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Place and Health Inequalities - Cause or Cure?

Prof Rich Mitchell

There are three ideas in this talk



Idea 1. It's worth thinking about what 'place' is because this then opens the door to thinking about why place affects health and health inequalities. Let's do both.

When we say 'place' in the population health world, we're often thinking about a combination of people and some kind of location



← 7 Claredale Rd

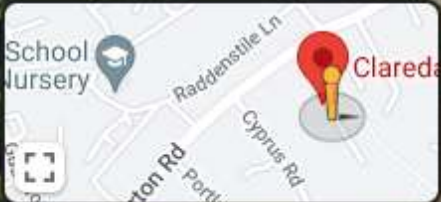
Exmouth, England

 Google Street View

Nov 2021

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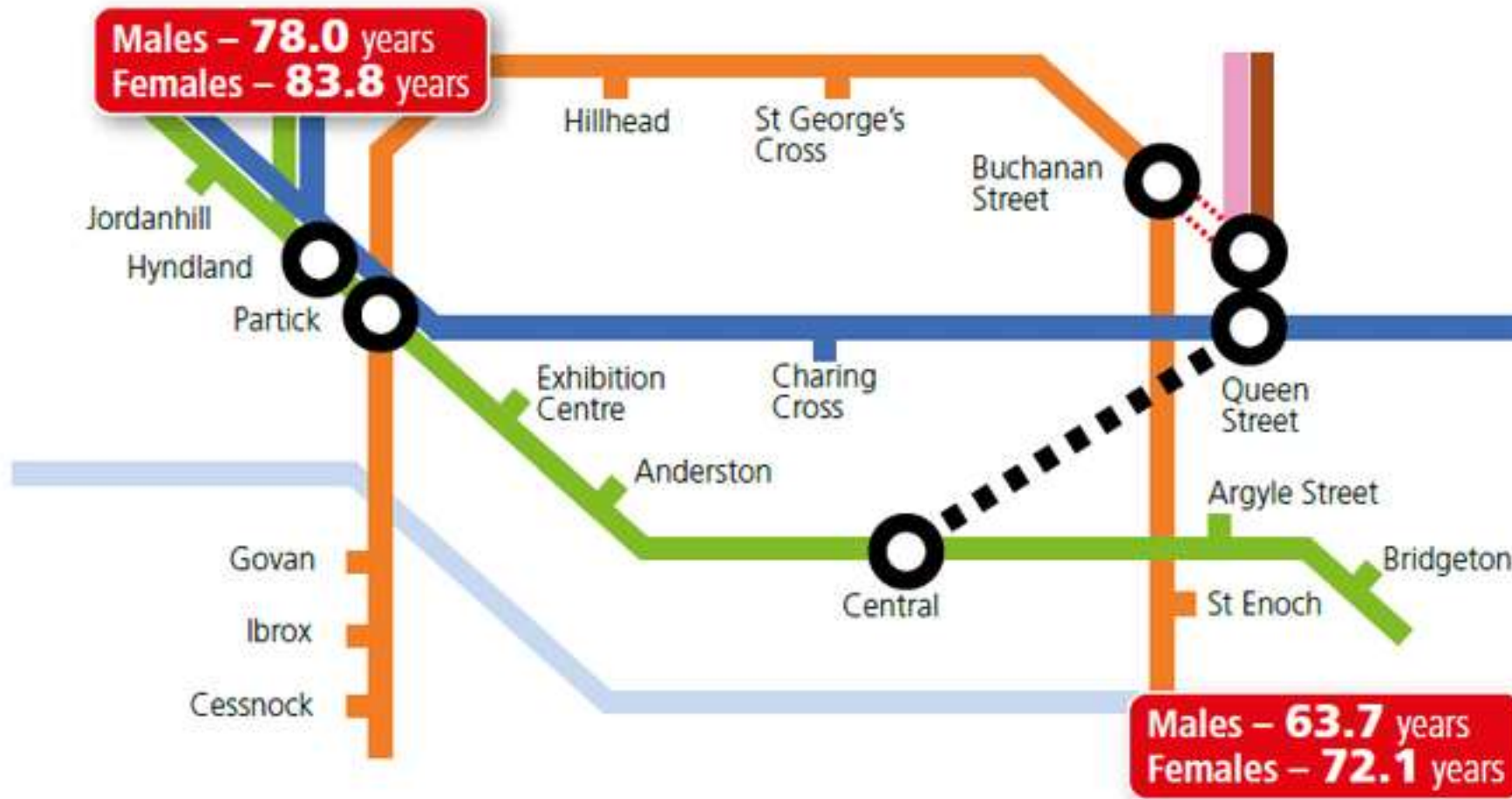
Location *and* meaning



