

# **Public Health Priorities and COVID-19: a very quick introduction**

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# Overview

1. How the COVID-19 pandemic is causing three concurrent PH crises (health protection, health improvement, healthcare public health).
2. What we know about the scale of harms from each and the inequalities in each.
3. How the next steps needs to balance these harms to minimise population health damage and inequalities.



**Three public health crises...**

# Crisis 1: the direct impacts of COVID-19



- Ferguson/Imperial model
- Based on initial data from China
- Estimated the impact of different approaches to physical distancing on mortality and ICU demand at different points in the pandemic
- Crude deaths estimated at 20k (full mitigated) to 510k (no controls)

16 March 2020

Imperial College COVID-19 Response Team

### **Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand**

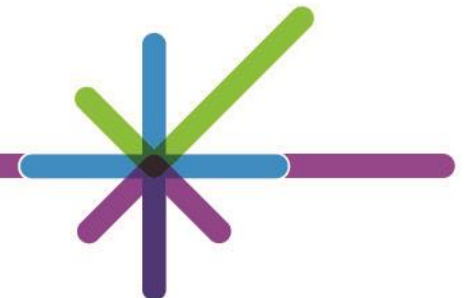
Neil M Ferguson, Daniel Laydon, Gemma Nedjati-Gilani, Natsuko Imai, Kylie Ainslie, Marc Baguelin, Sangeeta Bhatia, Adhiratha Boonyasiri, Zulma Cucunubá, Gina Cuomo-Dannenburg, Amy Dighe, Ilaria Dorigatti, Han Fu, Katy Gaythorpe, Will Green, Arran Hamlet, Wes Hinsley, Lucy C Okell, Sabine van Elsland, Hayley Thompson, Robert Verity, Erik Volz, Haowei Wang, Yuanrong Wang, Patrick GT Walker, Peter Winskill, Charles Whittaker, Christl A Donnelly, Steven Riley, Azra C Ghani.

On behalf of the Imperial College COVID-19 Response Team

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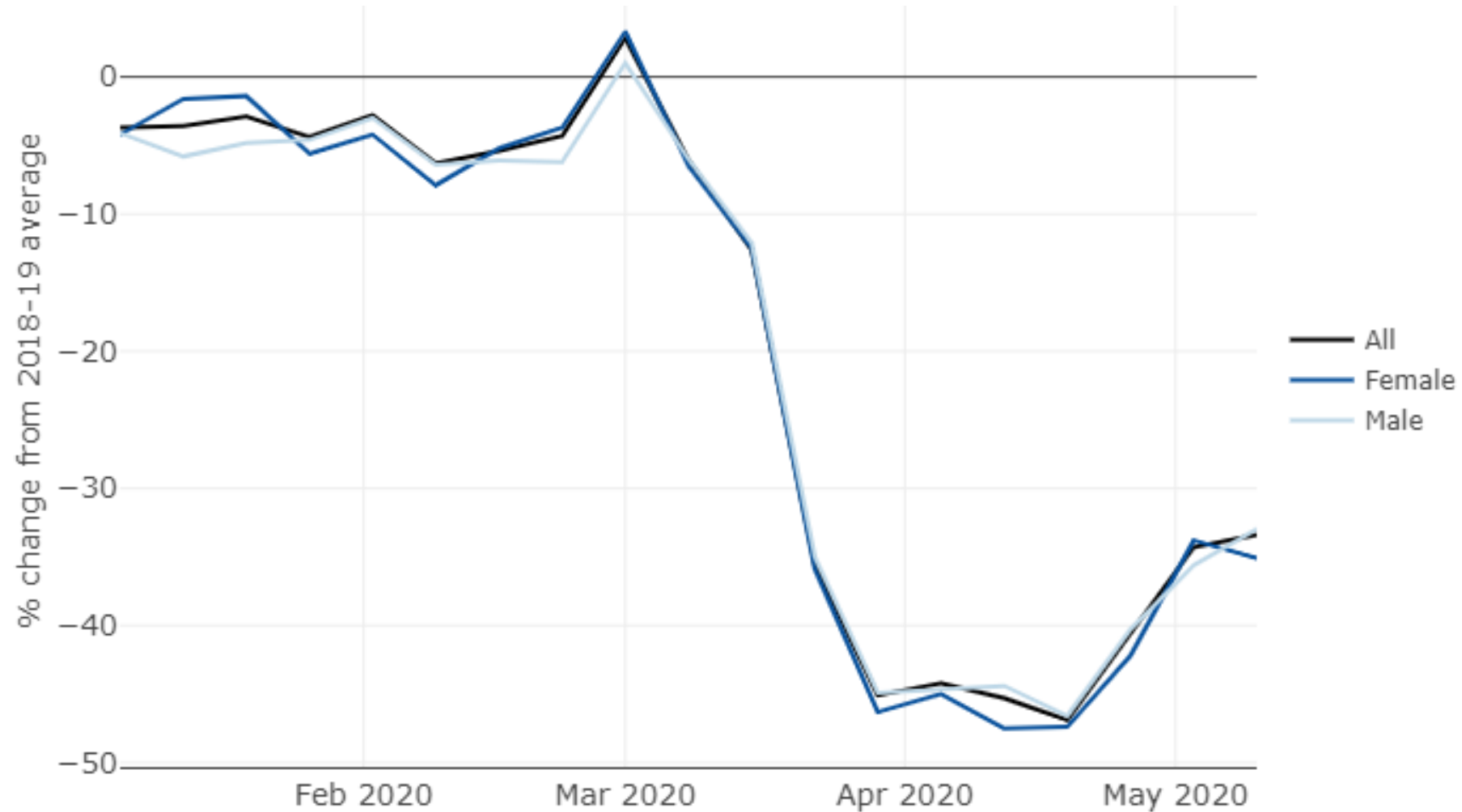
#### **Summary**



