



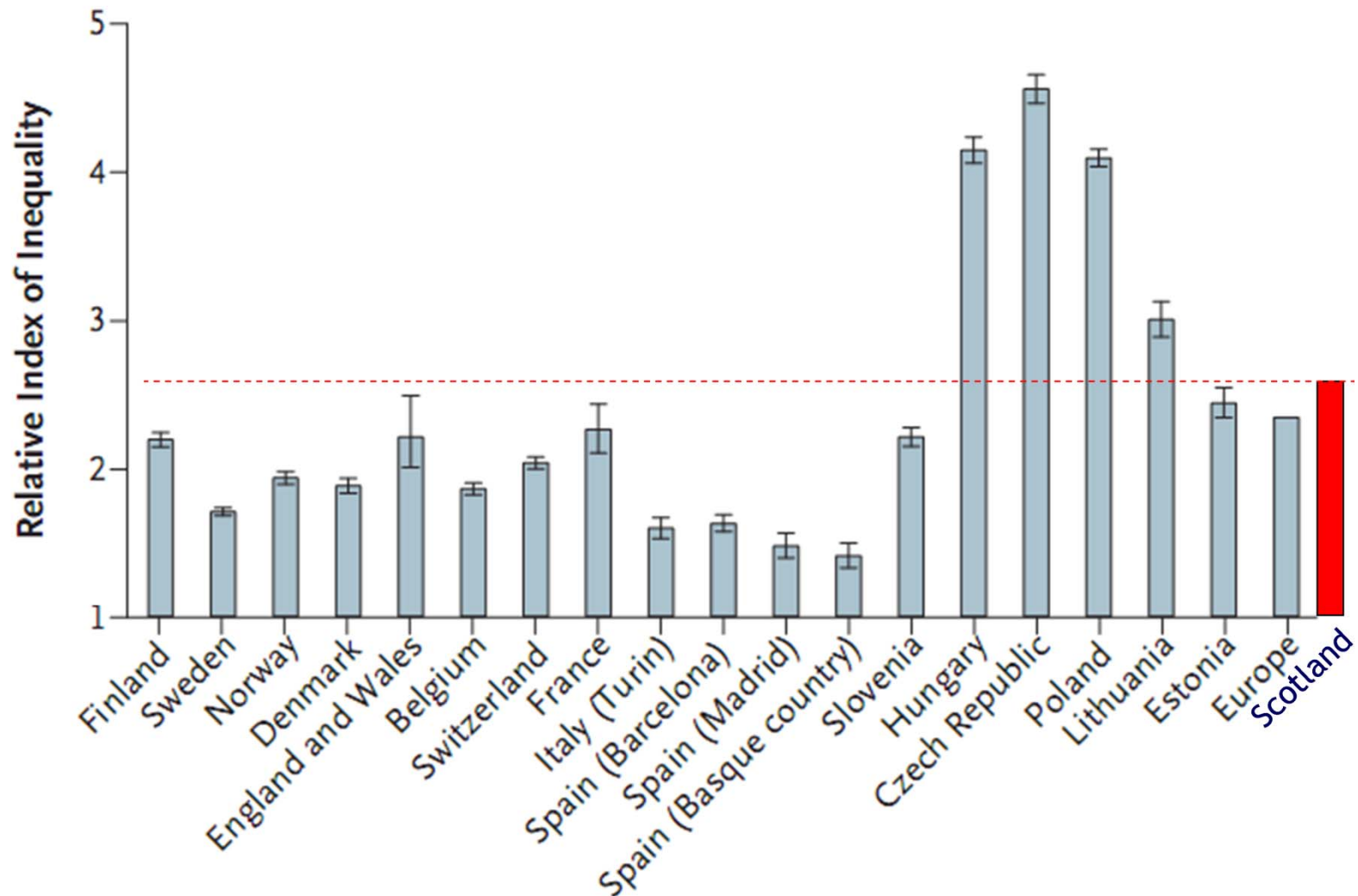
What would be required to reduce health inequalities? Testing the fundamental causes theory in Scotland

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Gerry McCartney

“Of all inequalities, injustice in health is the most shocking and inhumane”

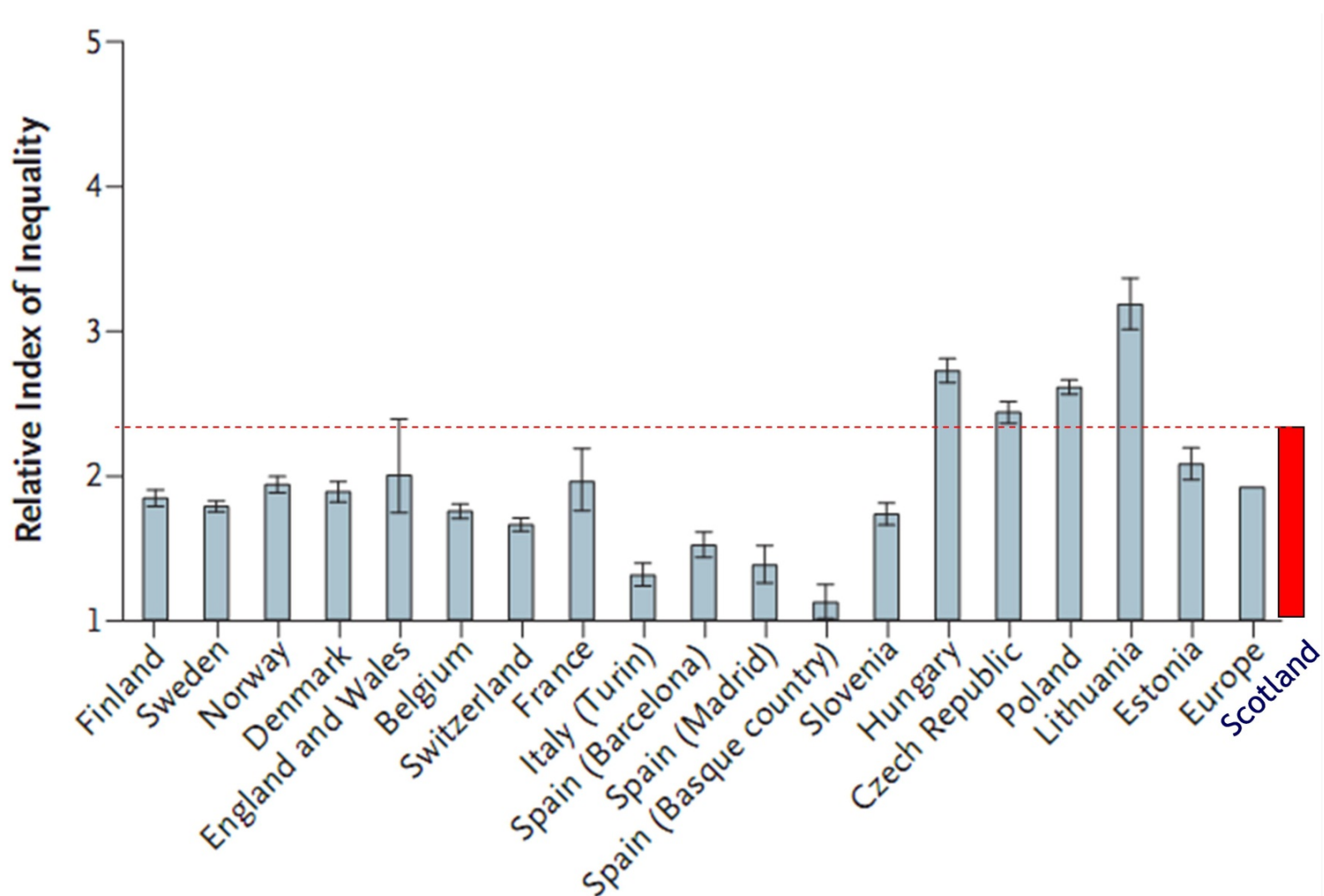
Martin Luther King

Inequalities in male mortality (early 2000s, all ages)