Google

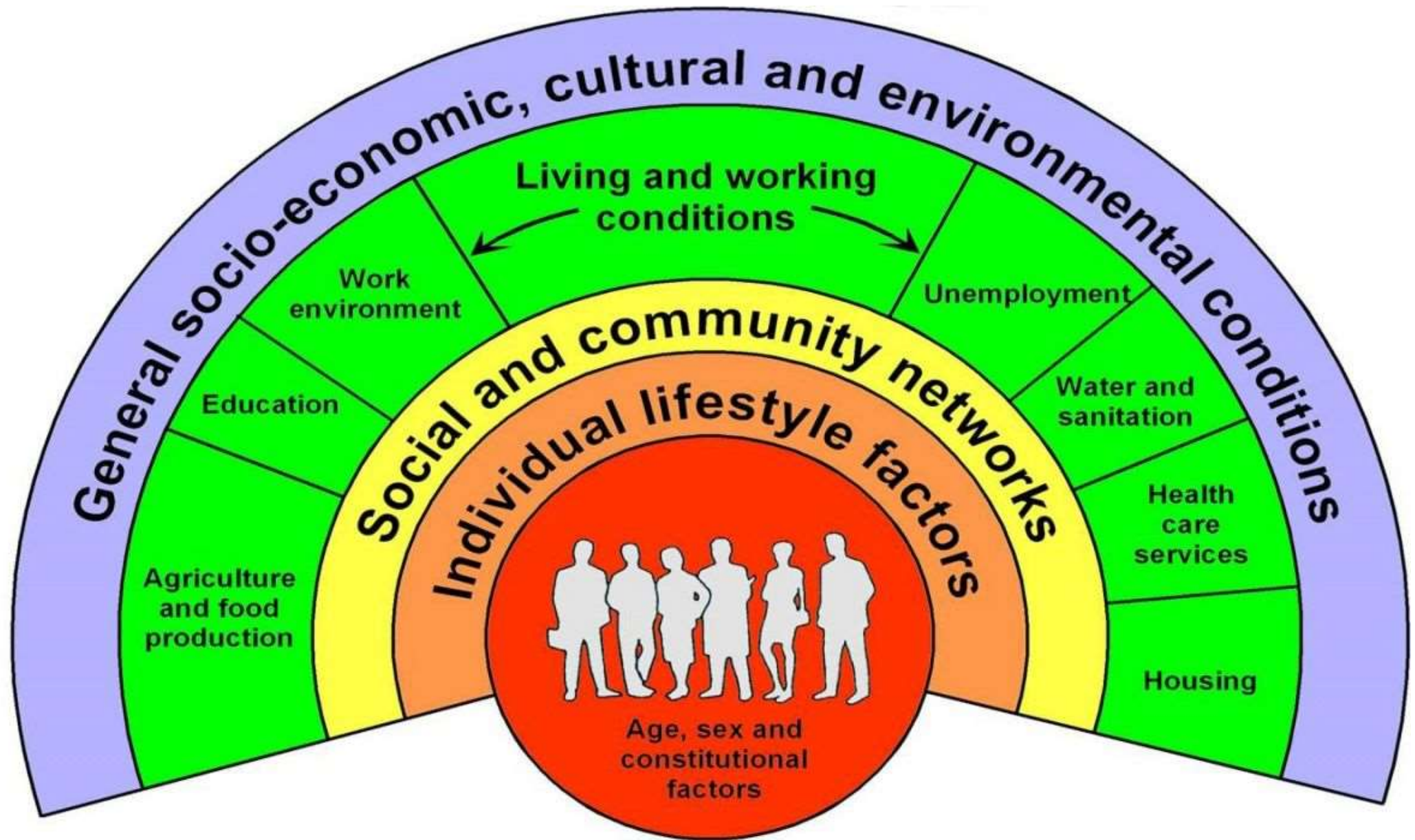


And we're talking about place and health because...? Health varies massively from place to place, sometimes it varies massively within a place too.



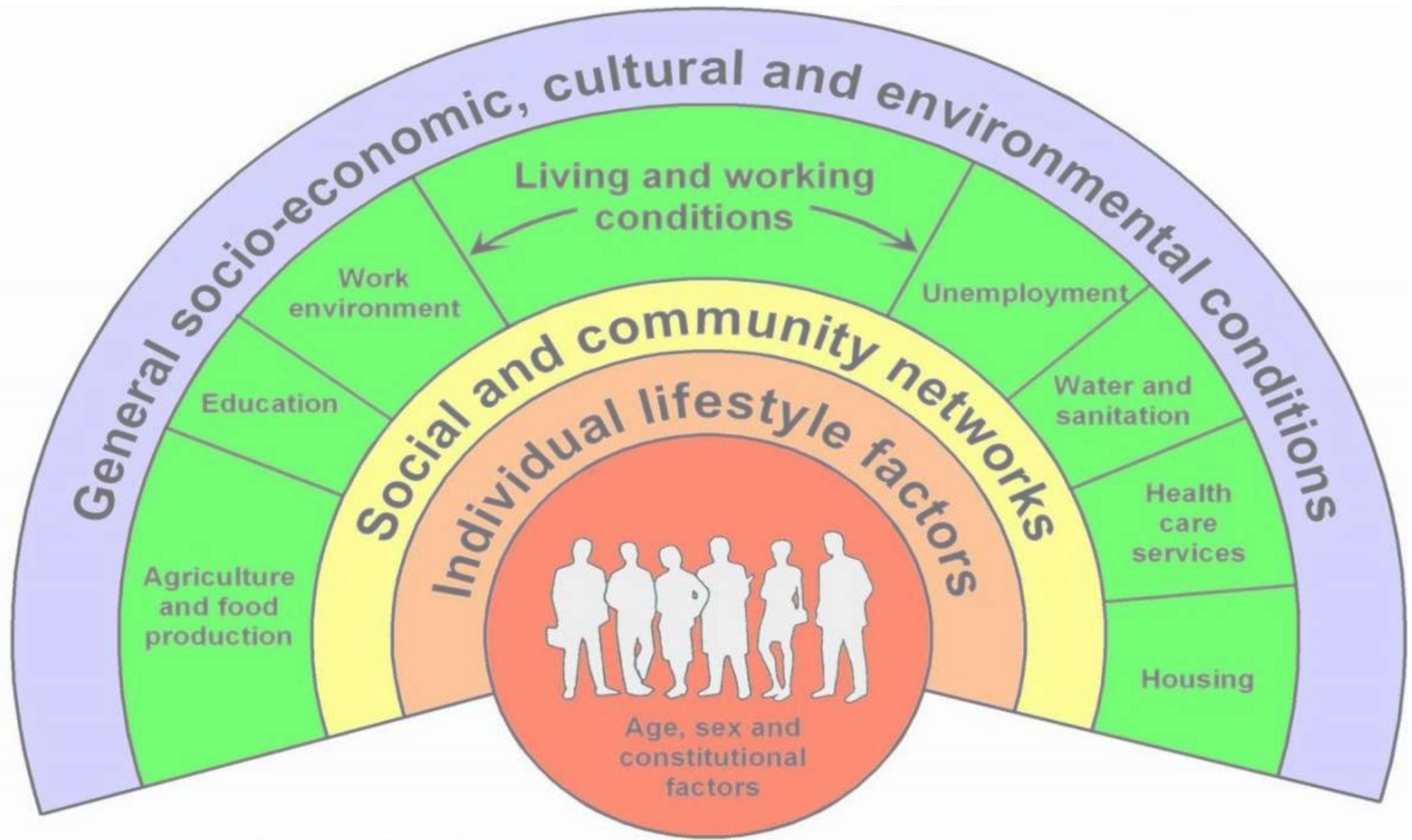
Molony, Elspeth & Duncan, Christine. (2016). Income, Wealth and Health Inequalities — A Scottish Social Justice Perspective. AIMS Public Health. 3. 255-264. 10.3934/publichealth.2016.2.255.

And why is that? Well, it's helpful to start with the things that affect our population health and health inequalities...



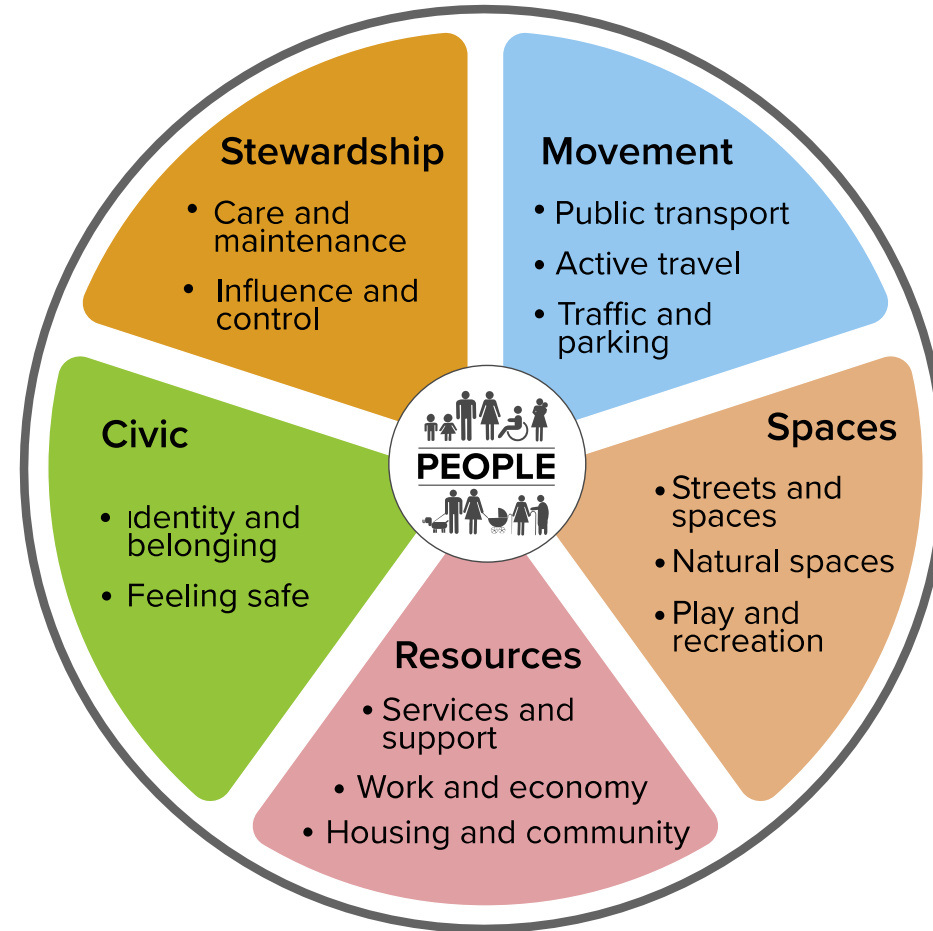
Source: Dahlgren and Whitehead, 1991

OK – and how much of that stuff is really about characteristics of ‘place’? Could you highlight those bits in purple?



