



# Poverty and Health Inequalities

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*“Don’t Be Poor”:*

*Collaborative approaches to health behaviour change interventions*

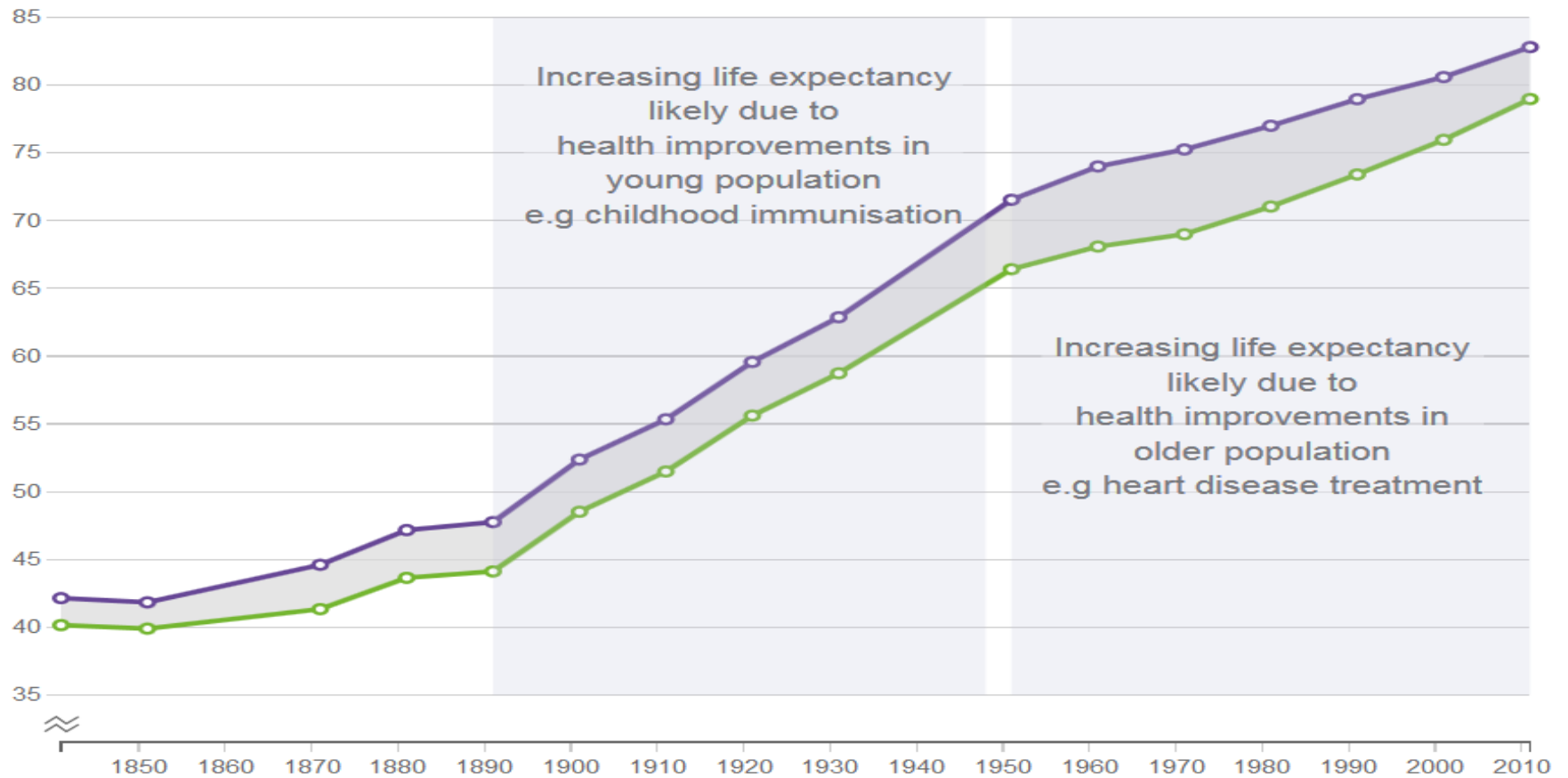
12.30 – 16:30, Wednesday 19 April 2023

Canynge Hall, BS8 2PS, Bristol

# Life expectancy at birth, England and Wales, 1841 to 2011

— male — female

life expectancy

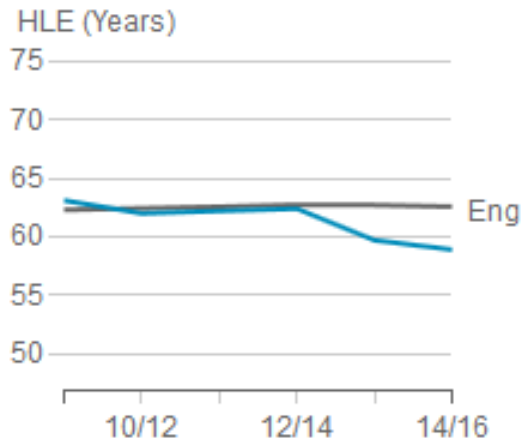


Source: Decennial Life Tables, ONS

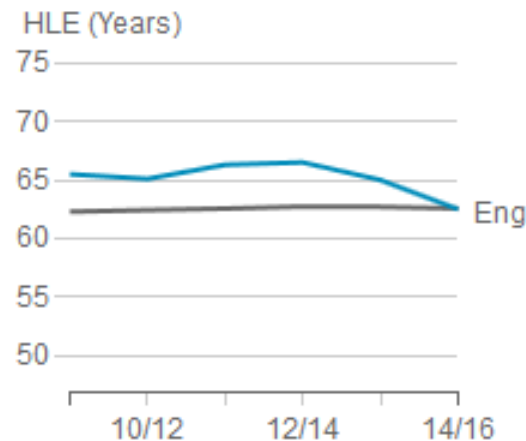
# In 2015, life expectancy at birth fell in the UK for the first time this century

“Spending constraints between 2010 and 2014 were associated with an estimated 45,368 (95% CI 34 530 to 56 206) higher than expected number of deaths compared with pre-2010 trends. Deaths in those aged  $\geq 60$  and in care homes accounted for the majority. Projections to 2020 based on 2009-2014 trend was cumulatively linked to an estimated 152,141 (95% CI 134 597 and 169 685) additional deaths.” Watkins et al (2017) *BMJ Open*