Sources: Mackenbach (2008) and Popham (2010)

Inequalities in female mortality (early 2000s, all ages)



Sources: Mackenbach (2008) and Popham (2010)

Causes of health inequalities

- Health inequalities are caused by socioeconomic differences
- Mediated by direct material circumstances, health behaviours, culture etc.
- Phelan & Link argue that they can not be eliminated unless the 'fundamental causes' are tackled (inequality in income, power & wealth)
- Theory suggests that reduced exposure to mediators (e.g. tobacco) will not eliminate inequalities as other mechanisms will intervene

Aims

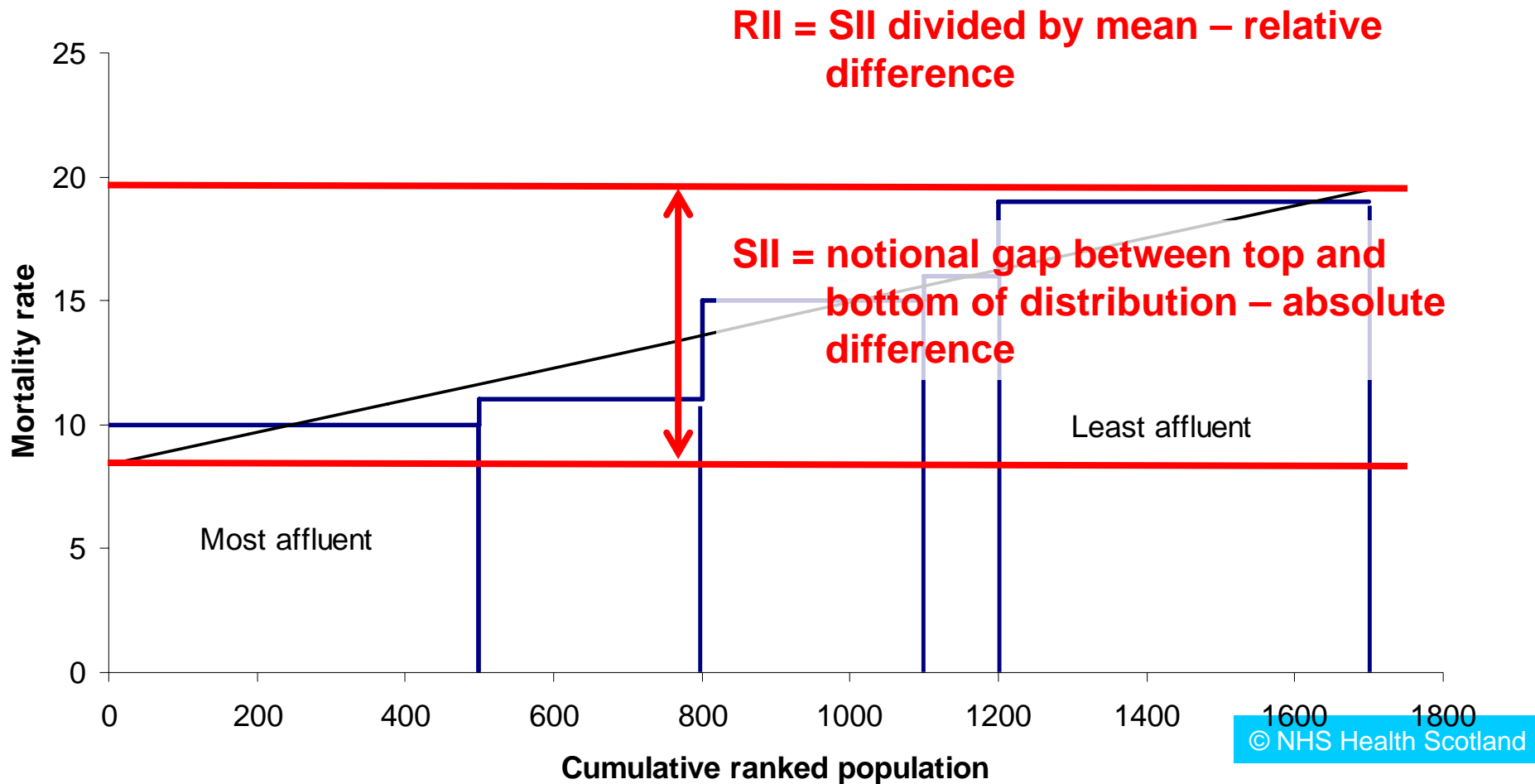
To test the Fundamental Causes theory by:

1. Examining whether health inequalities change when income inequality changes (using existing data)
2. Testing whether new cause specific health inequalities arise when others decline (substitution)
3. Testing whether the most preventable conditions exhibit the largest inequalities

Methods

- Review long-term trends in mortality and income for GB inequality from literature
- Age standardised mortality rates (ASMR)
 - Men and women, all ages, Carstairs deciles
 - Men 20-64 years, social class
- Slope (SII) and Relative (RII) Indices of Inequality
- ASMR aggregate avoidable and non-avoidable
- SII and RII for 4 preventability categories as per ONS categorisation

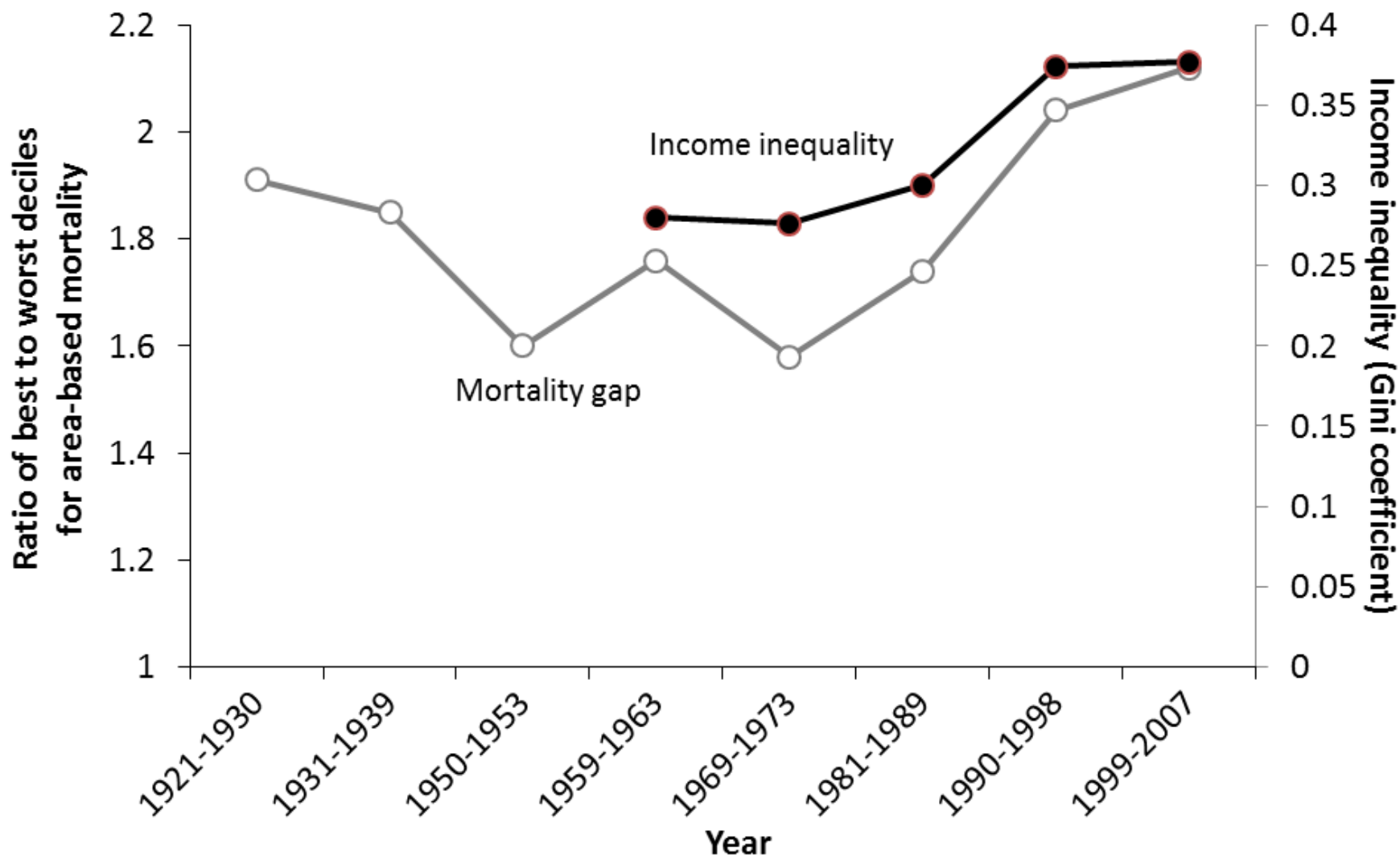
Slope Index of Inequality (SII) and Relative Index of Inequality (RII)



Results 1: Do health inequalities vary with income inequalities?

