Llywodraeth Cymru
Welsh Government

Experience of considering health and socioeconomic harms of the pandemic in Wales

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Disclaimer

- These are my own opinions, and not necessarily those of my employers.
- Any data/references used here are in the public domain.

In this talk

- Welsh Government Technical Advisory Cell and the five harms approach
- Covid: a syndemic
- Using data and evidence
- Health and economic harms
- Trading off between equity and efficiency

The Welsh Government Technical Advisory Cell – taking a five harms approach

- Welsh Government COVID-19 Technical Advisory Cell was set up in response to the pandemic
- Focus was to look at the ‘five harms’ of covid
- Had a number of subgroups including policy modelling, risk communication and behavioural insights, and socioeconomic harms subgroup chaired by the Chief Economist.
- Wales has the Wellbeing of Future Generations Act which requires public bodies in Wales to think about the long-term impact of decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.
- Public Health Wales working with the WHO on the WHESRi

The five harms

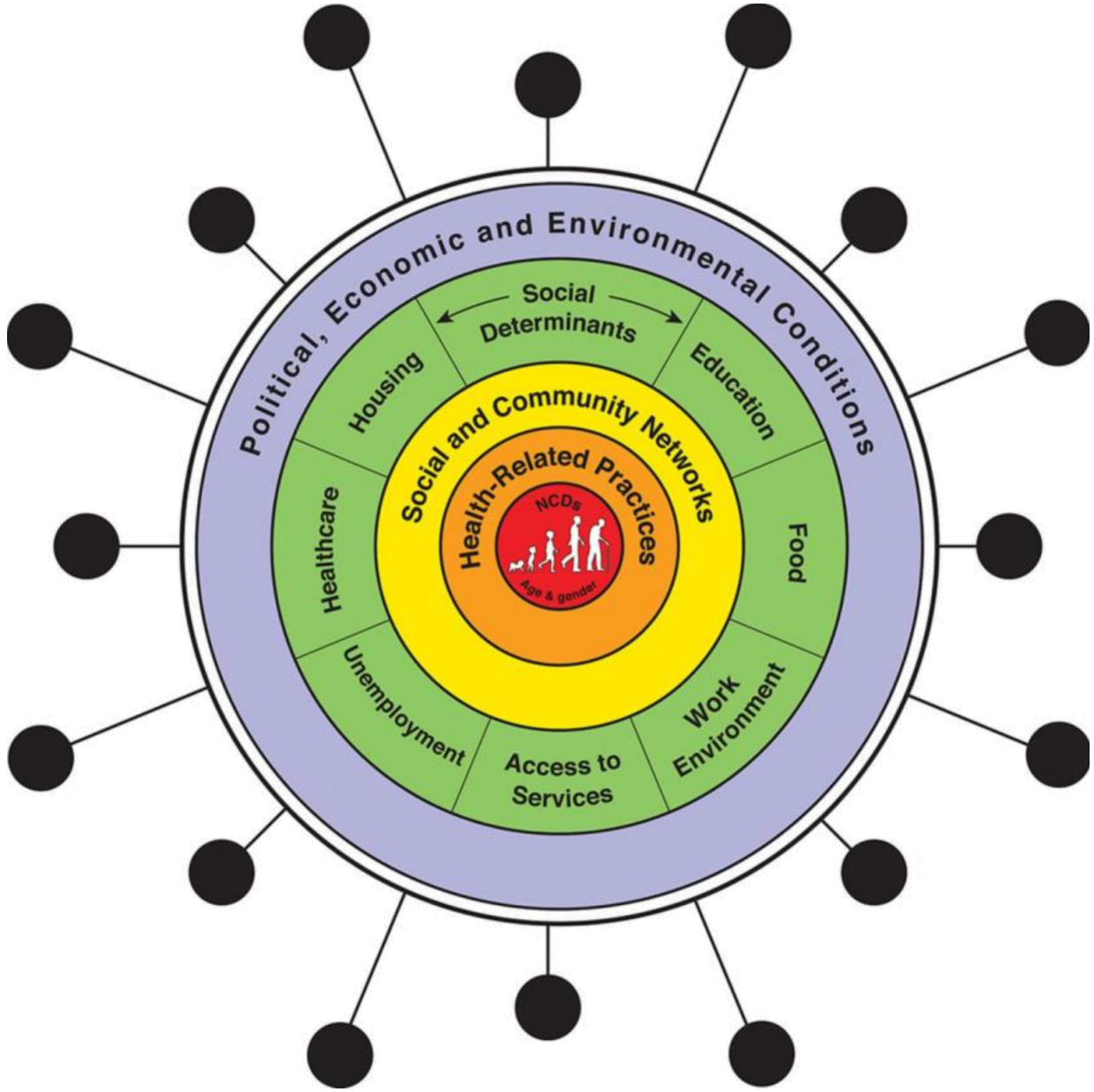
1. Harm directly arising from SARS-CoV2 infections;
2. Indirect COVID-19 harms due to surge pressures on the health and social care system and changes to healthcare activity, such as cancellation or postponement of elective surgeries and other non-urgent treatments (e.g. harm from cessation of screening services) and delayed management of long-term conditions.
3. Harms arising from population based health protection measures (e.g. lockdown) such as, educational harm, psychological harm and isolation from shielding and other measures.
4. Economic harms such as unemployment and reduced business income arising both from COVID-19 directly and population control measures, like lockdown.
5. Harms arising from the way COVID-19 has exacerbated existing, or introduced new, inequalities in our society.

