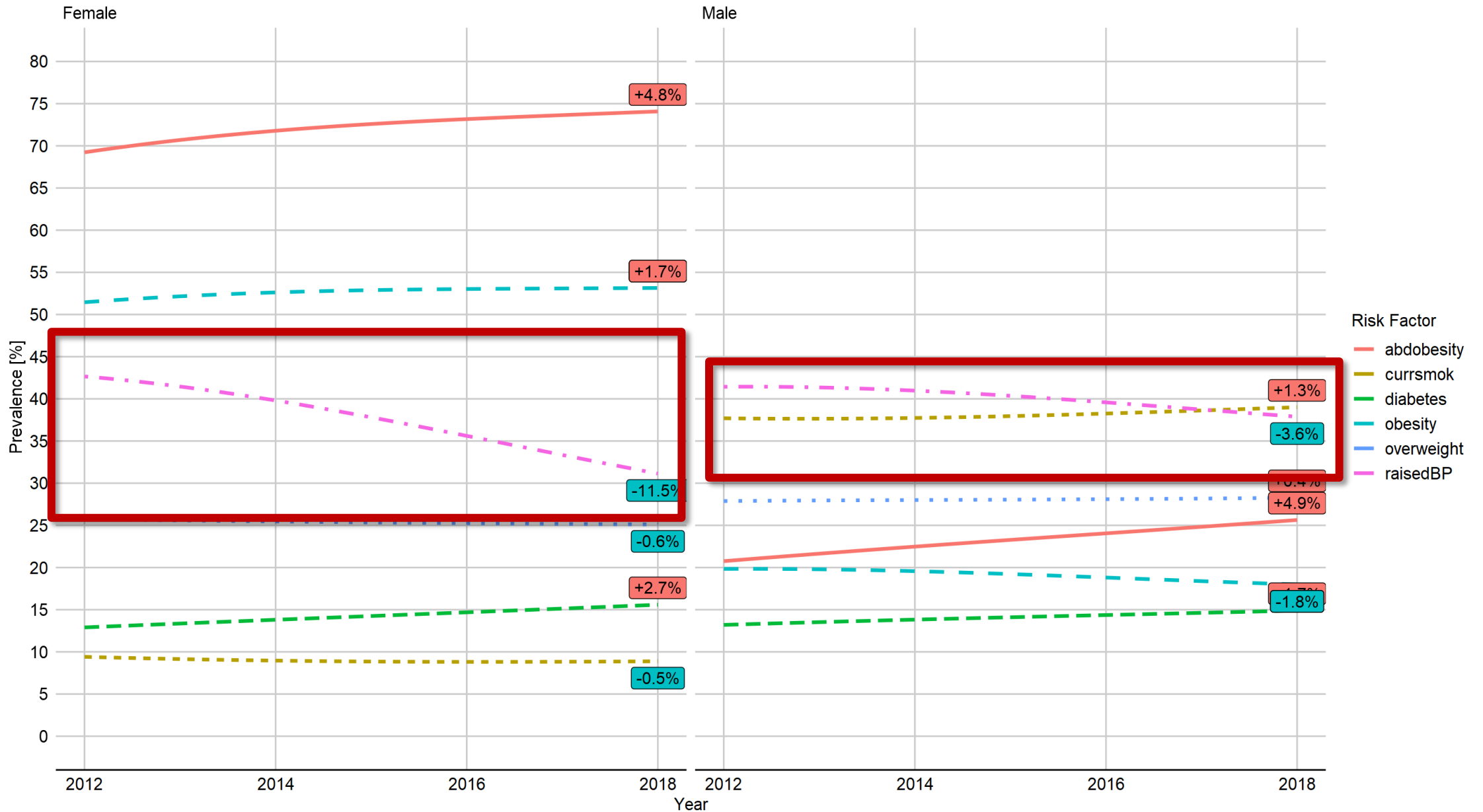


# Age-standardised prevalence of elevated CVD