Source: Dahlgren and Whitehead, 1991

Place and Wellbeing Outcomes



The principles of equality, net-zero emissions and sustainability underpin all of these themes, and all themes should be embedded in policy and action

The 'go to' organisation for Local Government improvement in Scotland

Idea 2: It's worth thinking more about *specific* mechanisms by which place affects our health and health inequalities because this helps us identify levers we can pull to improve and equalise health.

Aspects of place can...



Poison



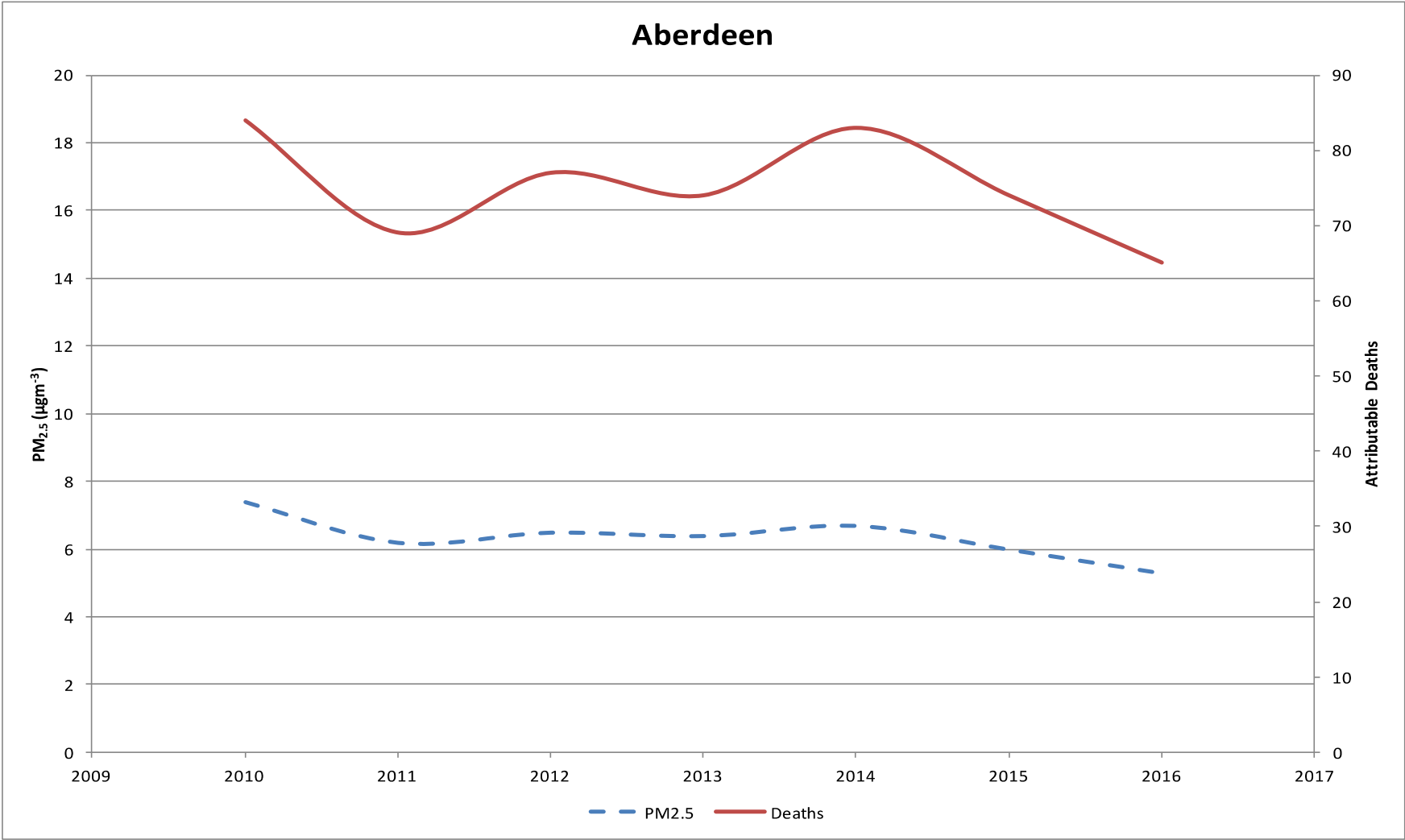
Protect



Provide

What's your poison?

Figure 2a:
Estimated mean concentrations of anthropogenic (manmade) PM_{2.5} (μgm⁻³) and estimated Attributable Deaths among adults over 25 years in Aberdeen.



Health Protection Scotland, 2018. Mortality associated with exposure to fine particulate matter (PM2.5 attributable mortality) in Scotland.

What's advertised, and what's sold...



JCDecaux

A WHOPPER Jr.
OF A DEAL



£2.99



Olsen JR, Patterson C, Caryl F, Robertson T, Mooney S, Rundle A, Mitchell R, Hilton S. (in press at Health & Place) Exposure to unhealthy commodity advertising: Spatial proximity analysis to schools and socio-economic inequalities measured using Scottish Children's individual-level GPS data.

What about aspects of place that protect or improve health? Green is good. *Really* good.

Seeing nature is good for you. Being in it is even better. Just having it there can also help



Table 4
Summary meta-analysis results

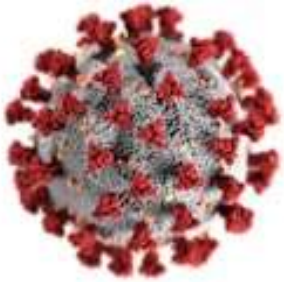
Outcome
😊 <i>Salivary cortisol</i>
😊 <i>Heart rate</i>
😊 <i>HDL cholesterol</i>
😊 <i>Diastolic blood pressure</i>
😊 <i>Systolic blood pressure</i>
😊 <i>Change in HF power of HRV</i>
😊 <i>LF/(LF + HF)</i>
HbA1c
Fasting blood glucose
Total cholesterol
LDL cholesterol
Triglycerides
Gestational age

Table 5
Summary meta-analysis results table:

Outcome
😊 <i>Good self-reported health</i>
😊 <i>Preterm birth</i>
😊 <i>Type II diabetes</i>
😊 <i>All-cause mortality</i>
Hypertension
😊 <i>Small for gestational age</i>
😊 <i>Cardiovascular mortality</i>
Stroke
Dyslipidaemia
Asthma
Coronary heart disease