TAC: Providing scientific advice

- Handshake between research and policy
- Recognising where evidence does not exist
- Using evidence in a different way – not simply evidence based medicine paradigm, look further into engineering etc
- Research and policy often move at different rhythms but have worked exceptionally well in the pandemic

Covid: a syndemic

- Risk factors – clinical, behavioural, place
- Neomaterial, psychosocial, cultural, power, theories of inequalities
- Financial and health resilience - house, garden, car, money in the bank, stable relationship –
- ‘Shadow pandemics’ hidden



Poverty in Wales

To be in poverty is to **lack or to be denied** certain **resources** that would allow **meaningful participation in society**. These resources can be **material** (such as income) or they can be **social** (such as lack of education).

There is no single best measure of poverty, but a common distinction is...

Absolute poverty =
Household income is insufficient to afford basic necessities of life

Relative poverty =
Household income from all sources is less than 60% of the average UK household income
A measure of income inequality that changes with economic growth or recession

180,000 children live in poverty[b]

Wales has one of the highest in-work poverty rates in the UK, with **14%** of workers in poverty (2016-19)[b]

Wales has the lowest median hourly pay, compared to all other UK nations and regions, at **£10.73**[b] (2020 Q1)

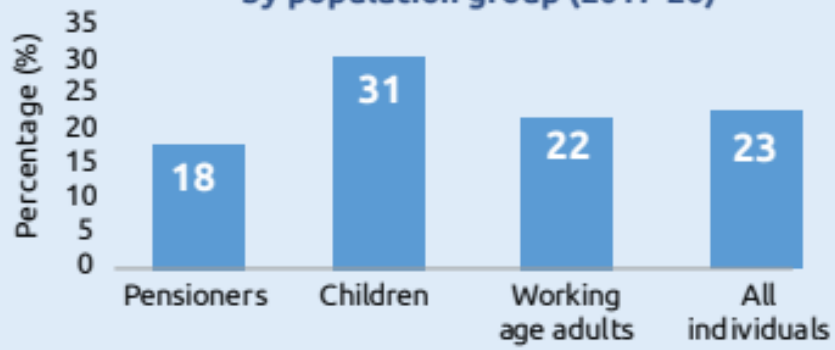
Over **2 in 10** working-age adults are in receipt of income-related benefits[b]

155,000 households live in fuel poverty i.e. unable to keep their home warm at a reasonable cost[c] (2018)

Homeownership fell from 76% in 2001 to **70%** in 2019, as fewer and fewer households were able to enter the housing market[b]

17% of survey respondents said that in the last 12 months their household had worried about running out of food before there was money to buy more[d]

Proportion of people in relative income poverty, by population group (2017-20)[a]