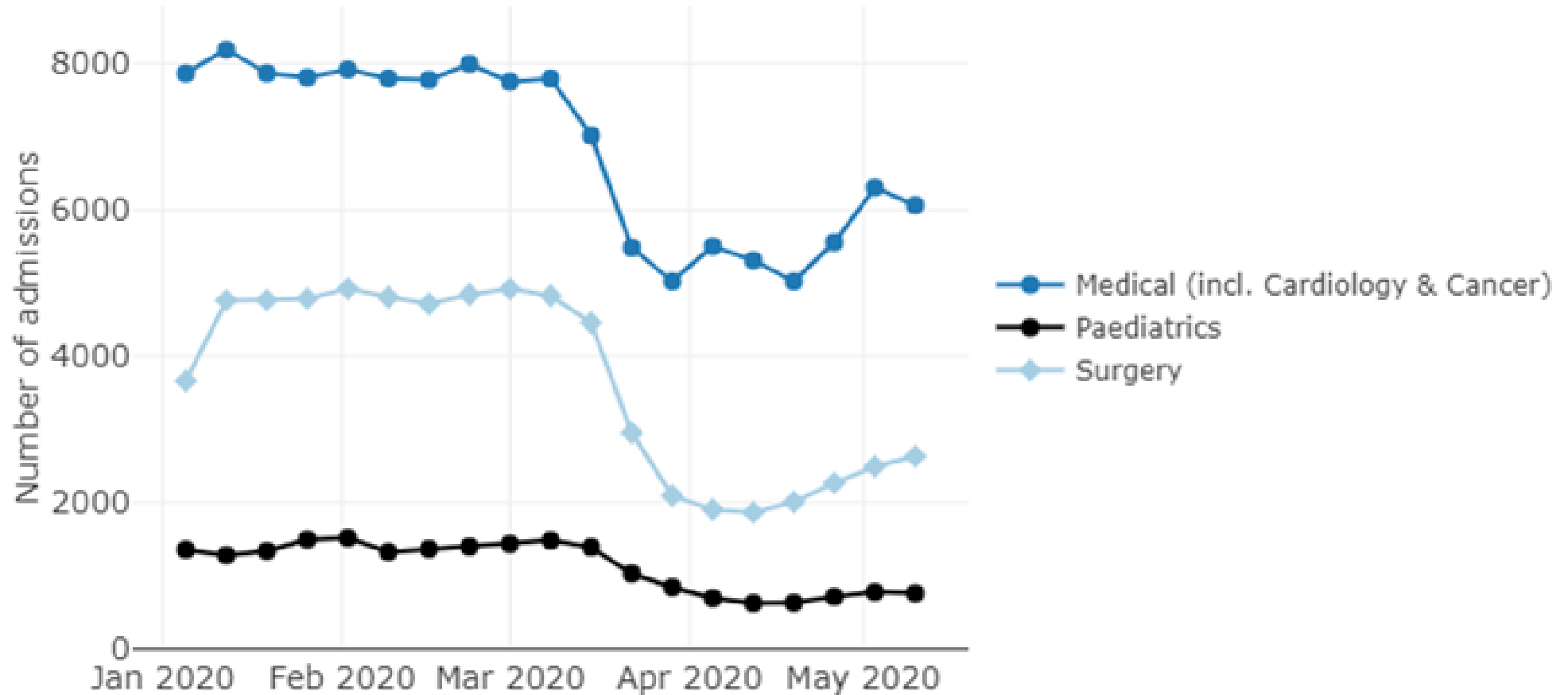
## **Crisis 2: the indirect impacts of COVID-19 on health/social care services**