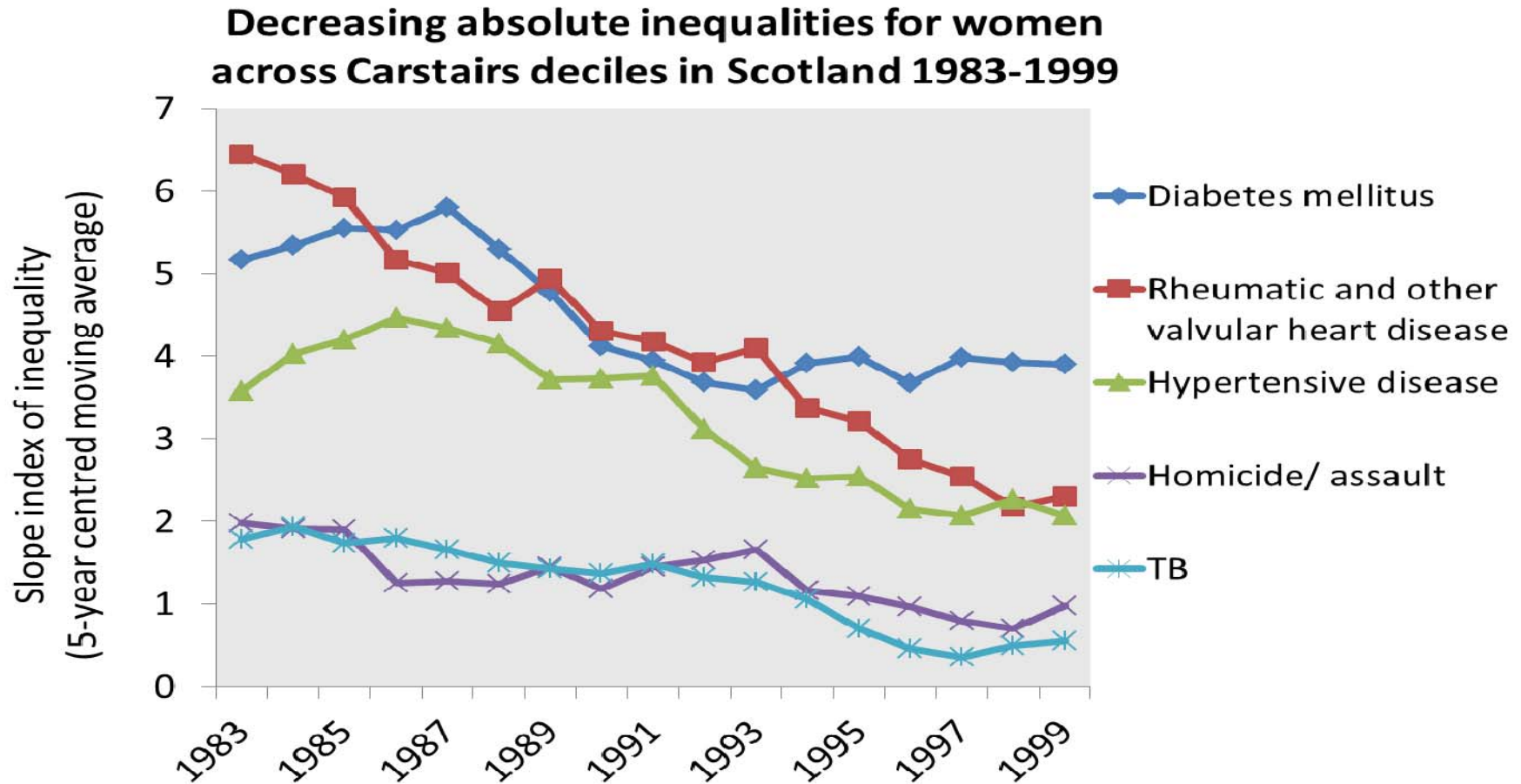
Mortality gap between local authorities and income inequalities in GB 1921-2007

(Sources: Thomas & Dorling 2010, IFS 2012)



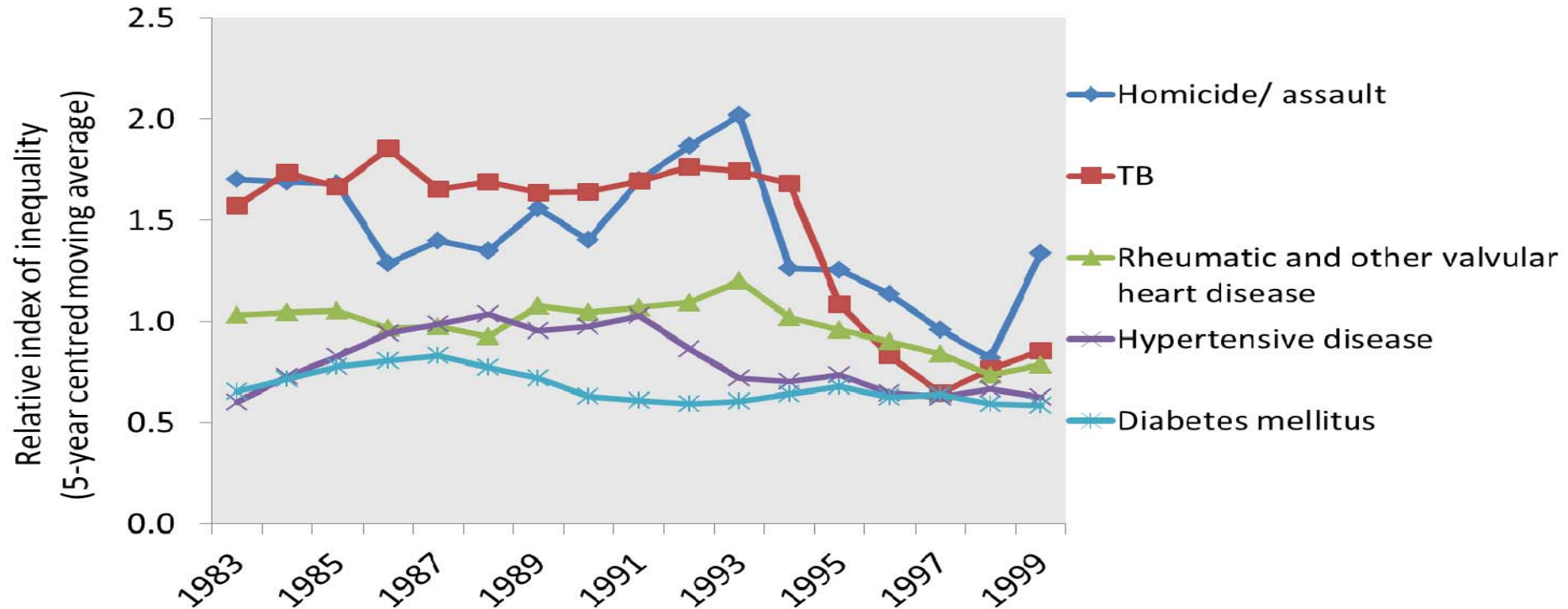
Results 2: Do new causes of health inequalities appear as others diminish?