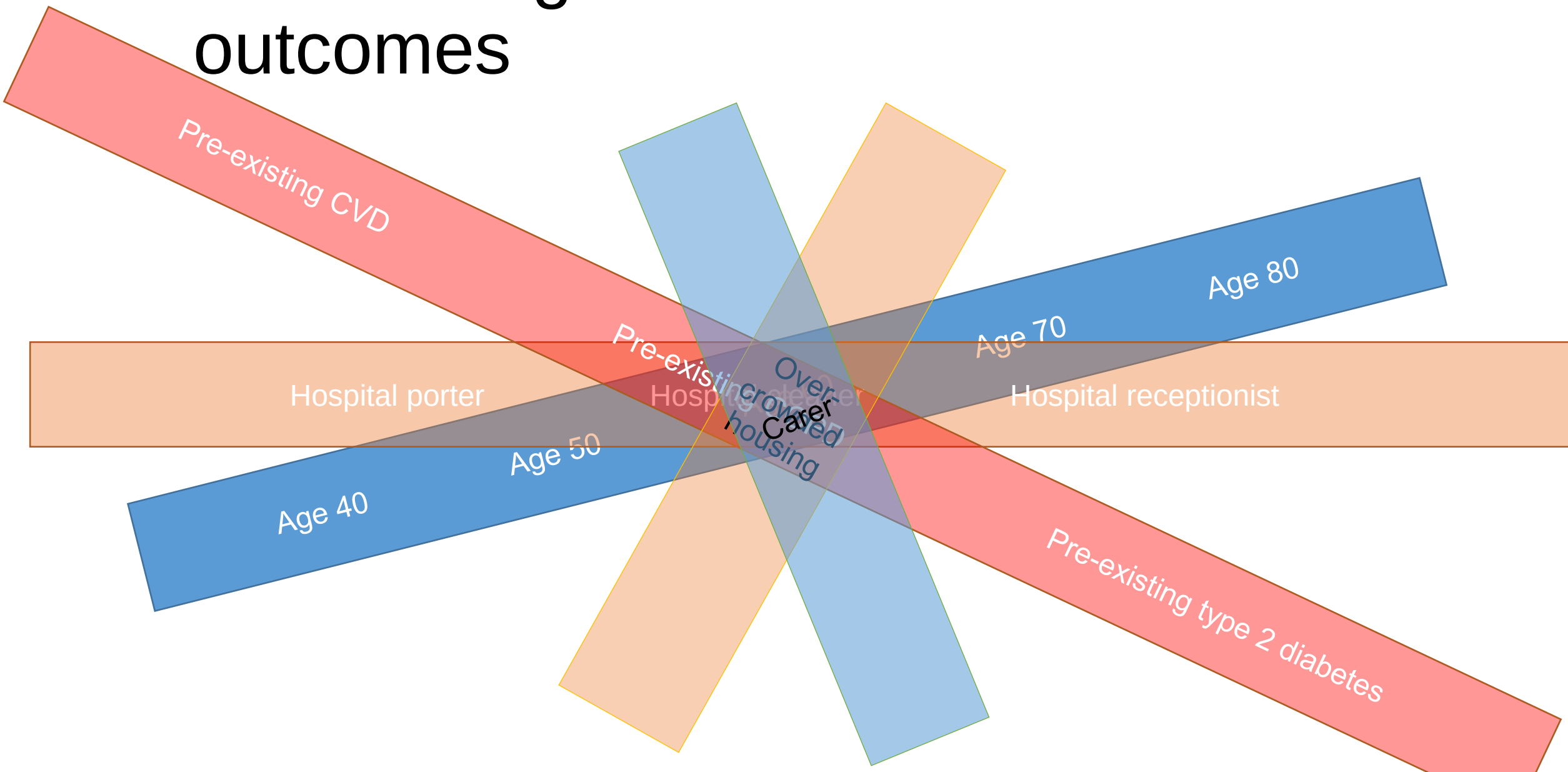


The following **population groups** are more likely to experience poverty in Wales[a]:

- **Lone parents**
- **Minority ethic groups**
- **Families in which there is someone with a disability**
- **People living in rural and coastal regions**

For example: **38%** of children living in a family where there is someone with a disability are in relative income poverty, compared with 26% of those in families where no-one is disabled[a] (2015-20)