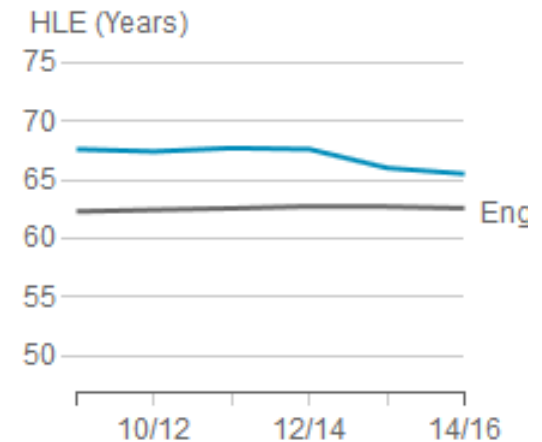
## Bristol, City of 58.9 years



## Bath and North East Somerset 65.5 years



## South Gloucestershire 67.6 years



Office for National Statistics (2017) Health state life expectancies, UK: 2014 to 2016.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2014to2016#healthy-life-expectancy-at-birth-differs-by-18-years-across-uk-local-areas>

## Different Survival Rates – is this a problem?

	Died	Survived	Survival rate
	5	146	97%
	24	104	81%
	145	106	42%

## Different Survival Rates – is this a problem?

### Survival Rates of Women & Children Passengers on the Titanic by Class of Ticket

Class of Ticket	Died	Survived	Survival rate
<b>First Class</b>	5	146	97%
<b>Second Class</b>	24	104	81%
<b>Third Class</b>	145	106	42%

# Causes of Inequalities in Health

Mel Bartley in her book *Health Inequality* identifies four main schools of thought for explaining health inequalities;

- 1) Behavioural and cultural explanations (e.g. traditional public health)
- 2) The Psycho-social model (e.g. *The Spirit Level*)
- 3) The Materialist Model (e.g. *Black Report*, Davey Smith and colleagues)**
- 4) The Life-Course approach (e.g. *Black Report*, Barker Hypothesis)

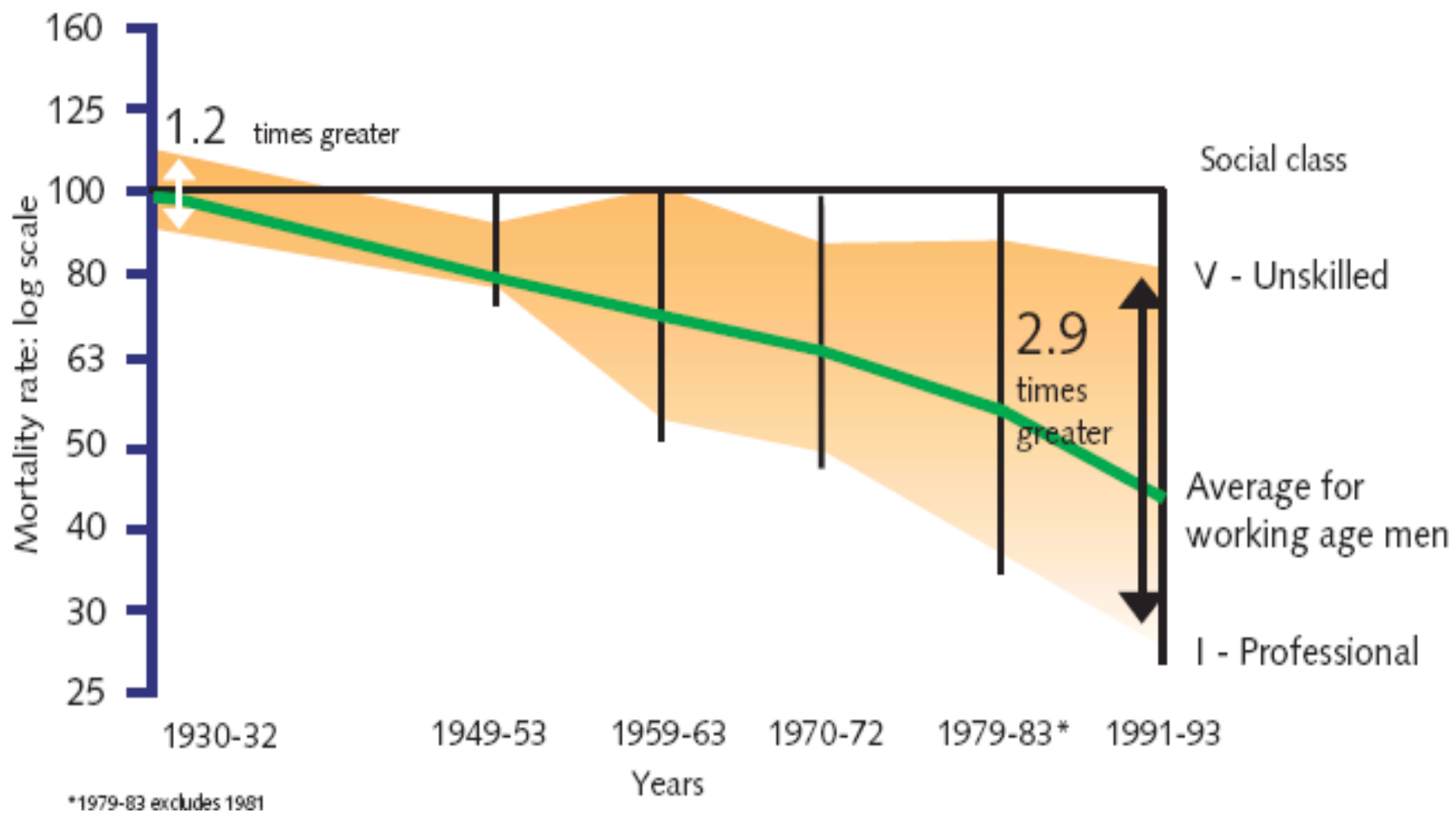
The behavioural/cultural model argues the poor have worse health due to their 'bad' health behaviours. The Psycho-social model argues the poor have worse health as they have more stress. The materialist model argues that the poor have worse health as they live in a worse environment and cannot afford to live healthily. The Life-course approach argues the 'poor' have worse health as they have suffered from deprivation across their life times and particularly in childhood. The Material and Life-course models are complimentary and are often combined.