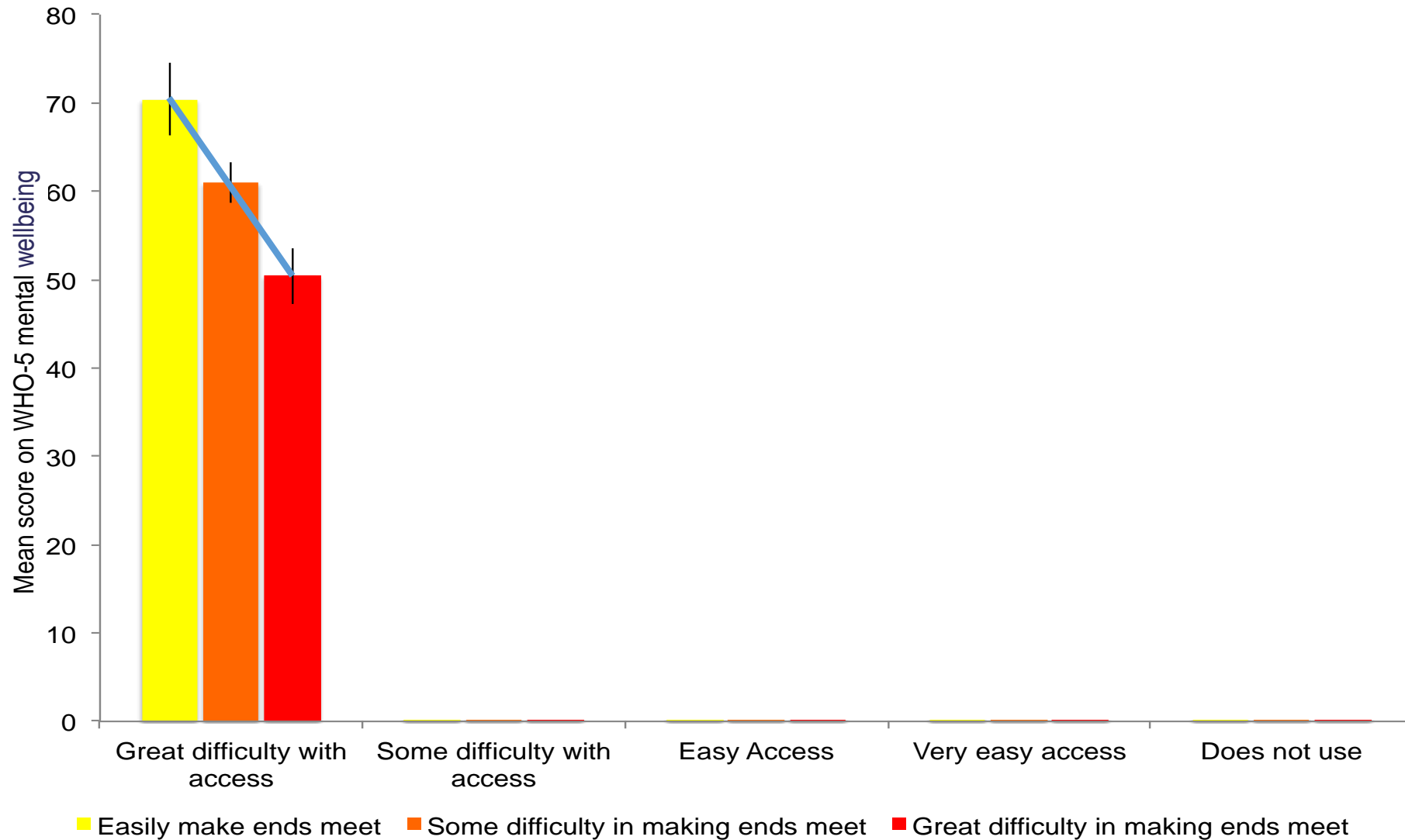
Twohig-Bennett C, Jones A. The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental research*. 2018 Oct 1;166:628-37.

Green and open space has benefitted my mental health

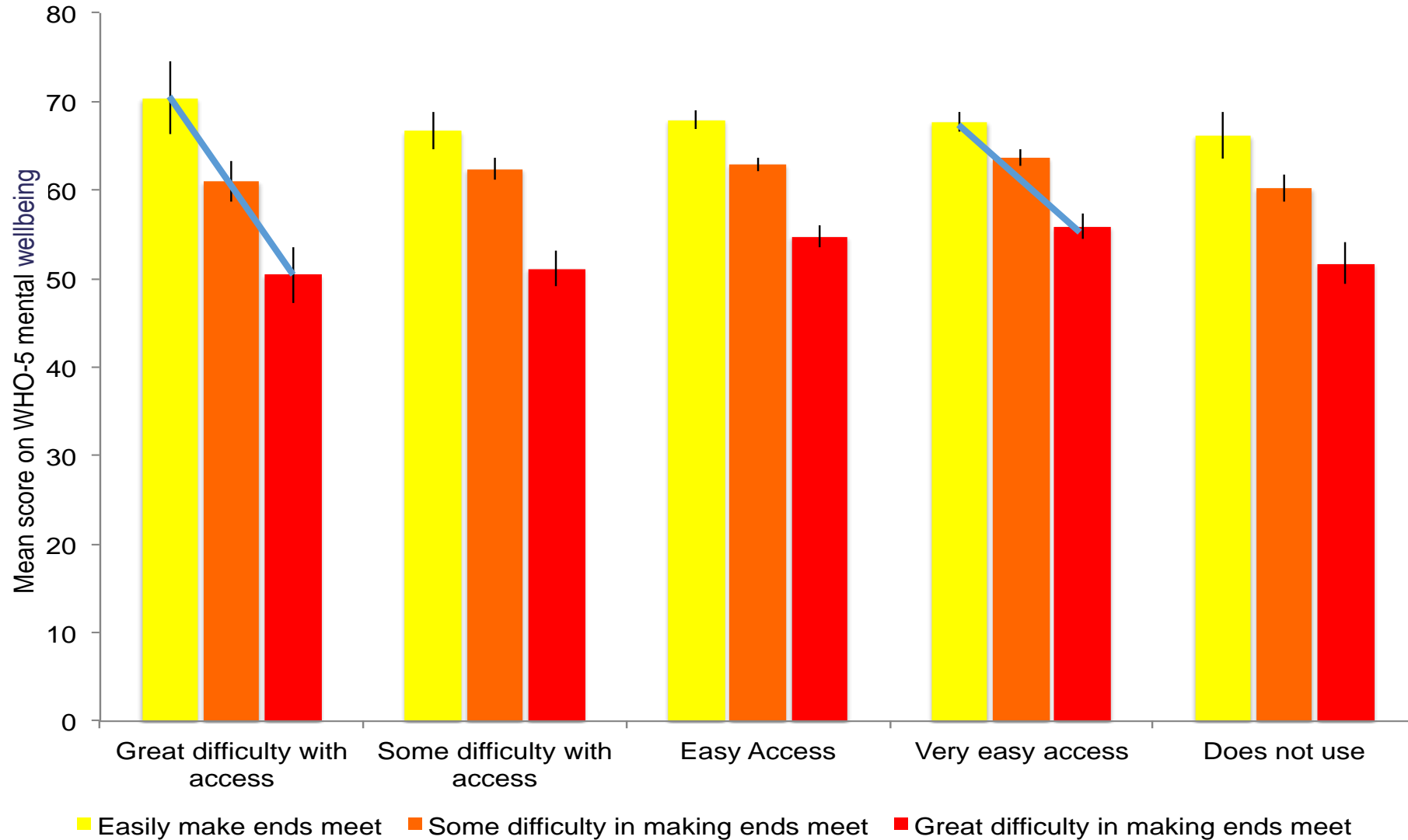


Our work on green space poses a question we can also ask of ALL aspects of place. Can it break the usual connection between adversity and illness?