Intersecting risk factors for covid outcomes



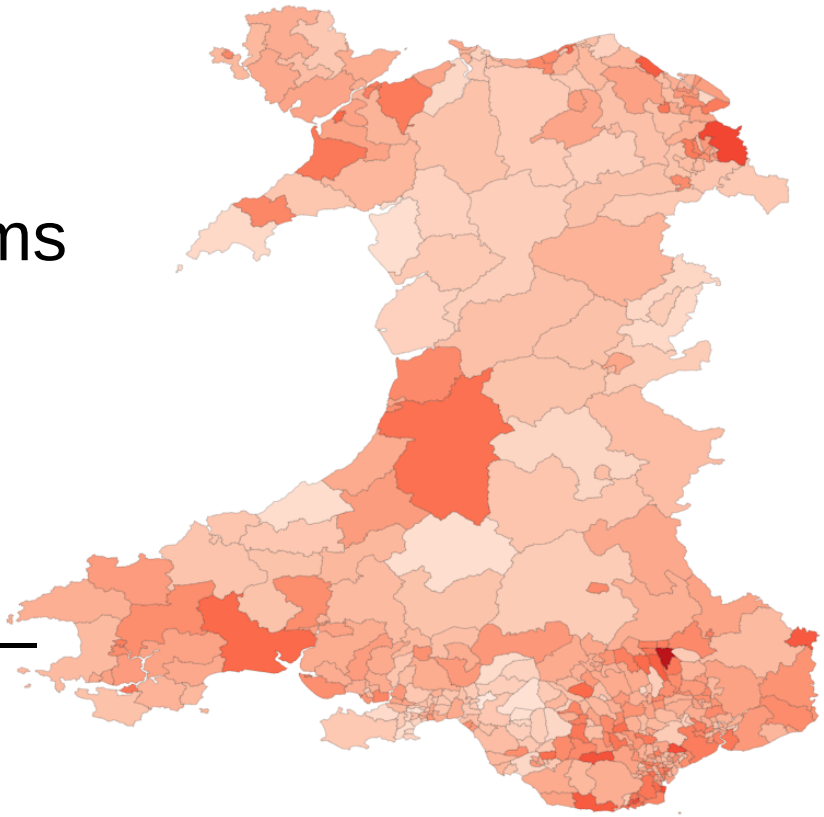
Covid mortality rate is nearly twice as high in most than least deprived quintile in Wales

Deaths from COVID-19, age-standardised rate per 100,000, persons, all ages, Wales by deprivation fifth, week ending 06 Mar 2020 to 24 Dec 2021
Produced by Public Health Wales Observatory, using PHM & MYE (ONS) & WIMD 2019 (WG)

The Wales rates plotted on the charts by deprivation differ from the main Wales rates for other breakdowns and are for comparison purposes with the deprivation fifths only. This is because lower super output area mid-year estimates, which the deprivation data are based on, are only available for 2019 currently. The main Wales chart should be used for reporting the all-Wales rates.