# Early findings: percentage change in hospital admissions by sex



# Early findings: change in hospital admissions by broad hospital specialty



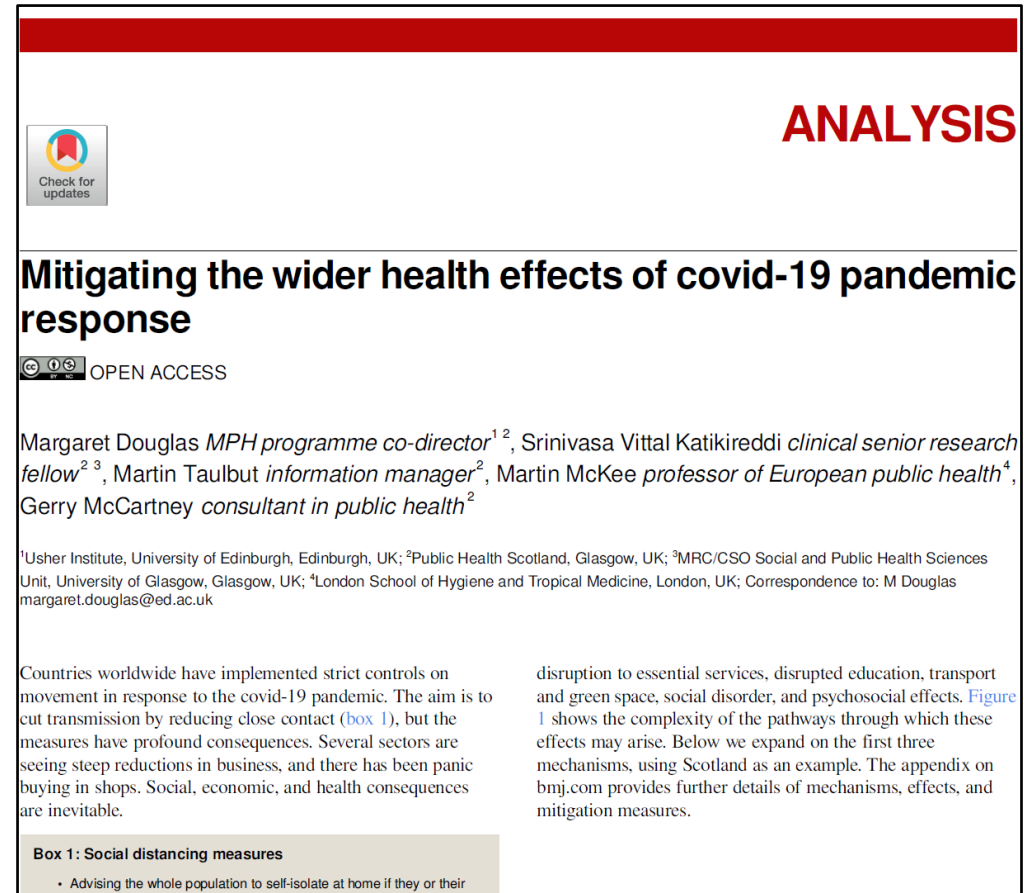


# **Crisis 3: the indirect impacts of COVID-19 on the social determinants of health**



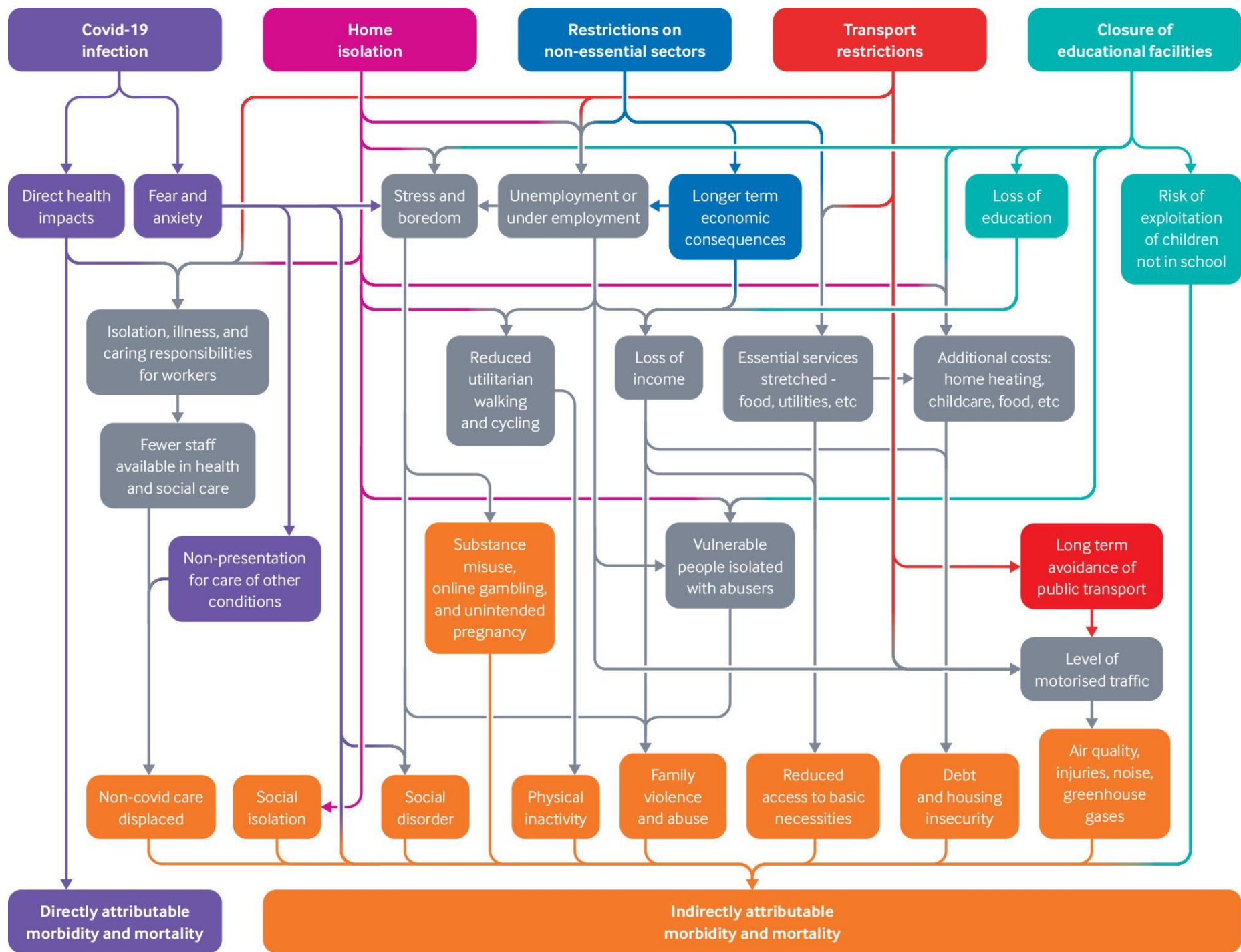
# Unintended consequences of physical distancing

- The 'lockdown' is likely to have widespread, unintended, impacts across the social determinants of health
- We undertook a rapid Health Impact Assessment (HIA) to identify the likely pathways, impacts and mitigation required