risk. South Africa, 40-74 years, by group

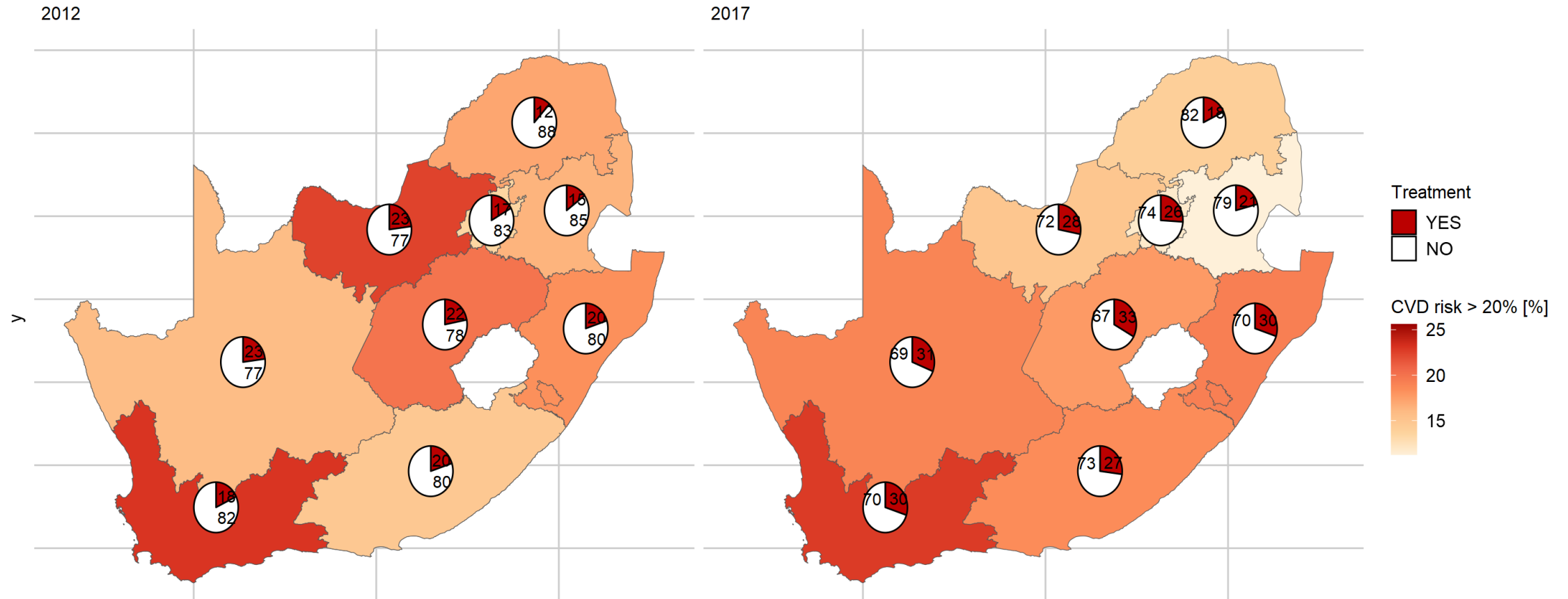


Why so?