Looking at data in Wales

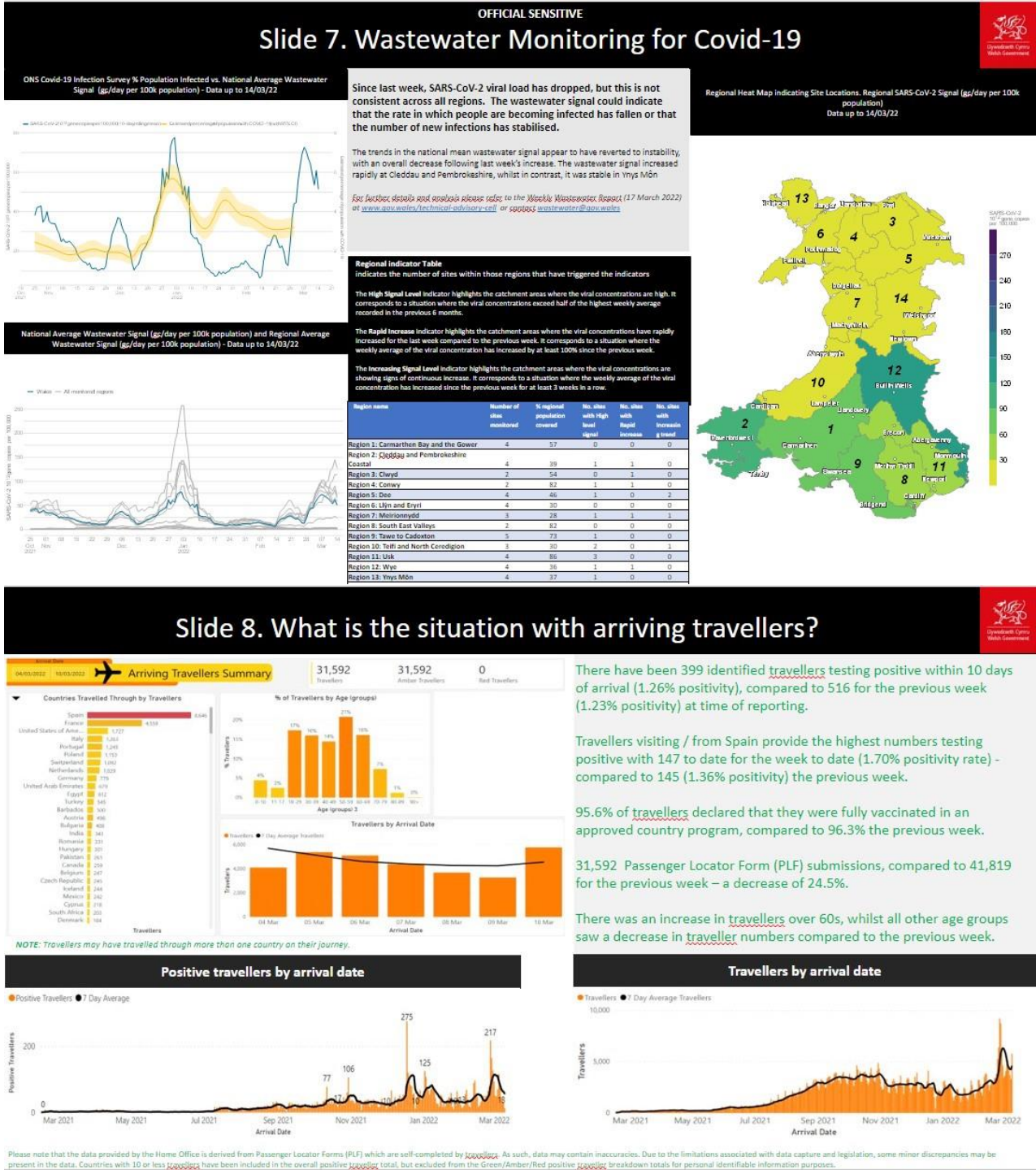
- We worked with Armakuni, a data science consultancy, to develop a covid-19 dashboard which feeds into our covid situational report
- PHW and DHCW and others provide data streams for Wales
- The amount of data and the frequency is much more than previously produced – allows unprecedented amount of triangulation
- Need to make the most of covid data to tell us about the relationship between different metrics – open data
- Innovations around using waste water, mobility data, web searches, etc



Wales Covid Situational Report (CSR)

- TAC and Covid Intel Cell have collated data from a scientifically robust set of intelligence sources for inclusion in a published report

- The CSR is a concise summary of timely and accurate COVID-19 Situational Awareness data for Wales, to support decision making (Ministerial, NHS etc) on matters relating to the pandemic in Wales



Wales Covid-19 Evidence Centre (WCEC)

Wales COVID-19 Evidence Centre
Canolfan Dystiolaeth COVID-19 Cymru

- The volume of evidence in the pandemic has been huge – lots of preprints where it is difficult to assess quality
- SAGE and subgroups have produced high quality evidence
- The WCEC was set up to ensure the best available, up-to-date, and relevant evidence is readily available to stakeholders involved in health and social care across Wales, to inform their decision making.
- Remit of **'good questions, answered quickly'** – the Centre works with stakeholders to prioritise and refine high-priority questions that will have actionable findings.