Declining Absolute Inequalities Women



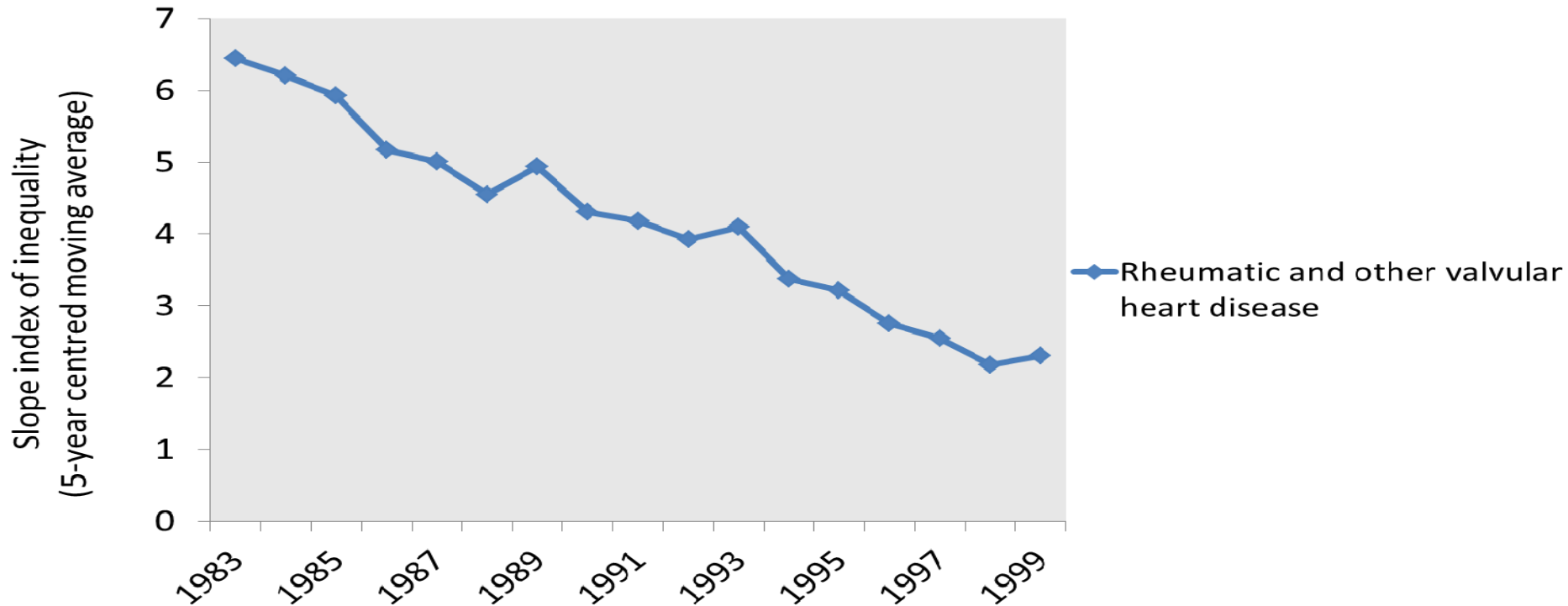
Declining Relative Inequalities Women

Decreasing relative inequalities for women
across Carstairs deciles in Scotland 1983-1999

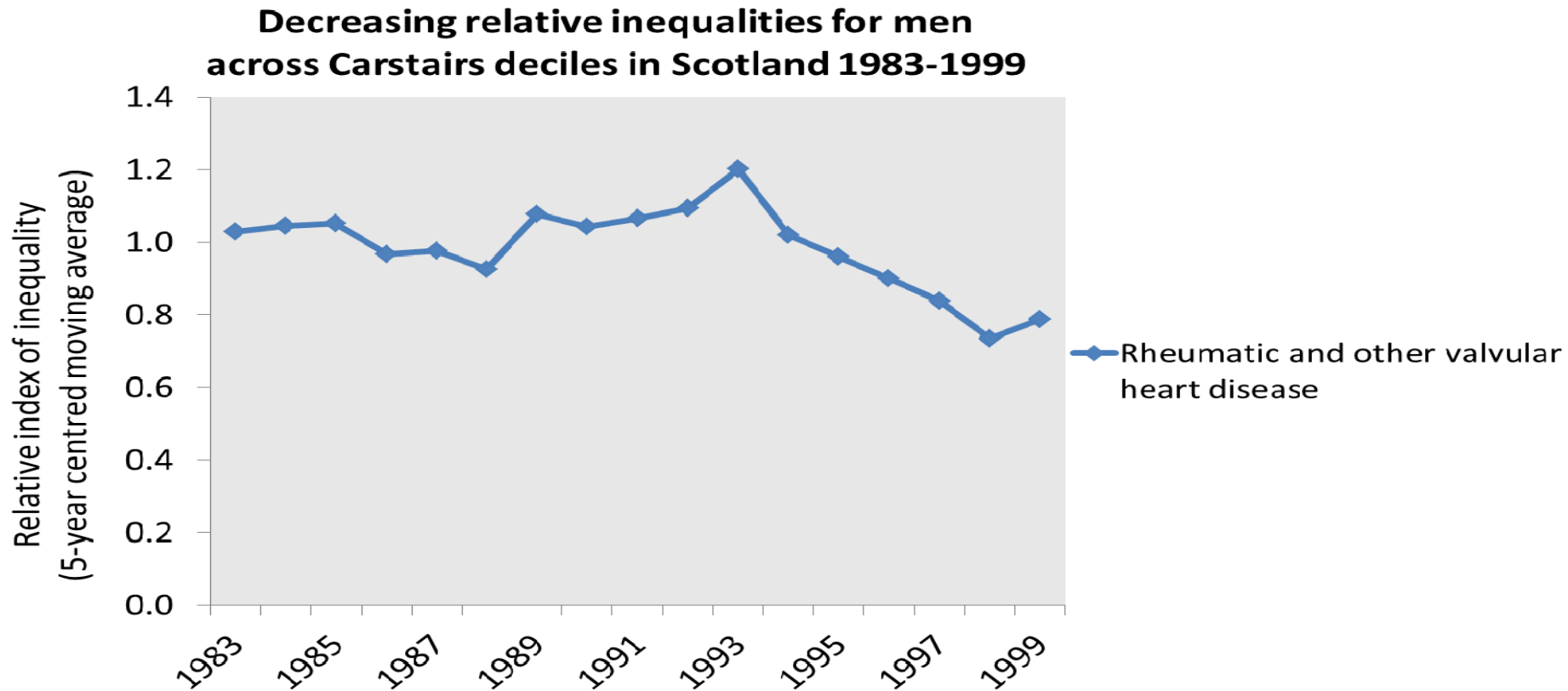


Declining Absolute Inequalities Men

Decreasing absolute inequalities for men
across Carstairs deciles in Scotland 1983-1999