Income-related inequality in wellbeing is smaller among those with better access to green spaces: *equigenesis* (the creation of equality by environment)?



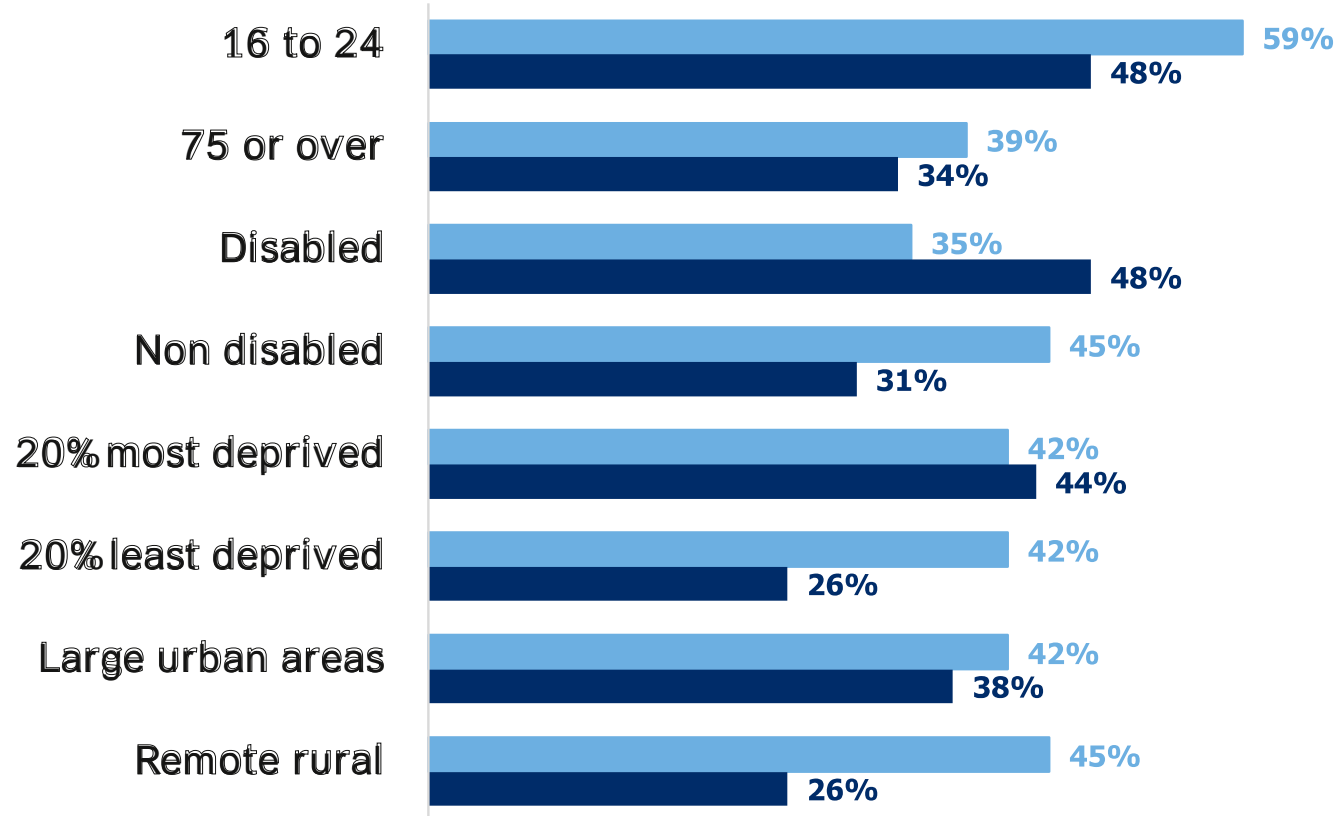
Income-related inequality in wellbeing is smaller among those with better access to green spaces: *equigenesis* (the creation of equality by environment)?



So far, I've put a lot of focus on physical and built environment, but place is about people too. Social relationships are vital for our health. There is some evidence to suggest that loneliness has comparable health impacts to being a smoker* ...

Socialising and loneliness

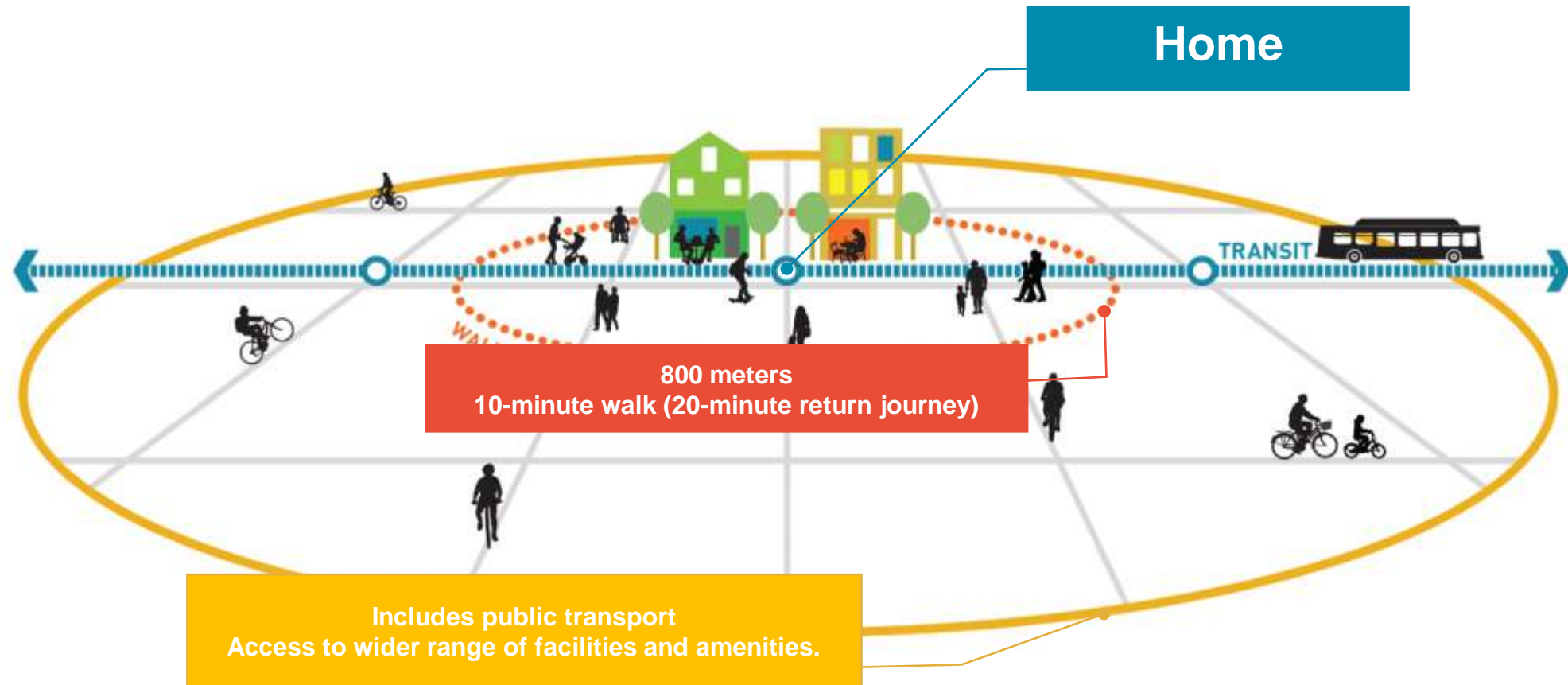
Meeting socially at least once a week
Feeling lonely some or all of the time



Scottish Household Survey 2020 Telephone Survey | Key Findings

Places also provide things and services we need. Access to these is important for health and health inequalities. The 20-minute neighbourhood idea/agenda has arrived!