Source: Douglas et al,

<https://www.bmj.com/content/369/bmj.m1557>

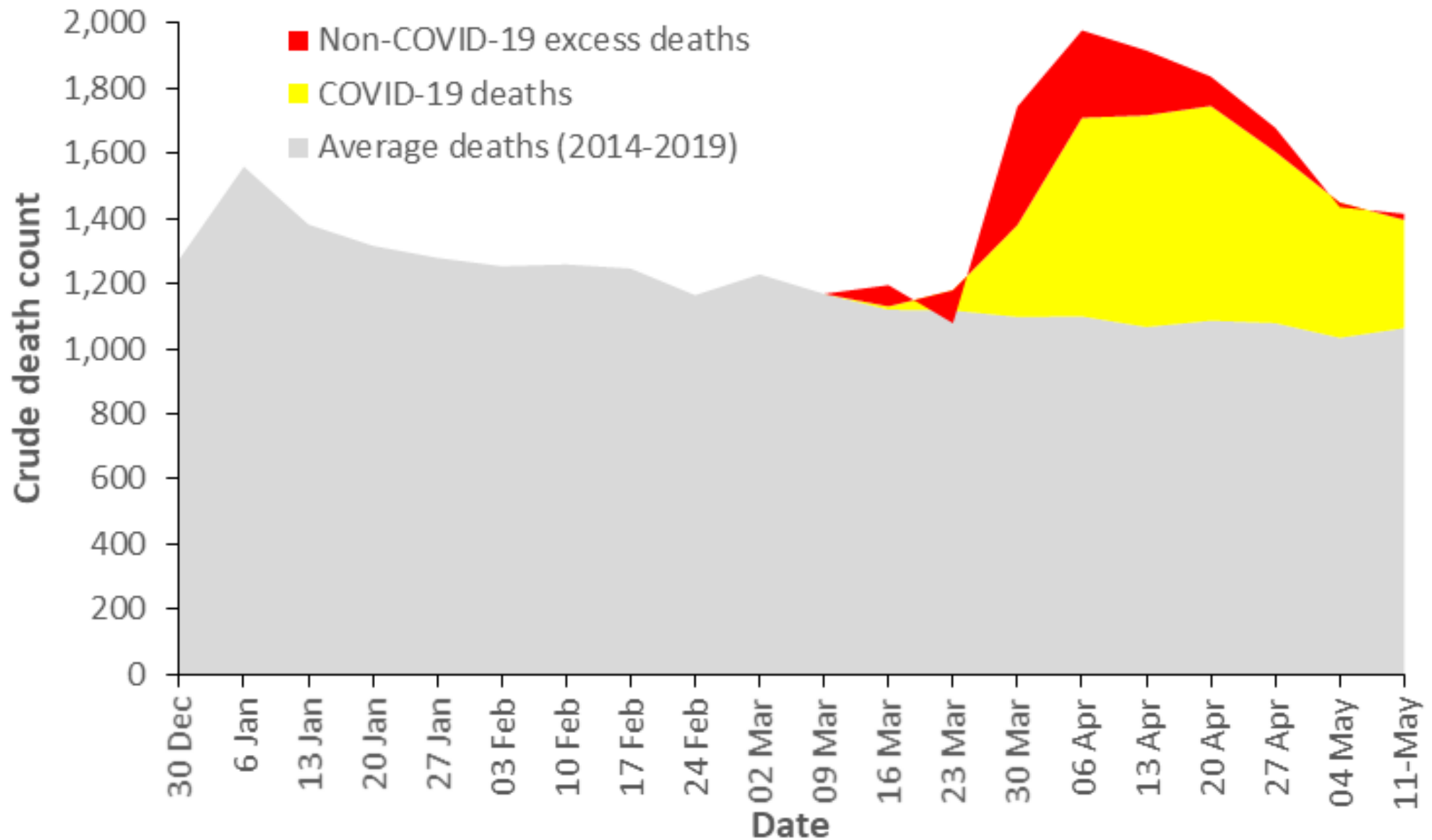


# Unintended consequences of physical distancing

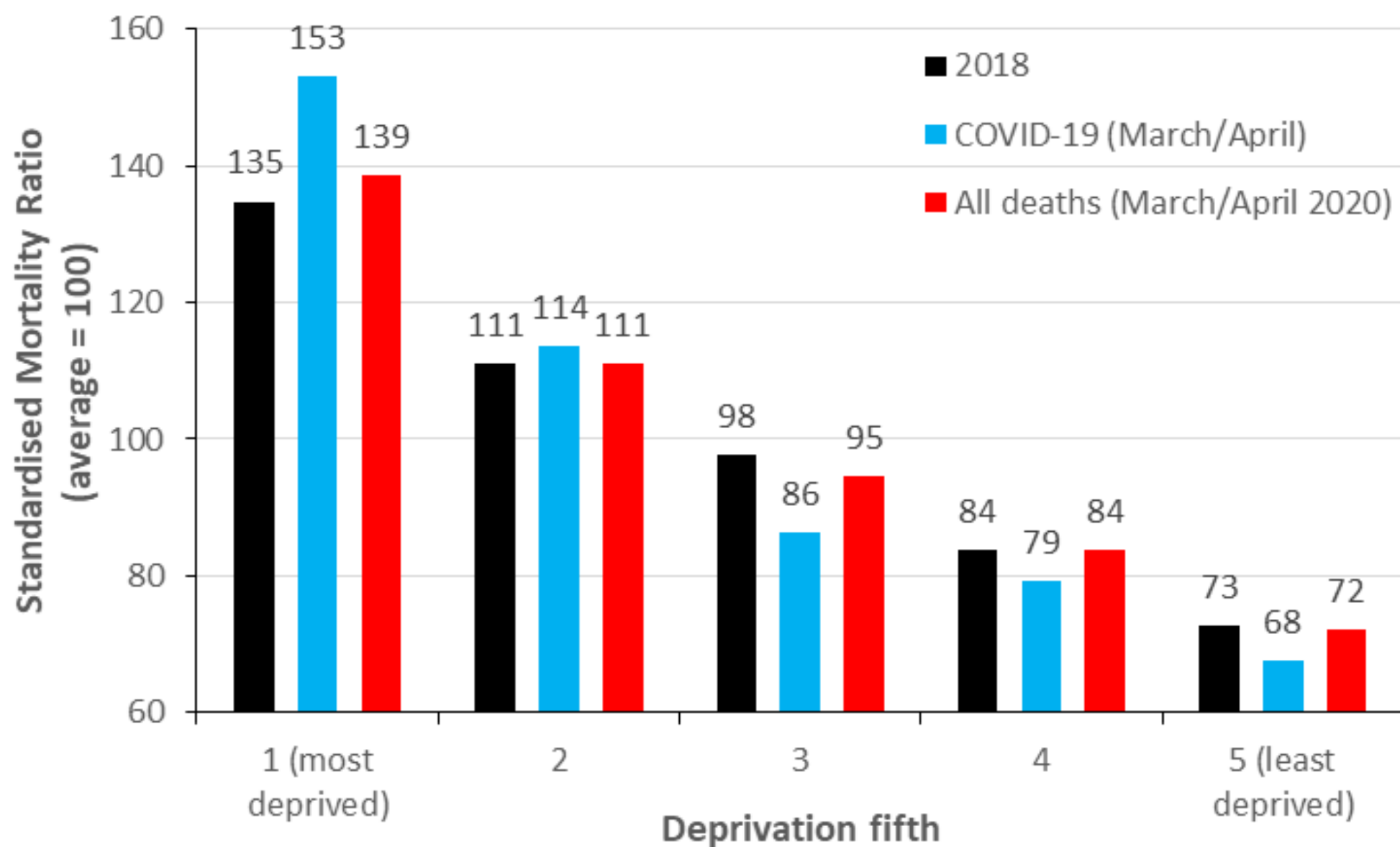
- Social distancing measures to control the spread of Covid-19 are likely to have large impacts on health and health inequalities.
- These include impacts arising through economic changes, social isolation, family relationships, health-related behaviours, disruption to essential services, disrupted education, transport and greenspace, social disorder and population psychosocial impacts.
- Across all countries, people on low incomes are most vulnerable to the adverse effects.
- Substantial mitigation measures are needed to reduce adverse health impacts.



**The scale and inequalities of the harms**



Source: NRS, <https://www.nrscotland.gov.uk/covid19stats>



# Scale of the COVID-19 mortality challenge

- Age-standardised mortality and life expectancy impact of the Ferguson model scenarios
- Compared to other social causes (suicide, drugs, inequality attributable)