## Male life expectancy, between- and within-country inequities, selected countries

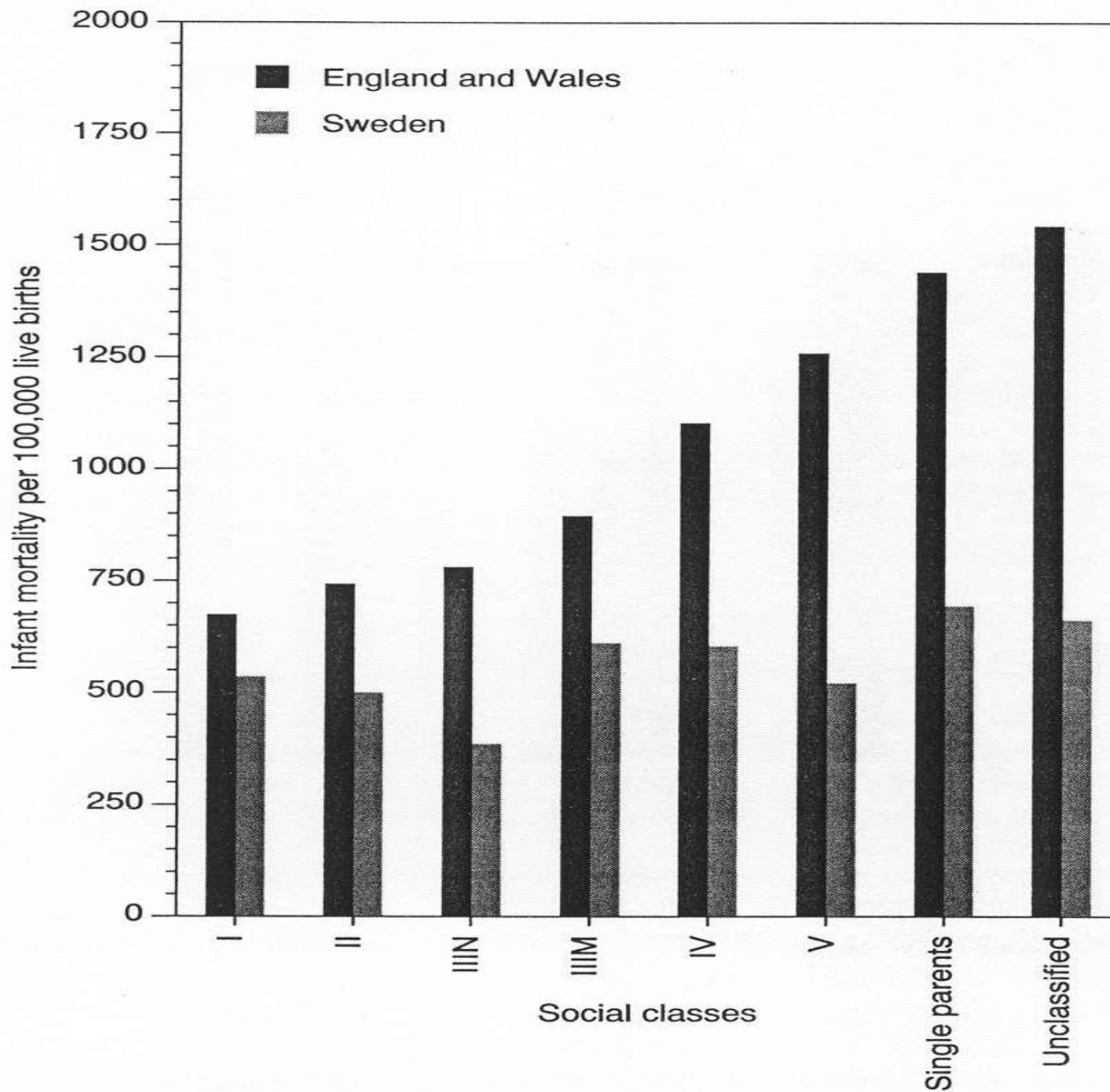
Place	Life expectancy at birth
United Kingdom, Scotland, Glasgow (Calton) <sup>b</sup>	54
India <sup>a</sup>	62
United States, Washington DC (black) <sup>c</sup>	63
Philippines <sup>a</sup>	64
Lithuania <sup>a</sup>	65
Poland <sup>a</sup>	71
Mexico <sup>a</sup>	72
United States <sup>a</sup>	75
Cuba <sup>a</sup>	75
United Kingdom <sup>a</sup>	77
Japan <sup>a</sup>	79
Iceland <sup>a</sup>	79
United States, Montgomery County (white) <sup>c</sup>	80
United Kingdom, Scotland, Glasgow (Lenzie N.) <sup>b</sup>	82

Source: WHO Commission on the Social Determinants of Health

## The Widening Mortality Gap Between the Social Classes







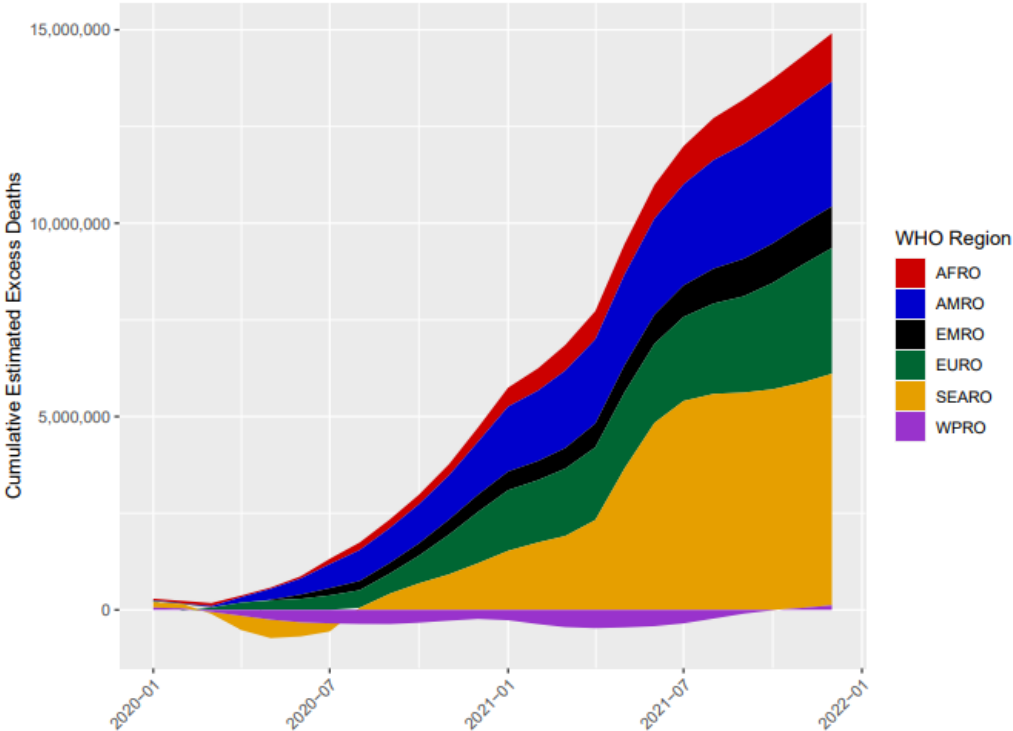
*Figure 5.7: Social class differences in infant mortality in Sweden compared with England and Wales*  
 Source: Leon *et al.* 1992