# Prevalence of major CVD risk factors. South Africa, 40-74 years.



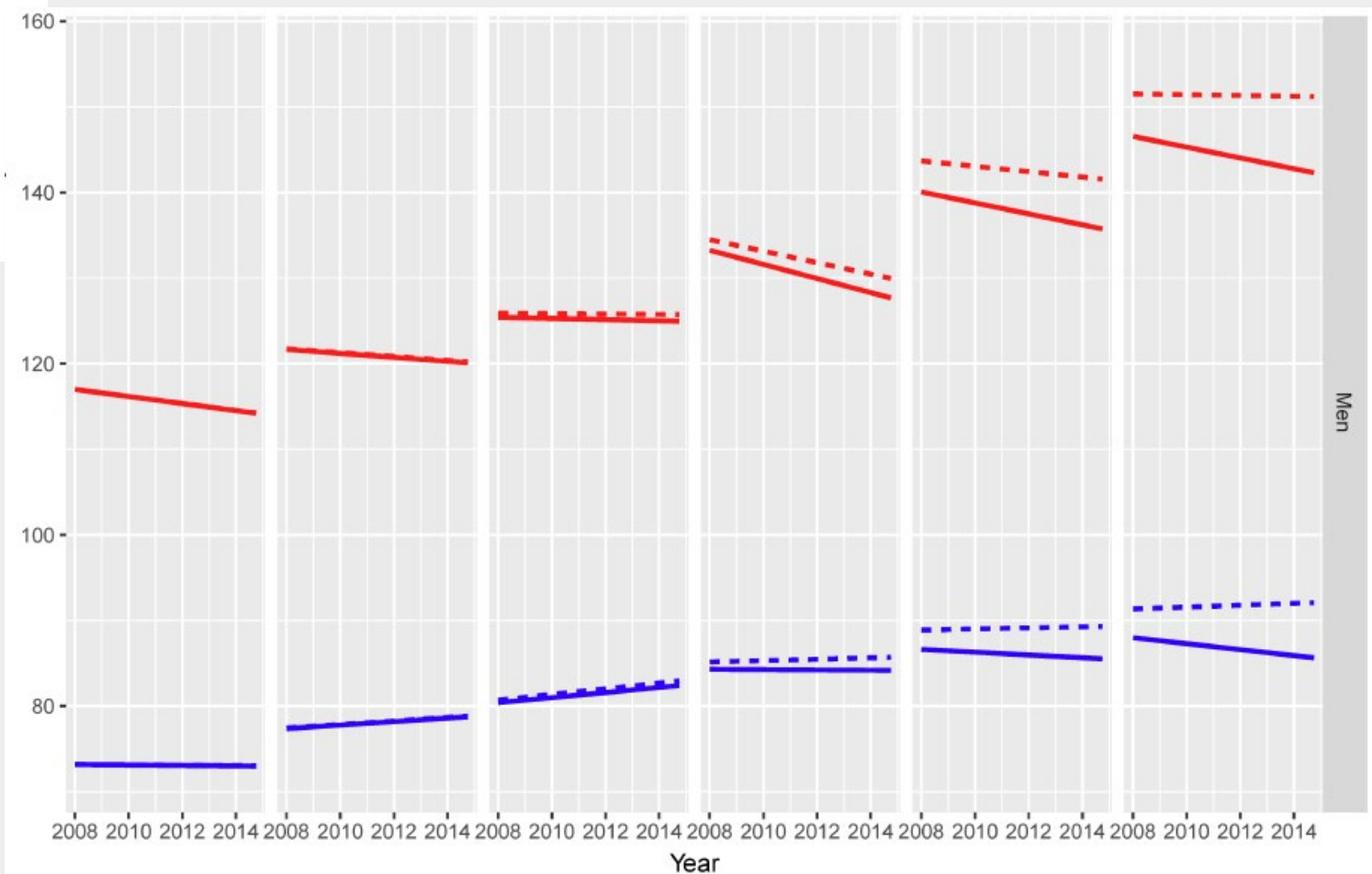
# Prevalence of antihypertensive treatment. South Africa, 40-74 years, by province



RESEARCH ARTICLE

# Antihypertensive treatment and blood pressure trends among South African adults: A repeated cross-sectional analysis of a population panel survey