## Scaling COVID-19 against inequalities: should the policy response consistently match the mortality challenge?

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Source: McCartney et al,

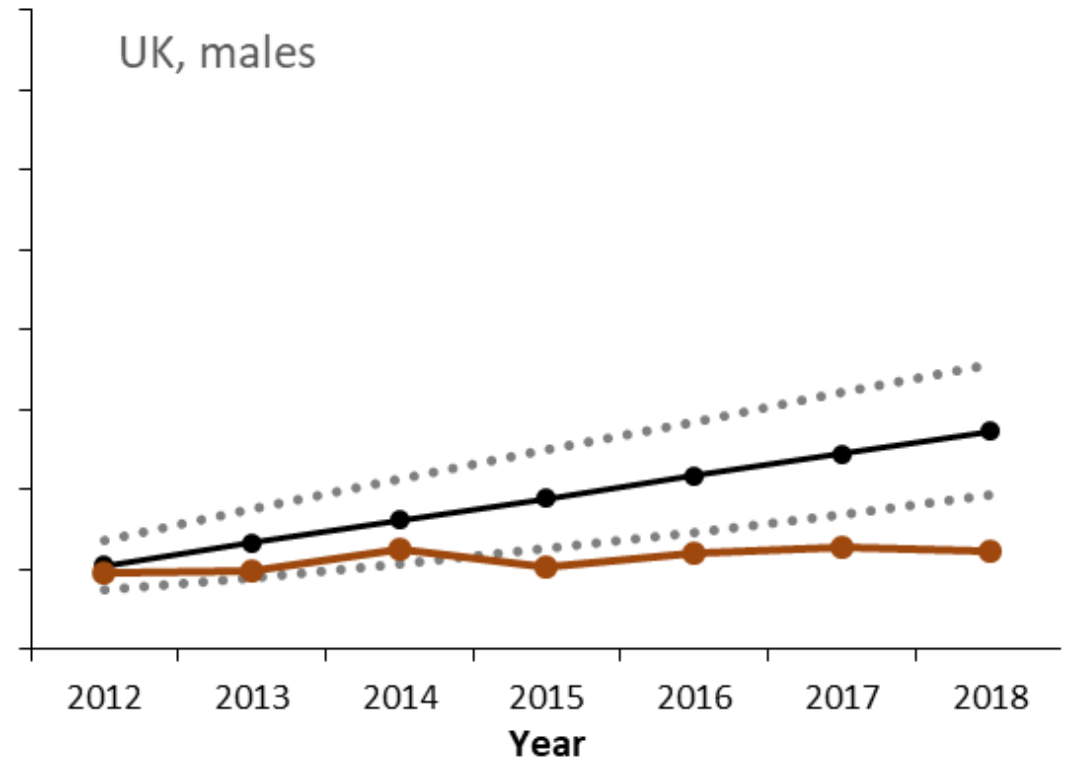
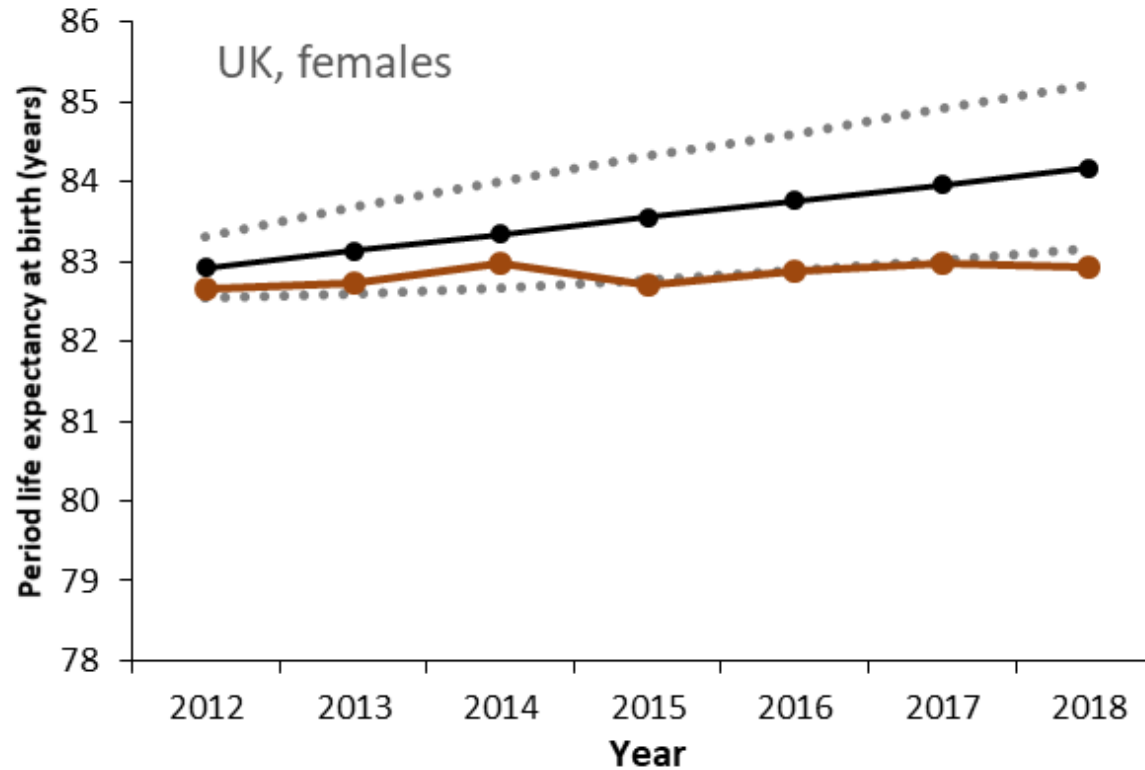
<https://www.medrxiv.org/content/10.1101/2020.05.04.20090761v1>