# **The Global COVID19 Pandemic**

The official number of deaths caused by covid-19 during 2020 & 2021 was 5.5m, the World Health Organisation estimated that the actual death toll was **15 million**.

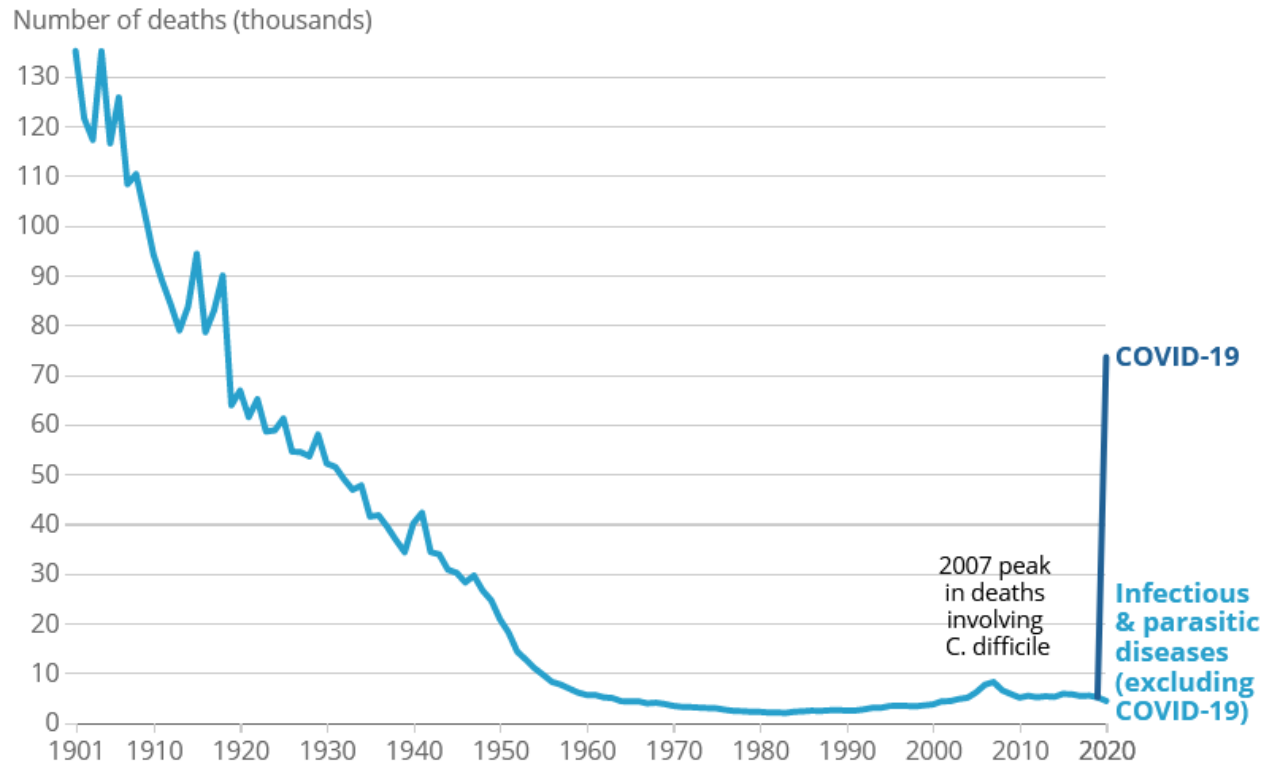
### Global Health Security Index (2019) Rankings

Rank	Country	Score
1	United States	83.5
2	United Kingdom	77.9
3	Netherlands	75.6
4	Australia	75.5
5	Canada	75.3
6	Thailand	73.2
7	Sweden	72.1
8	Denmark	70.4
9	South Korea	70.2
10	Finland	68.7
11	France	68.2
12	Slovenia	67.2
13	Switzerland	67.0



Source: Knutson et al (2022) ESTIMATING GLOBAL AND COUNTRY-SPECIFIC EXCESS MORTALITY DURING THE COVID-19 PANDEMIC 2205.09081v1.pdf (arxiv.org)

## Number of deaths registered due to infectious and parasitic diseases, England and Wales, 1901 to 2020 and COVID-19 in 2020