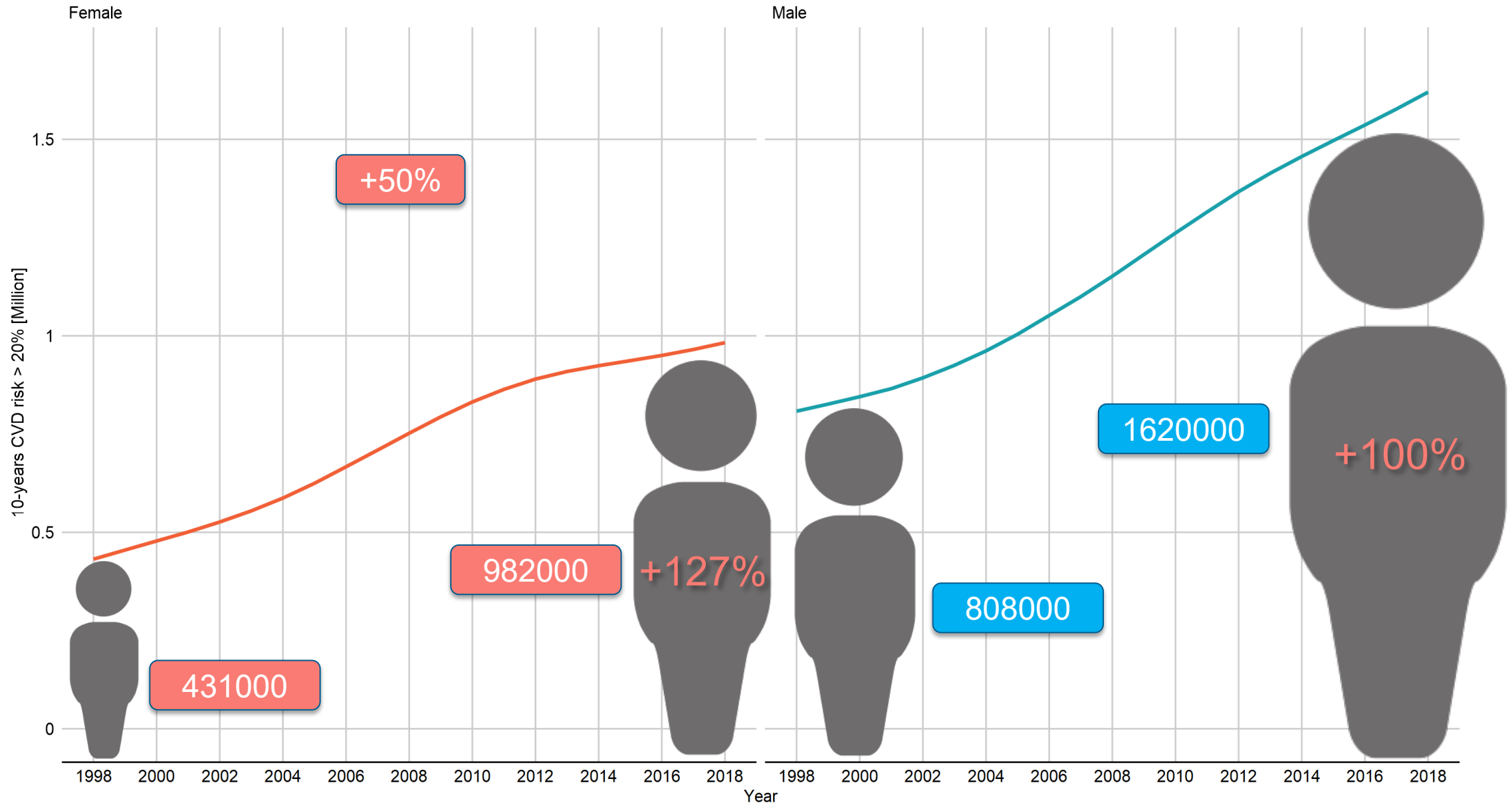
Annibale Cois<sup>1\*</sup>, Rodney Ehrlich<sup>2</sup>