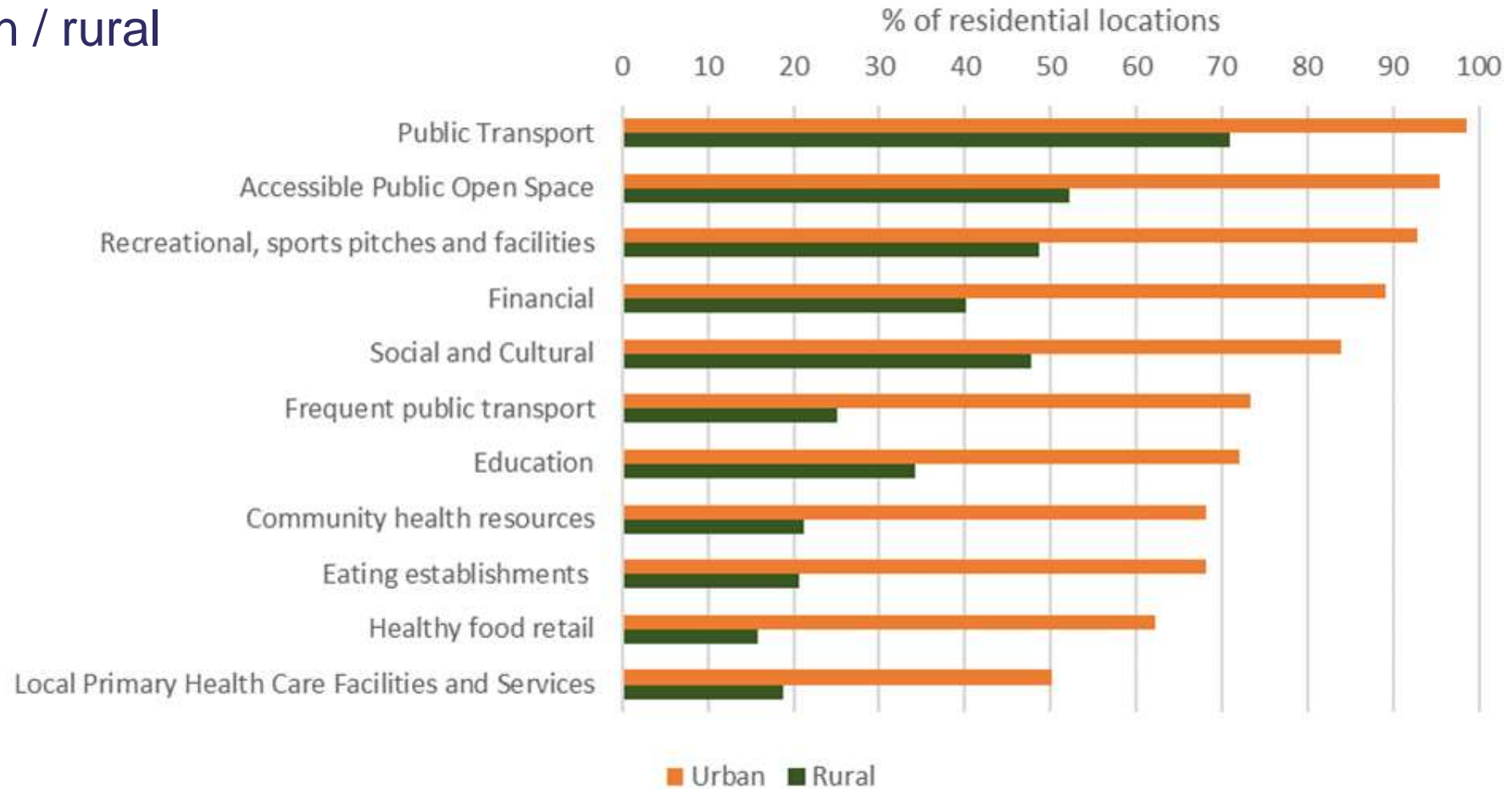
Providing things people need: the 20-minute neighbourhood



Places that are designed so residents can meet their day-to-day needs within a 20-minute walk of their home.