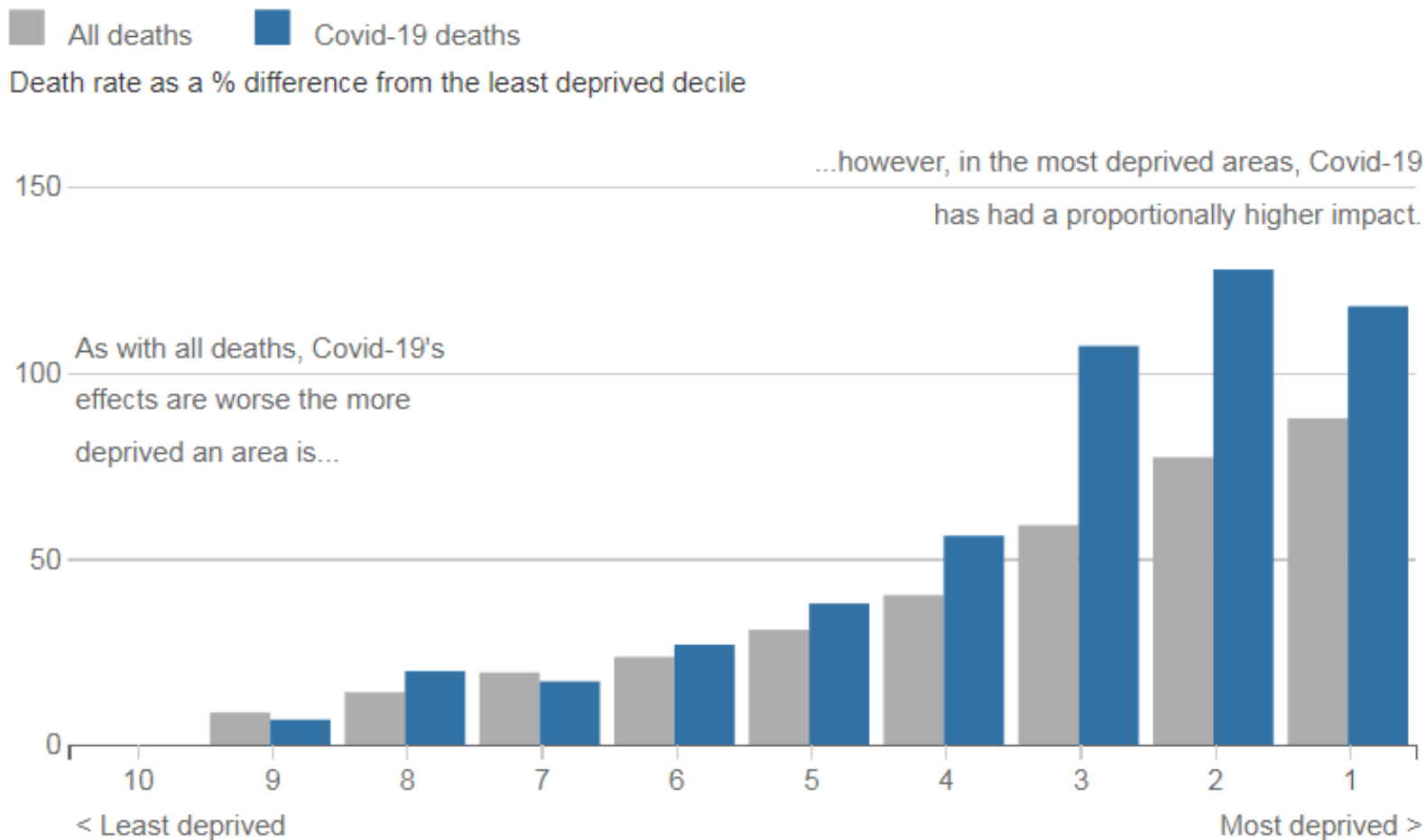


*“The COVID-19 pandemic triggered significant mortality increases in 2020 of a magnitude not witnessed since World War II in Western Europe or the breakup of the Soviet Union in Eastern Europe. Females from 15 countries and males from 10 ended up with lower life expectancy at birth in 2020 than in 2015.”*

Source: ONS (2021) A Year Like No Other  
<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusayearlikenoother/2021-03-15>

Source: Aburto et al (2021) Quantifying impacts of the COVID-19 pandemic through life-expectancy losses: a population-level study of 29 countries. *International Journal of Epidemiology*  
<https://doi.org/10.1093/ije/dyab207>

# Standardised Mortality Rates of Deaths Involving Covid-19 in England (1<sup>st</sup> March to 17<sup>th</sup> April 2020 ) by Area Deprivation Deciles (IMD)



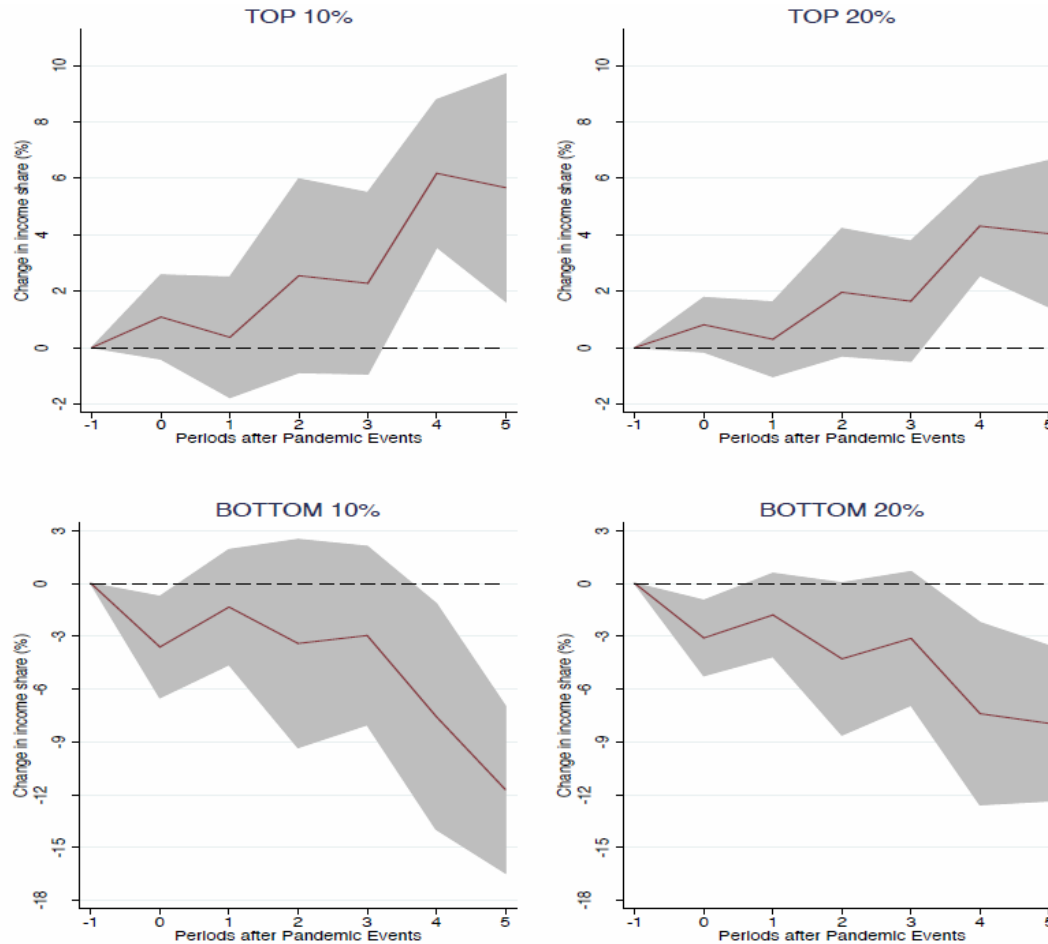
Source: ONS (2020)