# Conclusions & Public Health perspective



# Number at elevated CVD risk. South Africa, 40-74 years.





Low SES

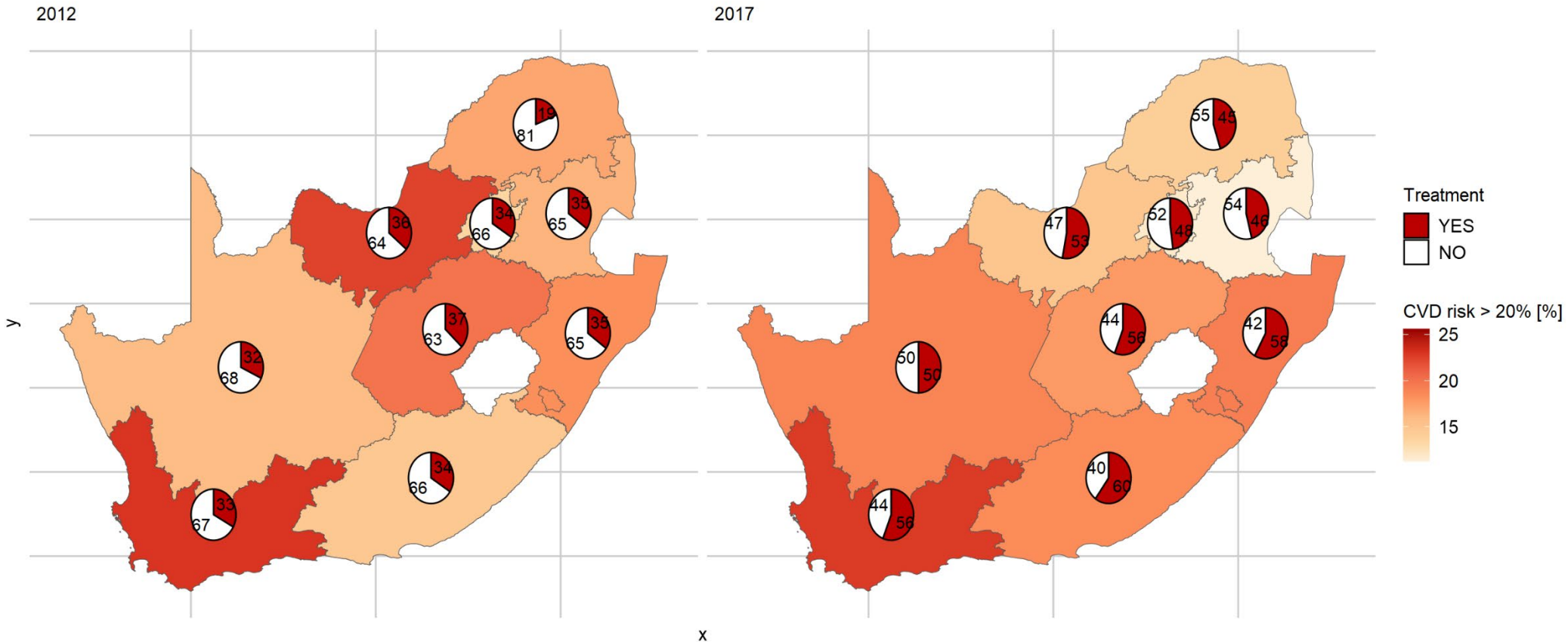


Urban dwellers



Younger

# Prevalence of treatment among high-risk individuals. South Africa, 40-74 years, by province



**Treat the client with CVD risk**

- If known CVD<sup>1</sup>: give **simvastatin**<sup>4</sup> 40mg daily. If on amlodipine, give instead **simvastatin**<sup>4</sup> 10mg daily. Avoid if pregnant or liver disease.
- If no known CVD: if CVD risk > 20%, give **simvastatin**<sup>4</sup> 10mg daily. Avoid if pregnant or liver disease.

**Review the patient with CVD risk ≤ 20% yearly. Review the patient with CVD risk >20% 6 monthly. If trying to lose weight, review 3 monthly.**

# Thank you

## Acknowledgements

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