Access to at least one facility within a 10-minute walk of residential location

Urban / rural

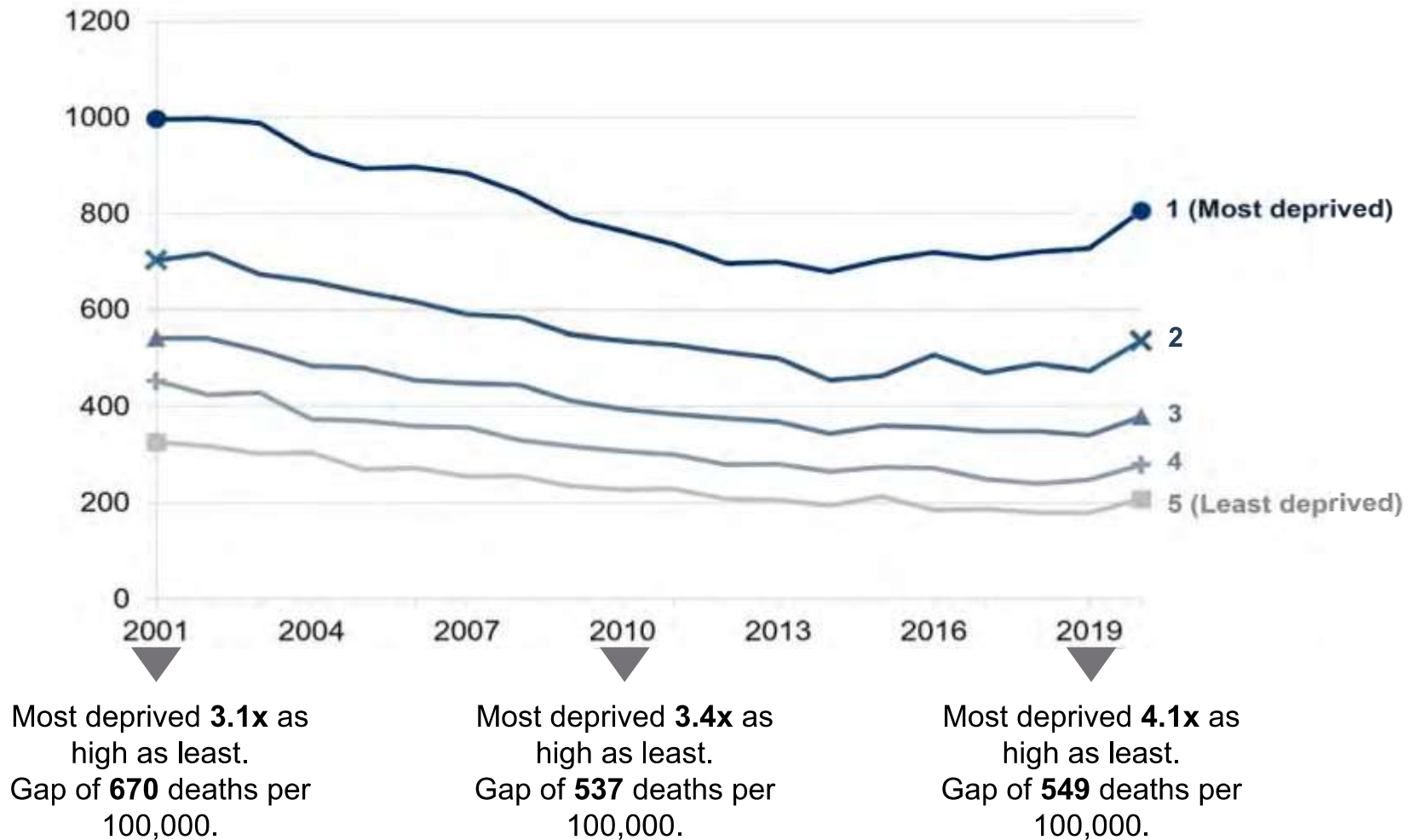


Olsen JR, Thornton L, Tregonning G, Mitchell R. Nationwide equity assessment of the 20-min neighbourhood in the Scottish context: A socio-spatial proximity analysis of residential locations. *Social Science & Medicine*. 2022 Dec 1;315:115502.

Idea 3: It's worth asking 'why won't health inequalities go away?'
Place is part of how health inequality is re-created again and again, generation to generation. Place can be part of the problem as well as the solution.

Figure 1.3. Absolute inequalities in avoidable mortality in males were falling during the 2000s, but have started to increase

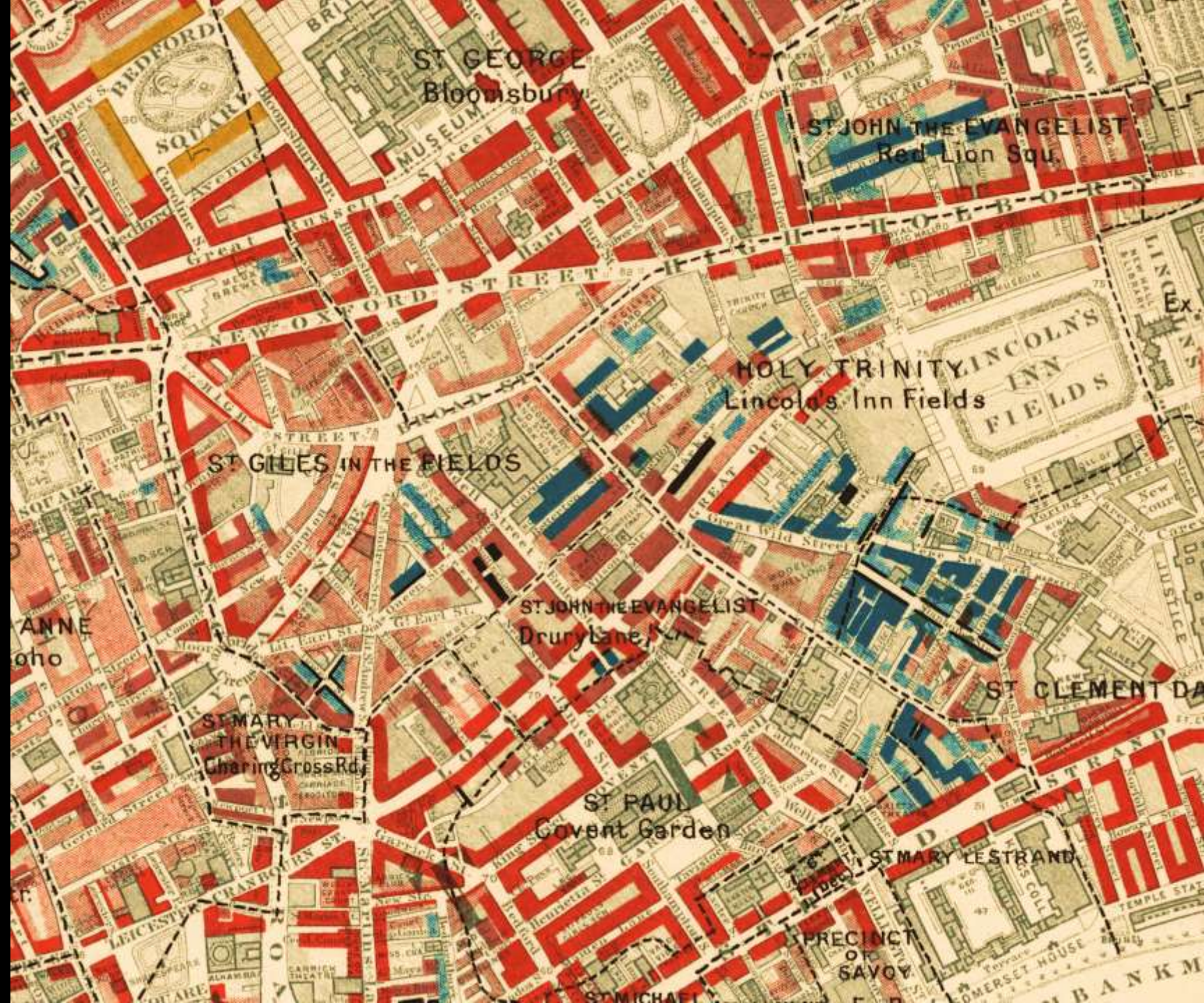
Male avoidable mortality rates, per 100,000 population, age standardised, according to fifths of area-level deprivation: 2001 to 2020.