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsinvolvingcovid19bylocalareasanddeprivation/deathsoccurringbetween1marchand17april>

# Pandemics have always done greater harm to poor and vulnerable people and resulted in increases in poverty and inequality

## Average impact of the last five epidemics on Inequality: Income shares of the richest and poorest in 64 Countries

(SARS in 2003, H1N1 in 2009, MERS in 2012, Ebola in 2014 and Zika in 2016)

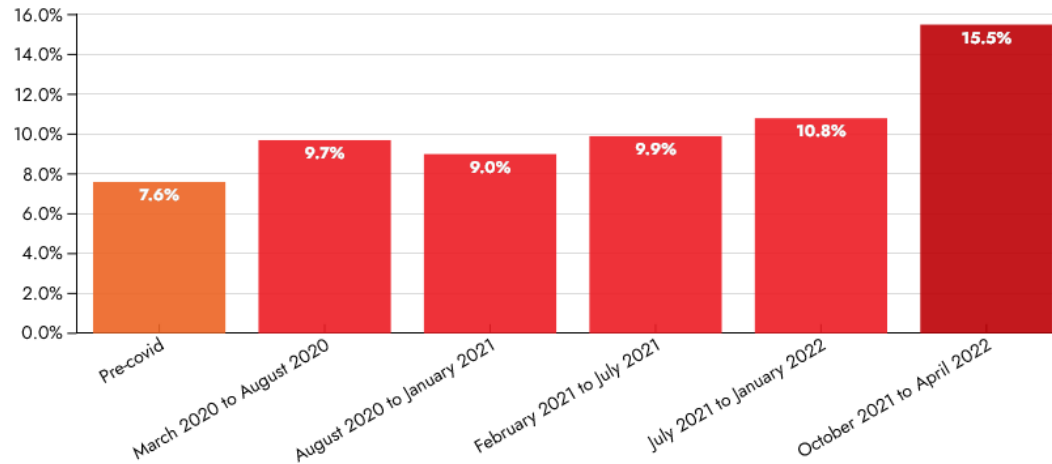


'Periods' are years before & after the epidemic

Source: Furceri et al, (2020) Will Covid-19 affect inequality? Evidence from past pandemics. *Covid Economics*, 12, 138-157

# Food Insecurity in the UK has doubled since 2018

Percentage of households experiencing food insecurity\*:



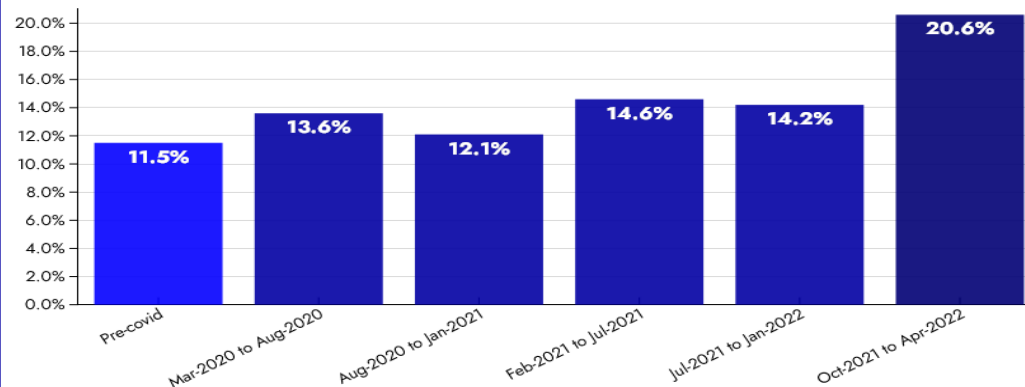
\*Food insecurity during the pandemic (6-month recall period) compared with pre-Covid (12-month recall period).

Pre-covid source: Food Standards Agency, Food and You Survey 2018. Re-analysed to allow direct comparison.



## 1 in 5 households with children have experienced food insecurity in the past six months

Percentage of households with children experiencing food insecurity\*:

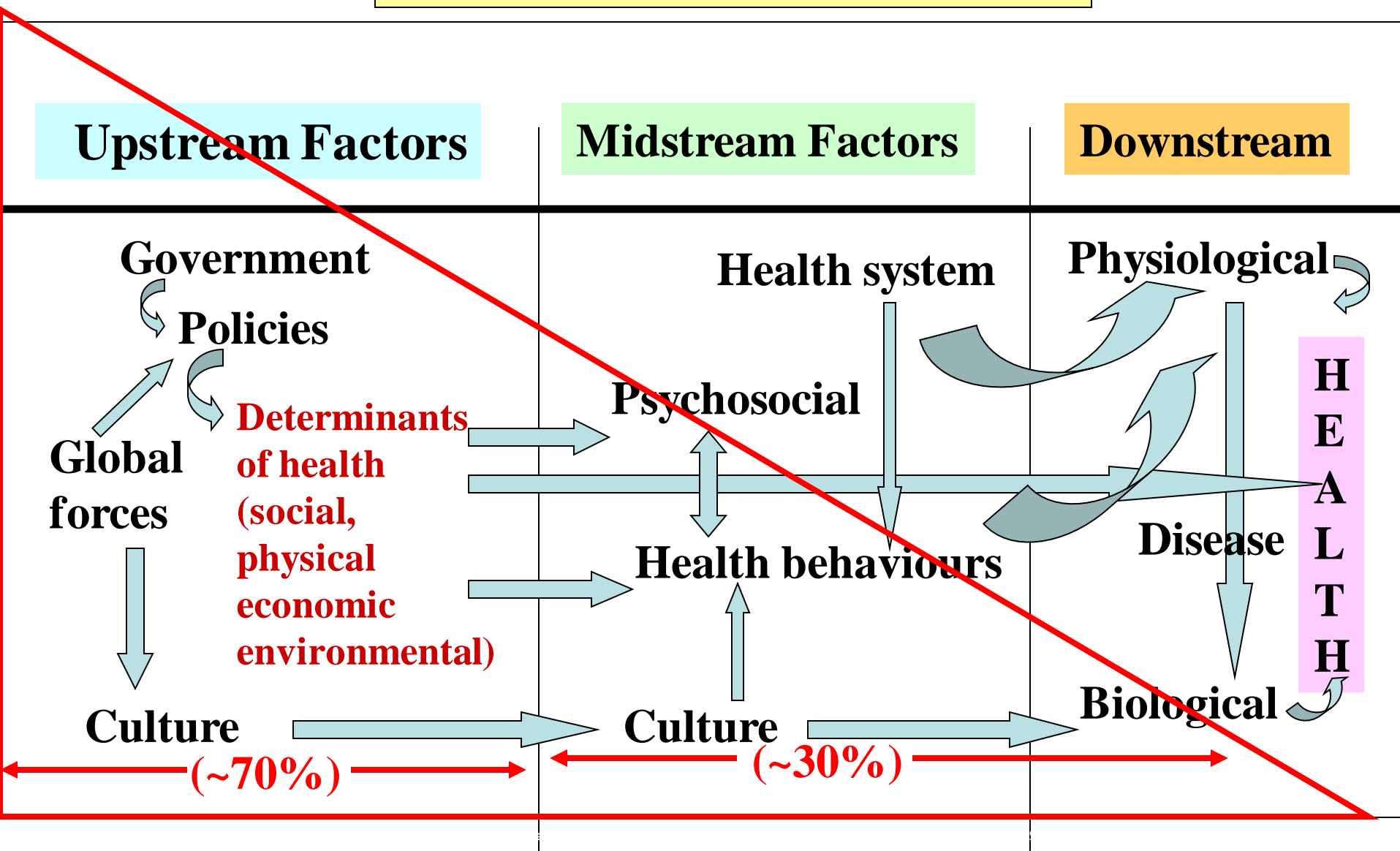


\*6-month recall period

Pre-covid source: Food Standards Agency, Food and You Survey 2018. Re-analysed (to allow direct comparison).



# Determinants of Health



Alperstein's simplification of 'Socioeconomic determinants of health.' Turrell Get al. QU T. April 1999. Commonwealth Dept Health & Aged Care, Canberra



Why has modern medicine failed to eliminated health inequalities in rich countries ?

1) The Rule of Halves

2) The Inverse Care Law

# The Rule of Halves

Half of chronic disease is undetected

Half those detected are not treated

Half those treated are not controlled/followed up

Therefore only about 1 in 8 people in a population receive effective medical treatment for their health problems

# Diseases subject to the 'Rule of Halves'

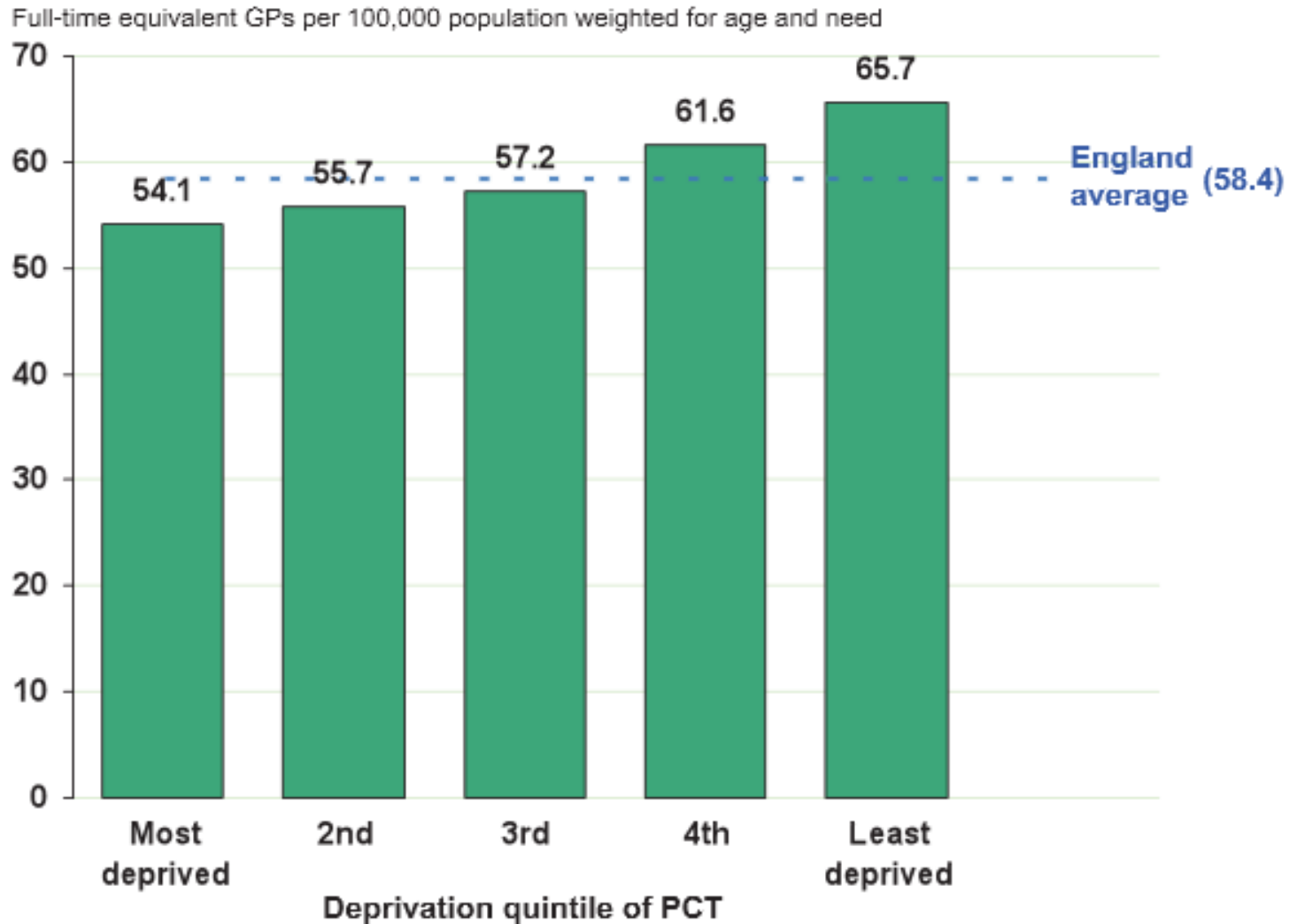
- Type 2 diabetes
- Visual impairment
- Deafness
- Incontinence in older people
- Glaucoma
- Coeliac disease
- Asthma
- Kidney failure
- Psychosocial problems in children
- Vertebral fracture from osteoporosis
- Suicidal depression
- Domestic violence
- Prostatic obstruction
- Heart failure
- Atrial fibrillation
- Schizophrenia
- Follow-up after strokes and coronary heart attacks