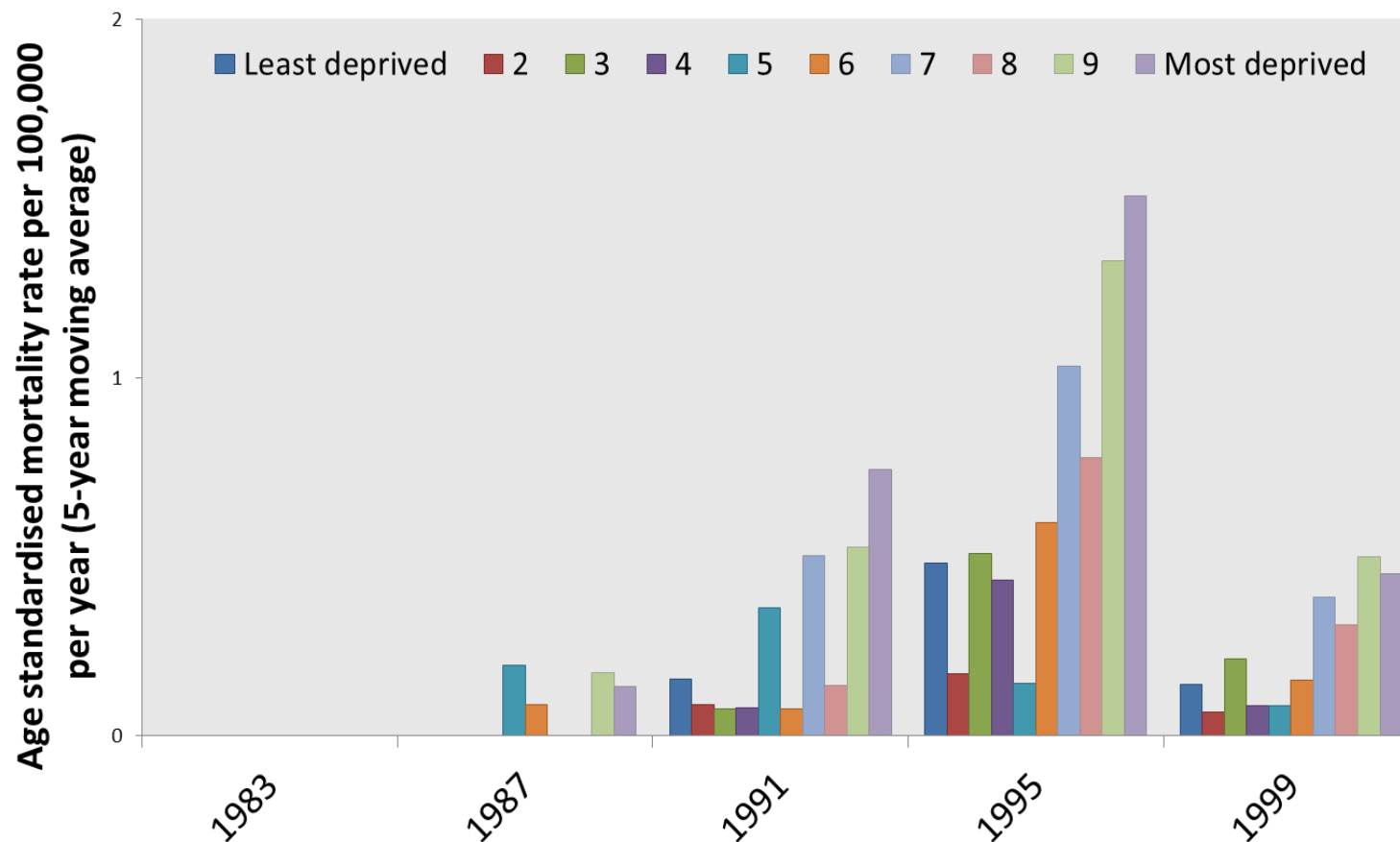


Declining Relative Inequalities Men



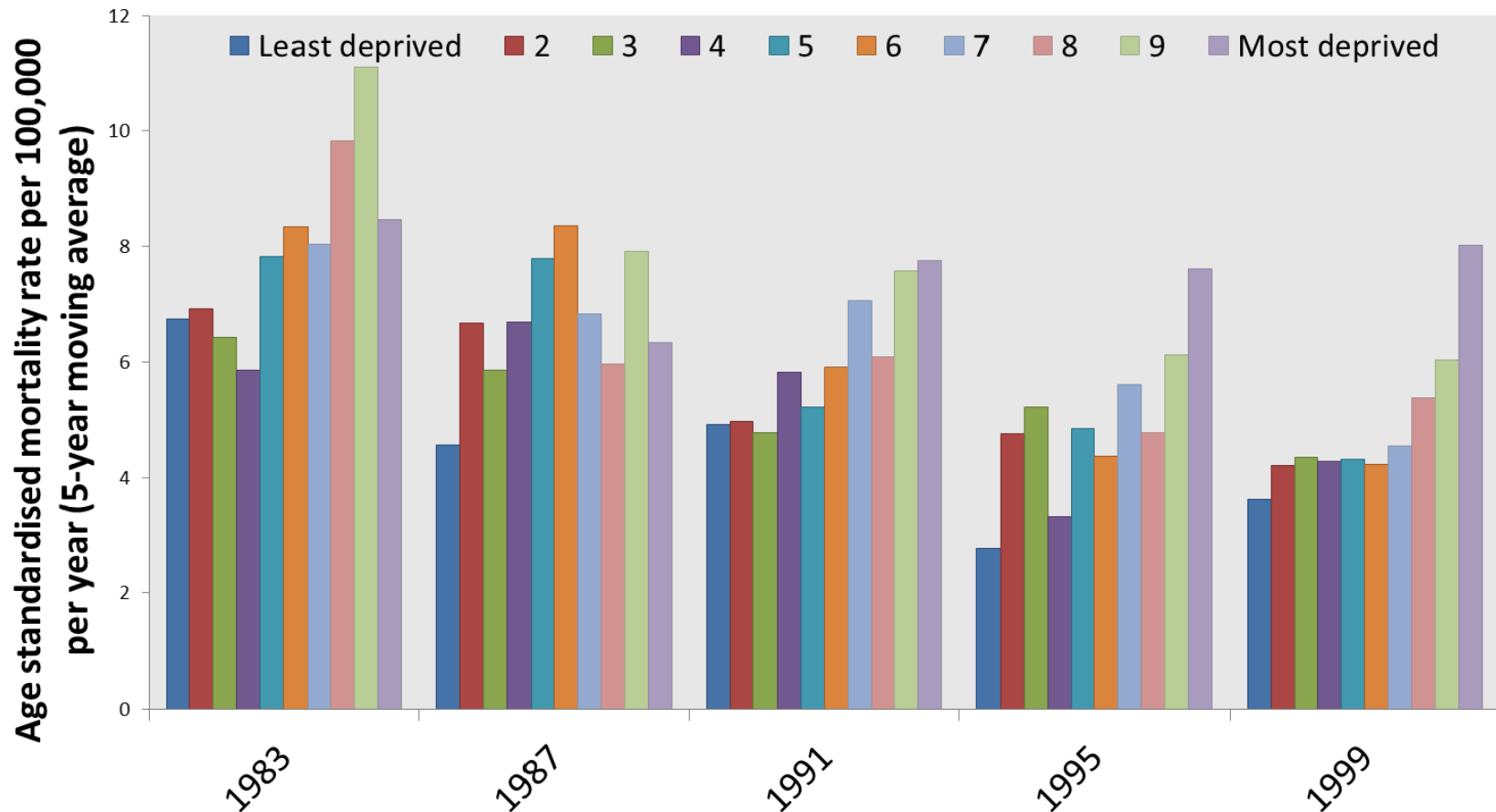
Emergence of inequalities 1:

HIV/AIDS: Female age standardised mortality within Carstairs Deciles



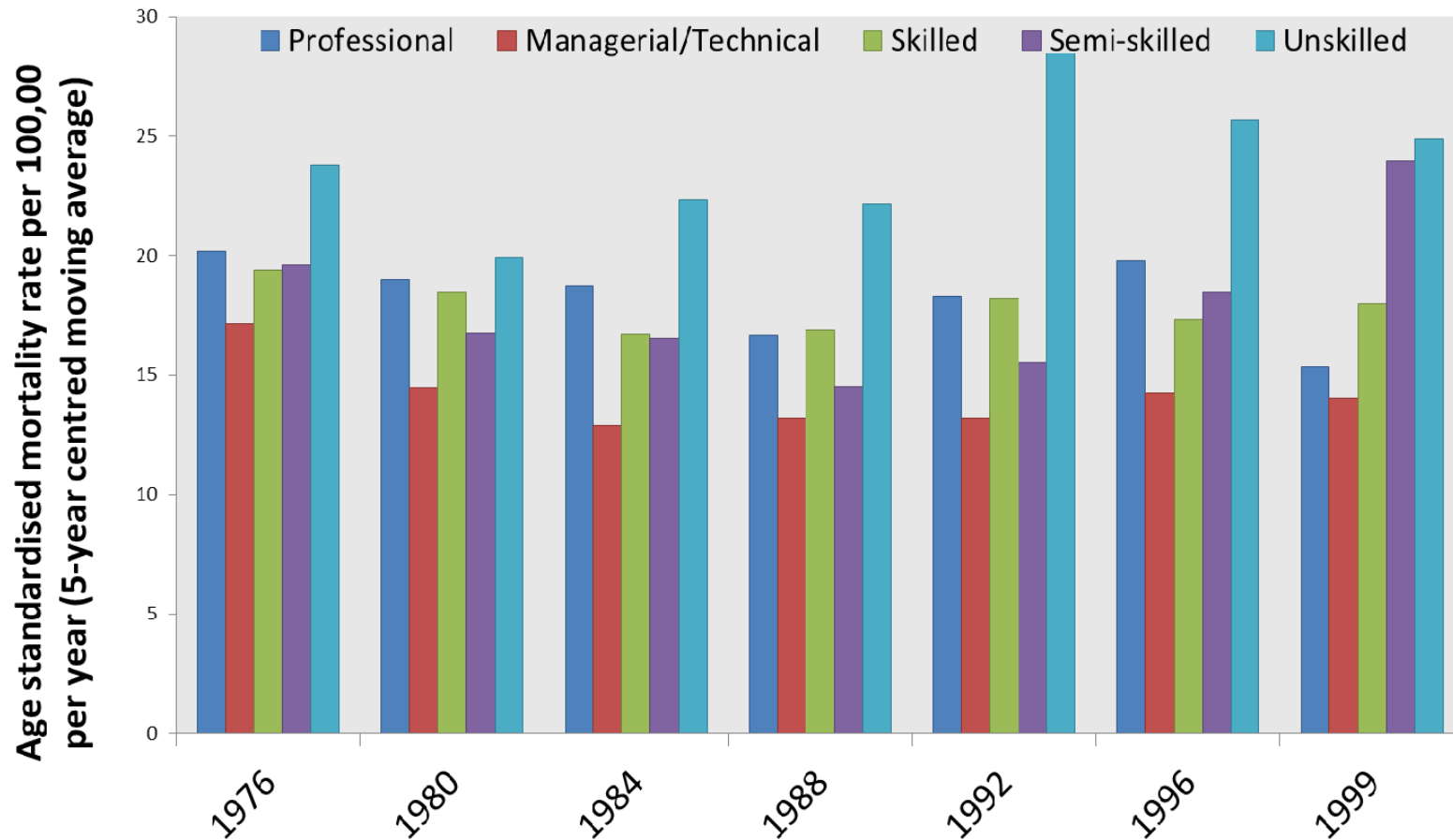
Emergence of Inequalities 2:

Complications of the perinatal period: mortality within Carstairs Deciles



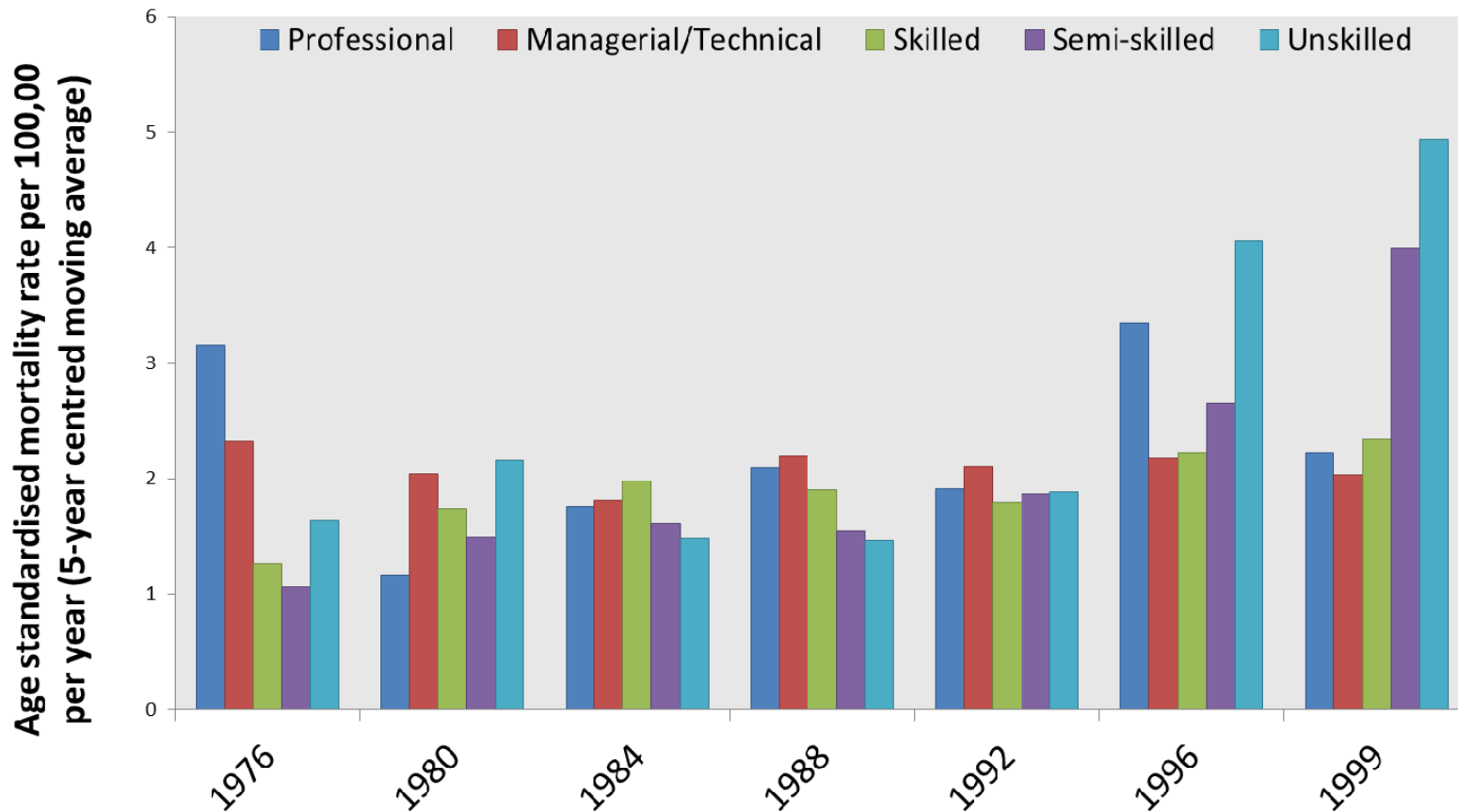
Emergence of Inequalities 3:

Colorectal Cancer: mortality within social class for men aged 20-64 years



Emergence of Inequalities 4:

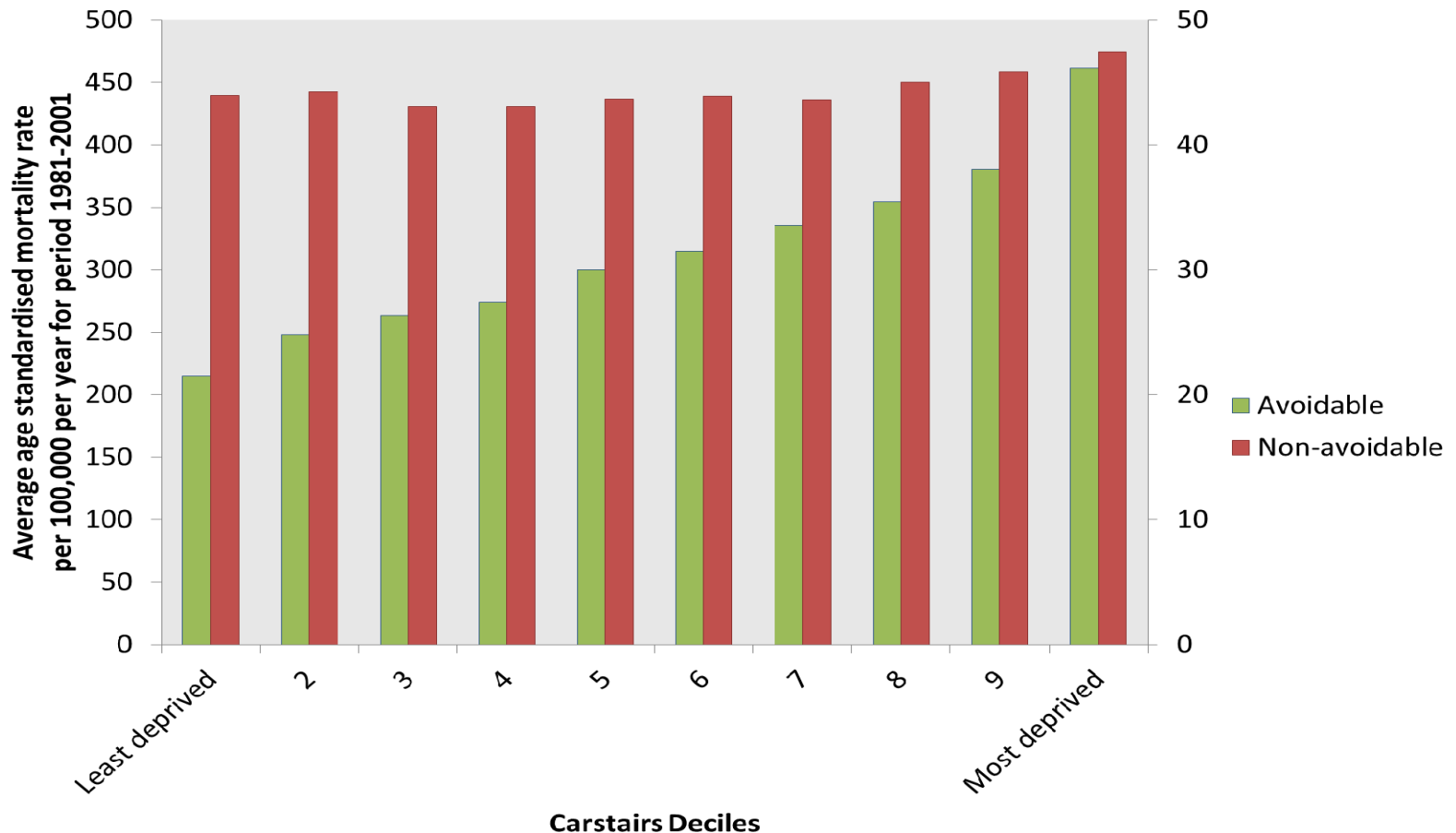
Malignant melanoma: mortality within social class for men aged 20-64 years



Results 3: Do the most preventable causes display the greatest health inequalities?

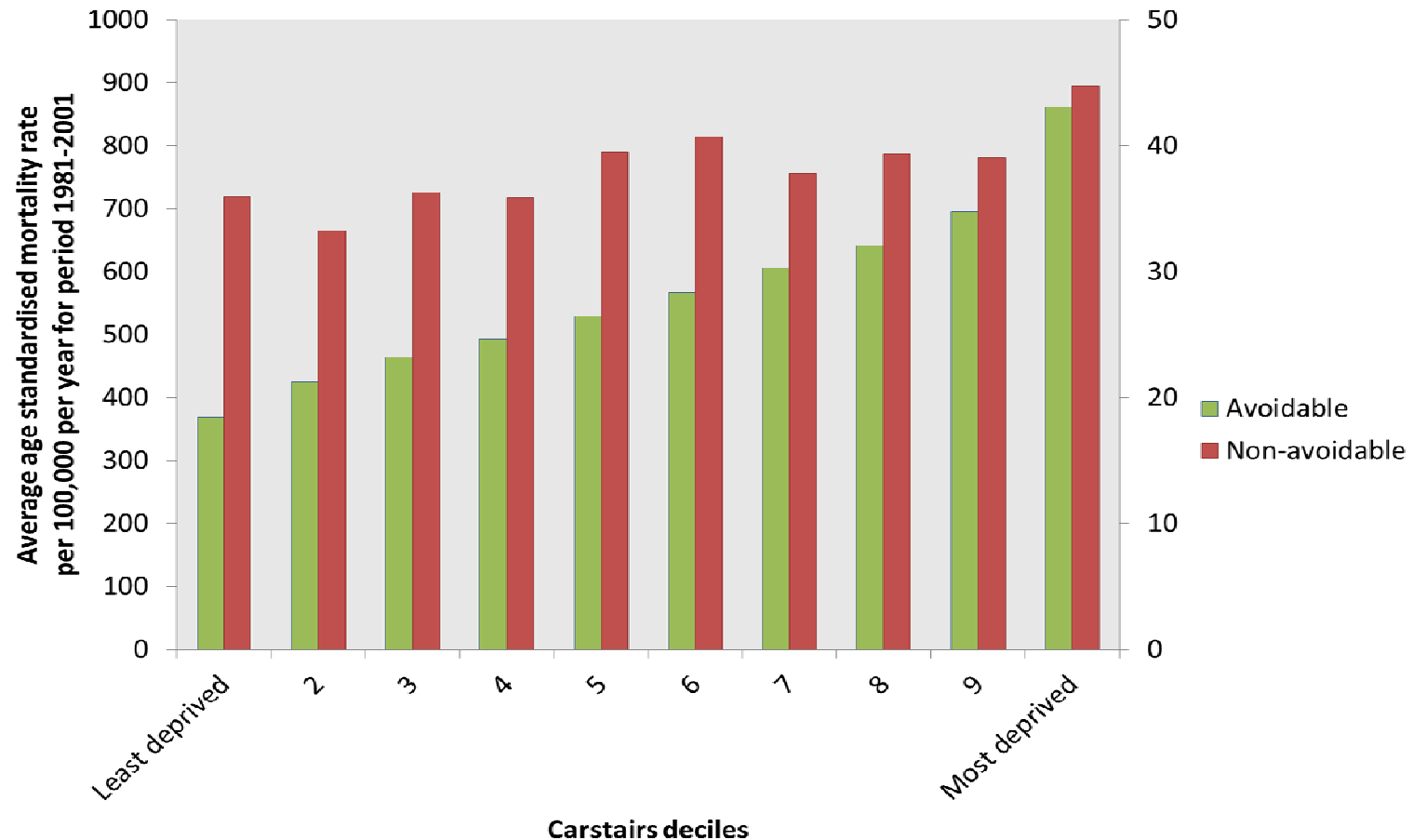
Avoidability 1:

Mortality by deprivation for avoidable & non-avoidable causes of death for women



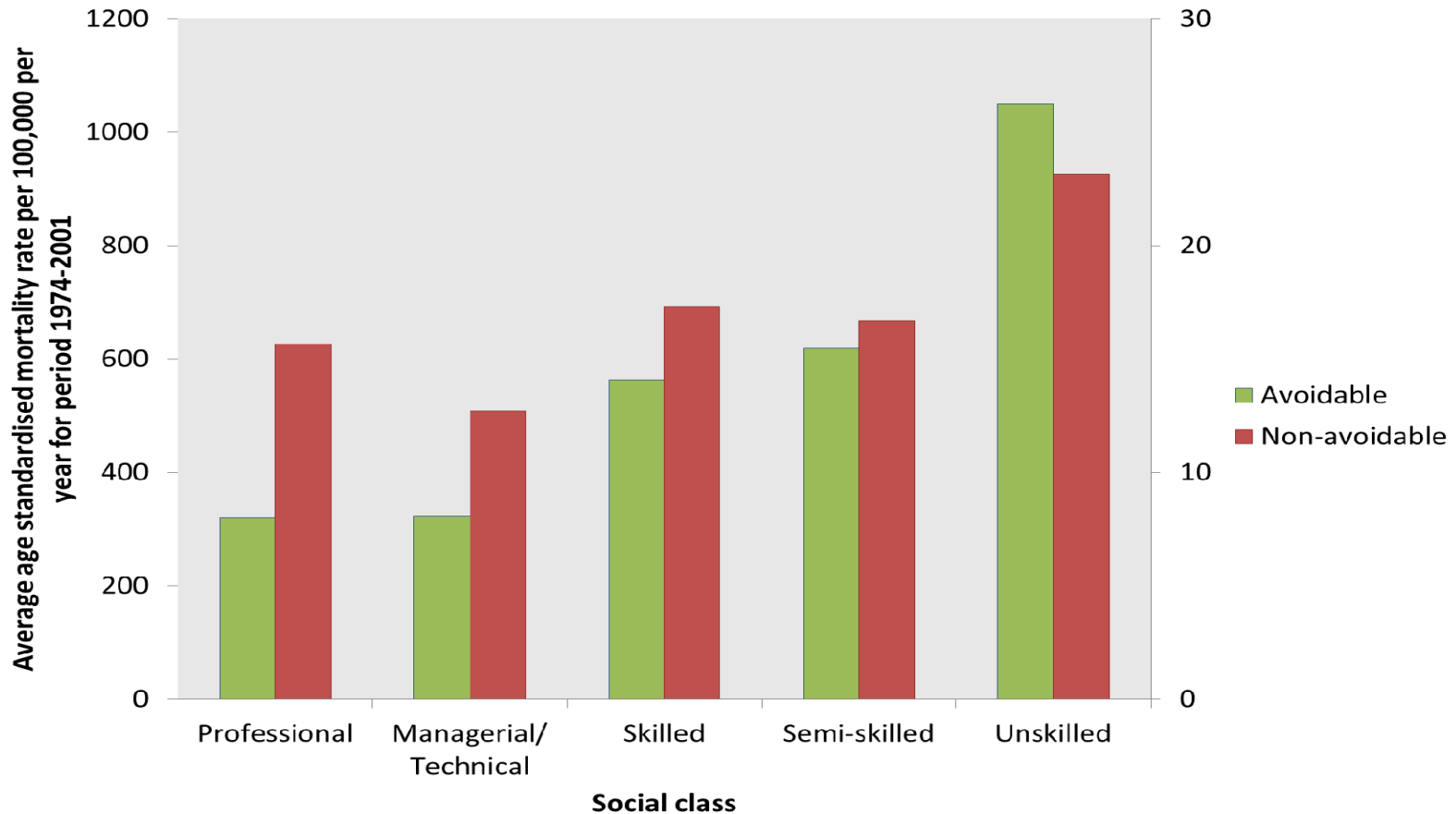
Avoidability 2:

Mortality by deprivation for avoidable and non-avoidable causes of death for men

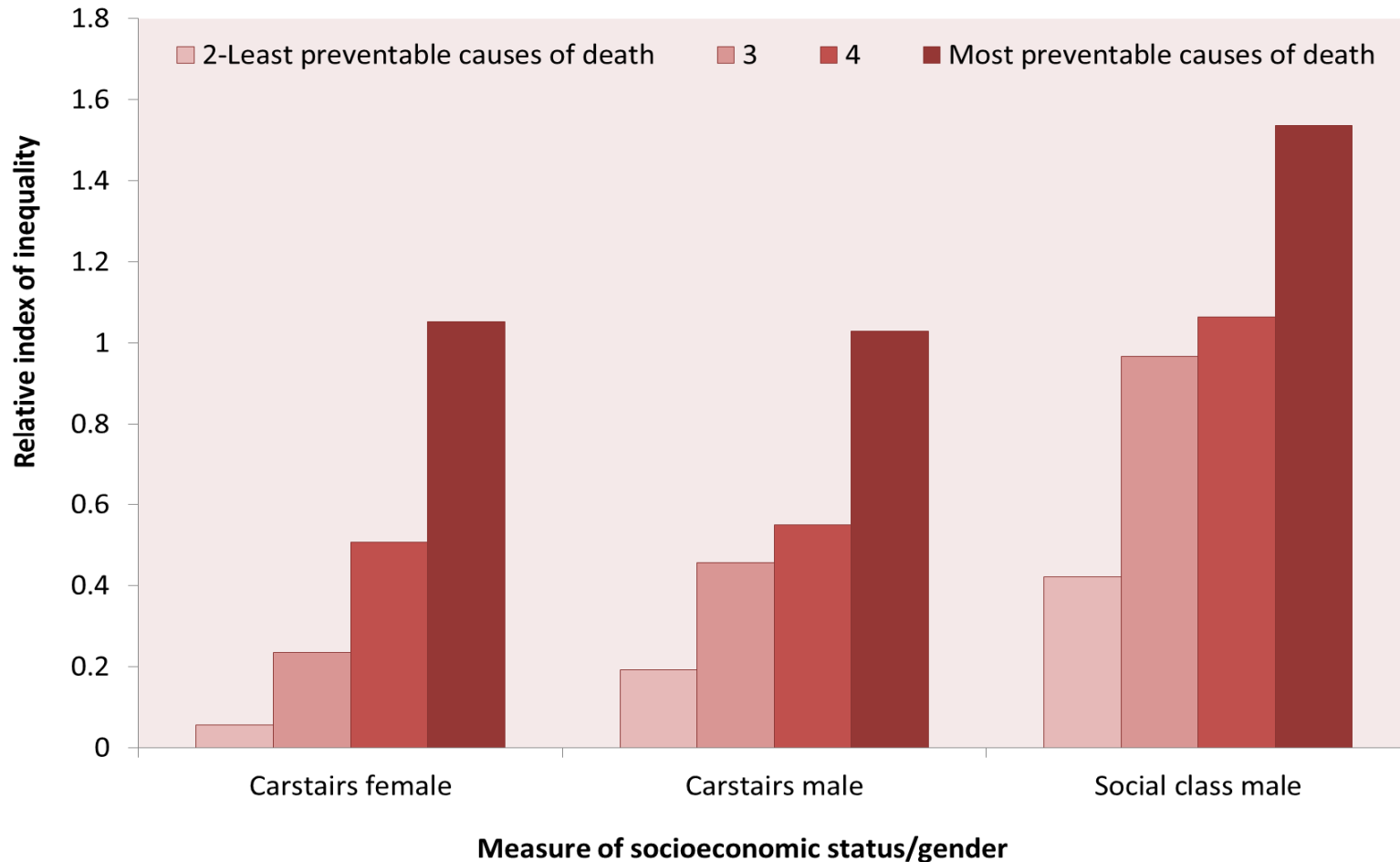


Avoidability 3:

Mortality by social class avoidable and non-avoidable causes of death for men aged 20-64 years



Relative inequalities in mortality by preventability of cause of death



Discussion

- Evidence in support of fundamental causes theory
 - Mortality inequalities rise & fall with income inequalities
 - Reducing mortality inequalities for some causes is counterbalanced by rises in others
 - Preventable causes have greater inequalities
- **Strengths** - Comprehensive data; predetermined exposure and outcome measures; use of both individual and area based measures.
- **Weaknesses** - Limits of current knowledge; small number of non-avoidable causes; social class numerator-denominator mismatch, descriptive analysis only

Conclusions

- Focusing on controlling single risk/disease will not eradicate all-cause inequalities.
- Need to reduce inequalities in income, power and wealth or efforts to eliminate health inequalities are likely to fail.

Acknowledgements and References

Thanks to:

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Key references:

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- Phelan JC, Link BG. Controlling disease and creating disparities: a fundamental cause perspective. *J Gerontol B Psychol Sci Soc Sci* 2005; 60(Spec No 2):27-33
- Mackenbach JP. What would happen to health inequalities if smoking were eliminated? *BMJ* 2011; 342:d3460.

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