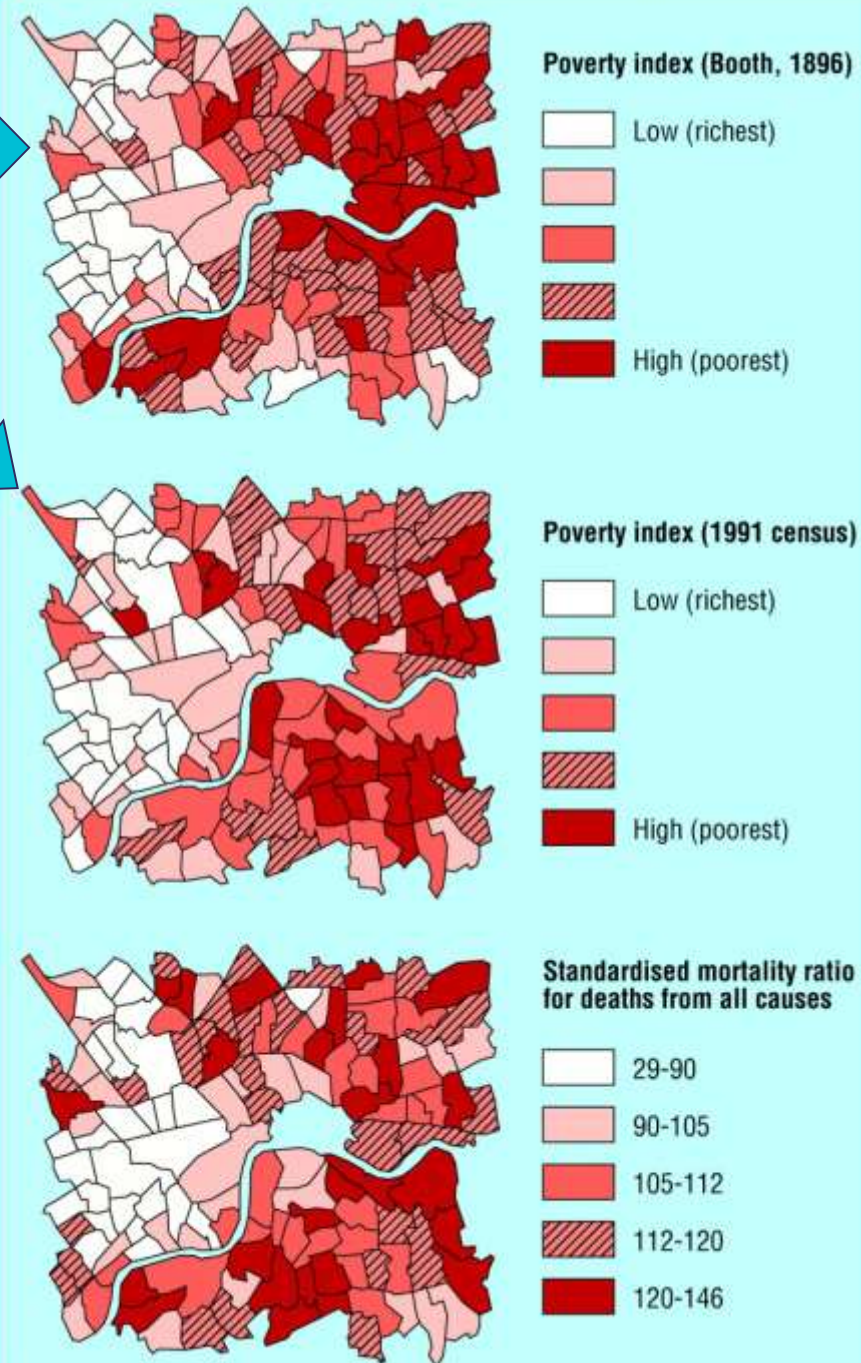
Places are like fields which grow lives rather than crops; if we get the environment right, it can nurture healthy people, generation after generation. If we get it wrong, the adverse consequences are perpetuated. Places last a long time...



- In 1896 Charles Booth surveyed large areas of London, house by house
- He classified houses by social class



- We derived a poverty index from Booth's map of London in 1896 using GIS
- We derived a similar index from 1991 census data
- We explored how well the two indexes predicted mortality rates in London in 1991-1995

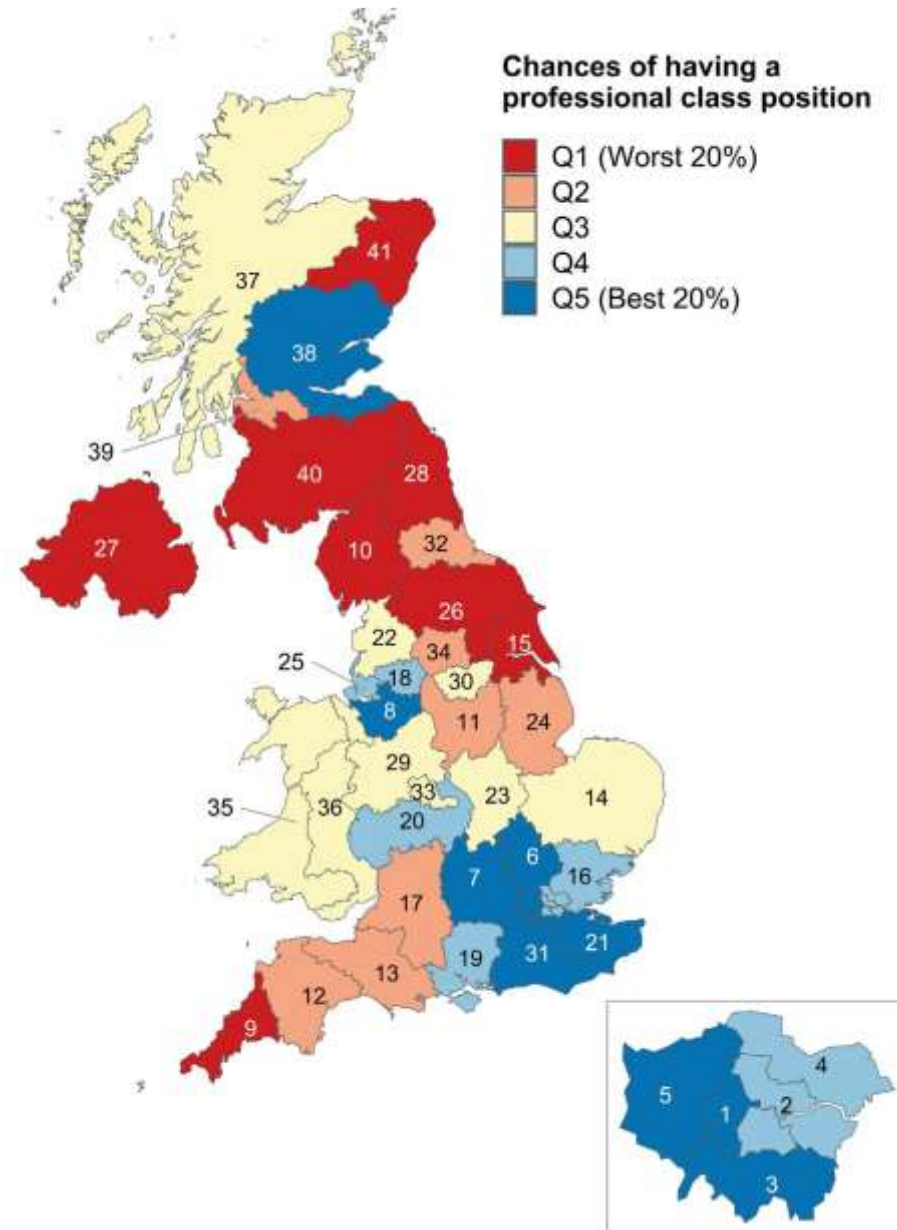


Source: Dorling D, Mitchell R, Shaw M, Orford S, Davey Smith G. The Ghost of Christmas Past: health effects of poverty in London in 1896 and 1991. *BMJ* 2000;321(7276):1547-51.





Chances of having a professional class position in the UK, 2022, by International Territorial Level 2 regions, controlling for socio-economic background (SEB).



Source: Office for National Statistics, pooled Labour Force Survey (LFS) 2018 to 2022, respondents aged 25 to 64 years in the UK, data collected from July to September each year.

Think about what kinds of crops (i.e. lives) *your* place grows. Is it causing or curing poor health and inequality?



Idea 1. It's worth thinking about what 'place' is because this opens the door to thinking about how it affects health and health inequalities.

Idea 2: It's worth thinking a bit more precisely about the mechanisms by which place affects our health and health inequalities because it helps us identify levers we can pull to improve and equalise health.

Idea 3: Place is part of how health inequality is re-created again and again, generation to generation. Place can be part of the problem as well as the solution.

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