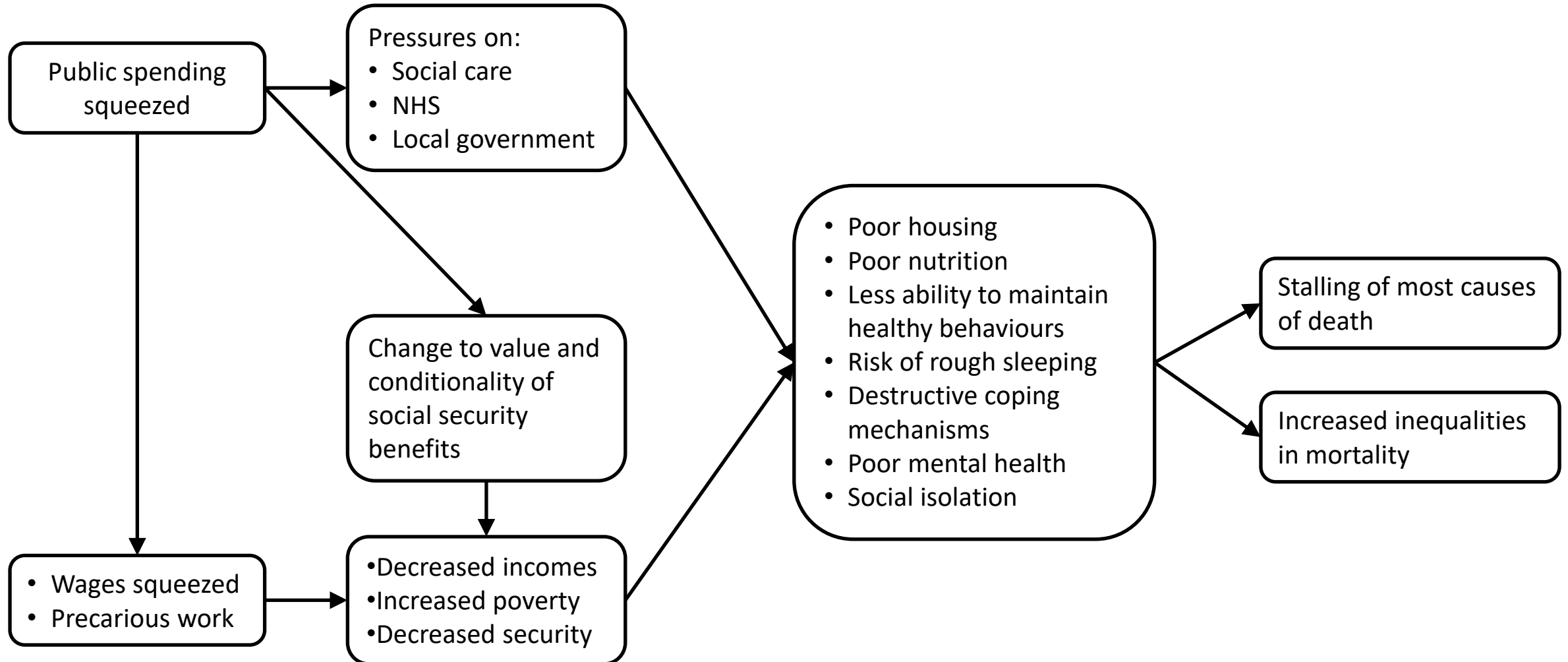
# Scale of the COVID-19 mortality challenge

- The impact of a fully mitigated pandemic is predicted to drop life expectancy by 0.33 years, in a single year
- The impact of a completely unmitigated pandemic is predicted to drop life expectancy by 5.96 years, in a single year
- But, over a decade, the impact of inequality on life expectancy is ***six times greater*** than even a ***completely unmitigated*** pandemic (based on the worse case scenario modelled by Ferguson/Imperial)
- So, COVID-19 is potentially a massive mortality shock, but nowhere near as big as the inequality 'long emergency'
- Crude deaths are not a good way to compare mortality shocks

# Actual versus projected life expectancy (based on the 1990-2011 baseline)



# Theory for the economic causes of the life expectancy trends



**What to do...**

# Implications

## Short-run

- Need to ensure health and social care services are accessible and used
- Mitigation of unintended socioeconomic consequences

## Long-run

- To improve population health and reduce health inequalities we need to address the inequalities in income, wealth and power
- We need to take this opportunity to build the economy back better: sustainable, equal, health



- Further information on the causes of the inequalities in health in Scotland and what works to reduce them see:

<http://www.healthscotland.scot/media/1053/1-healthinequalitiespolicyreview.pdf>

- Further information on the causes of stalled life expectancy trends:

<https://www.scotpho.org.uk/population-dynamics/recent-mortality-trends/>

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