## The Inverse Care Law

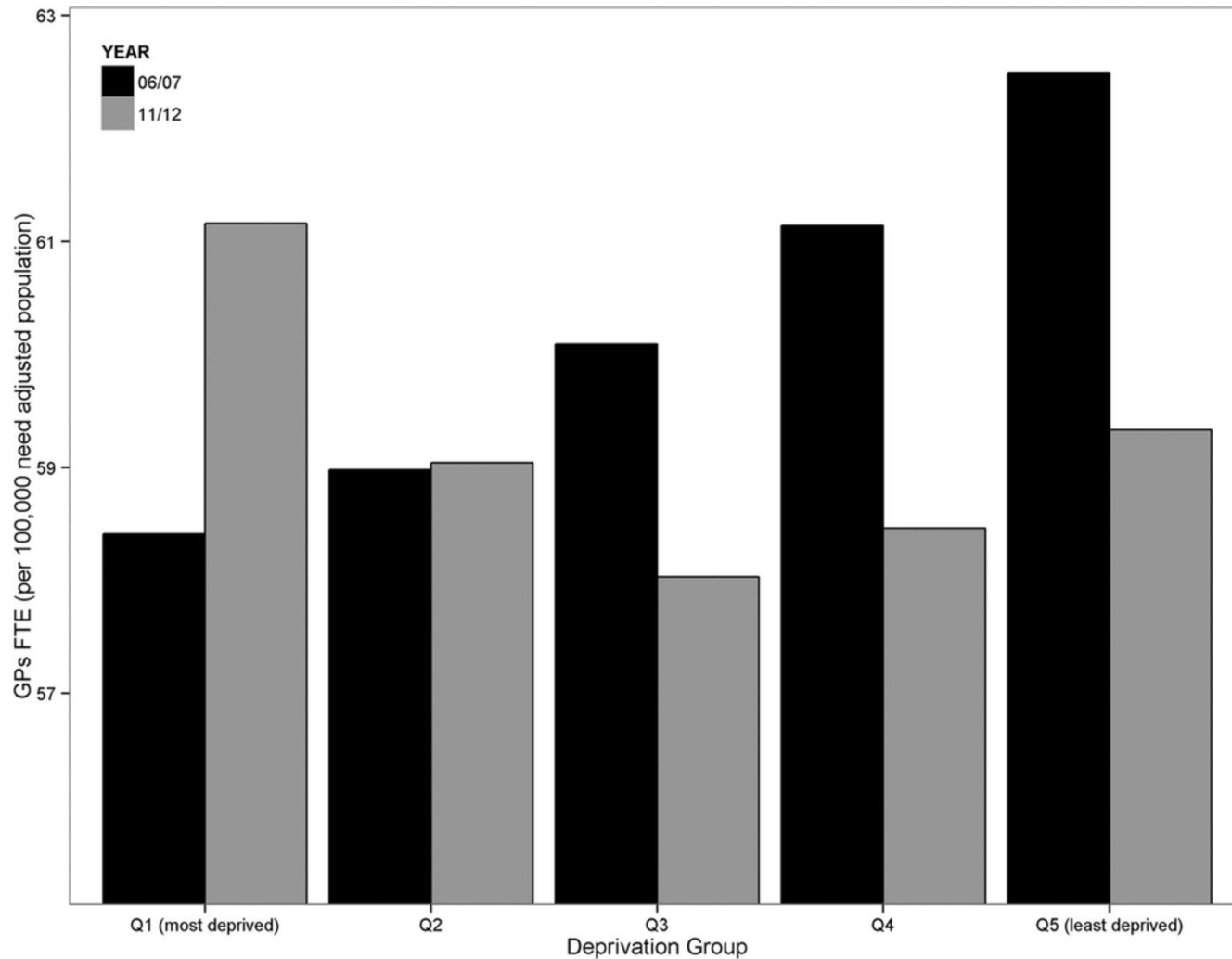
The term 'inverse care law' was coined by Tudor Hart (1971) to describe the general observation that *"the availability of good medical care tends to vary inversely with the need of the population served."*

# The Inverse Care Law

Average number of GPs per 100,000 by area deprivation, 2005



## Socioeconomic gradient in GP supply in 2006/2007 and 2011/2012, before and after the Equitable Access to Primary Medical Care programme.



Miqdad Asaria et al. *BMJ Open* 2016;6:e008783

### The Chief Medical Officer's Ten Tips for Better Health

### Alternative Tips

**1** Don't smoke. If you can, stop. If you can't, cut down.

Don't be poor. If you are poor, try not to be poor for too long.

**2** Follow a balanced diet with plenty of fruit and vegetables.

Don't live in a deprived area. If you do, move.

**3** Keep physically active

Don't be disabled or have a disabled child.

**4** Manage stress by, for example, talking things through and making time to relax.

Don't work in a stressful low-paid manual job.

**5** If you drink alcohol, do so in moderation.

Don't live in damp, low quality housing or be homeless.

**6** Cover up in the sun, and protect children from sunburn.

Be able to afford to pay for social activities and annual holidays.

**7** Practise safer sex.

Don't be a lone parent.

**8** Take up cancer screening opportunities.

Claim all benefits to which you are entitled.

**9** Be safe on the roads: follow the Highway Code.

Be able to afford to own a car.

**10** Learn the First Aid ABC: airways, breathing and circulation.

Use education as an opportunity to improve your socio-economic position.

Source: DoH (1999) Saving Lives: Our Healthier Nation. London: The Stationery Office

Source: Townsend Centre for International Poverty Research, University of Bristol

# WHO Commission on the Social Determinants of Health 2008

- 1** Improve the conditions of daily life – the circumstances in which people are born, grow, live, work, and age.
- 2** Tackle the inequitable distribution of power, money, and resources – the structural drivers of those conditions of daily life – globally, nationally, and locally.
- 3** Measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health.