Example WCEC reviews relevant to socioeconomic harms

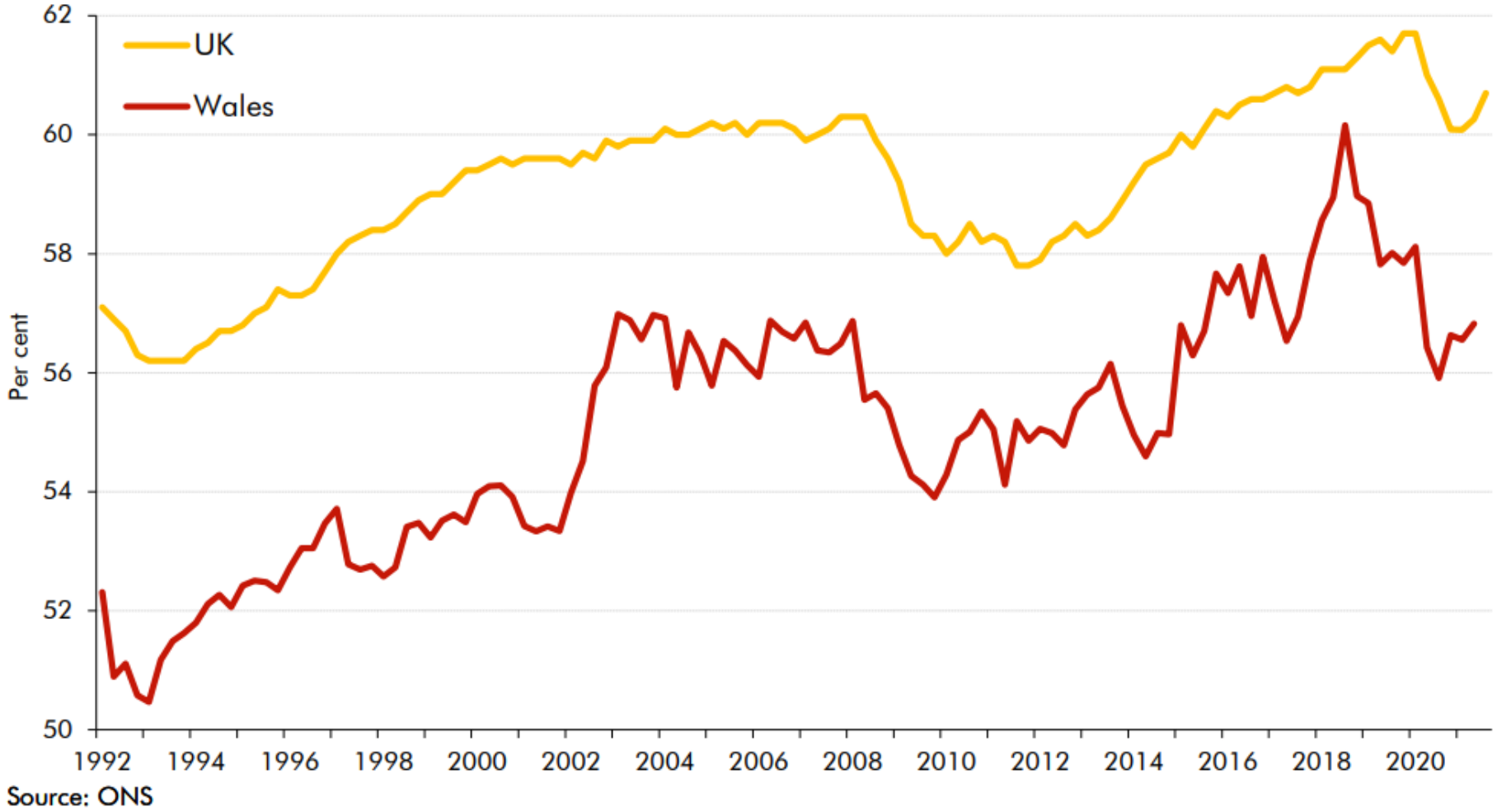
- Innovations to address inequalities experienced by women and girls
- Impact of restrictions on children
- Innovations to improve backlog e.g. surgical waiting lists, endoscopy
- Adverse effects of infection control measures in care homes
- Mental health of health and social care workers
- Alternative education delivery strategies for medical, dental, nursing and pharmacy education
- Barriers and facilitators to vaccine uptake
- Impact of long covid on health and social care costs, and quality of life

Integrated impact assessment: Balancing health and economic harms

- A lot of the time less covid means a stronger economy
- Considering trade offs – partly a technical process and partly a subjective process
- Evaluating GVA impacts vs. stringency of restrictions vs. health outcomes
- We have estimated healthcare costs and QALYs hard-coded in our models for Wales
- Value of a QALY makes a big difference – e.g. Treasury £60k vs. health production cost in the NHS £15k
- Complex systems - individual behaviours vs. government interventions
- How do we achieve cycles of health > human capital > employment (e.g. Marmot report yesterday)
- What is the cost of 1 covid case vs. the economic harm?

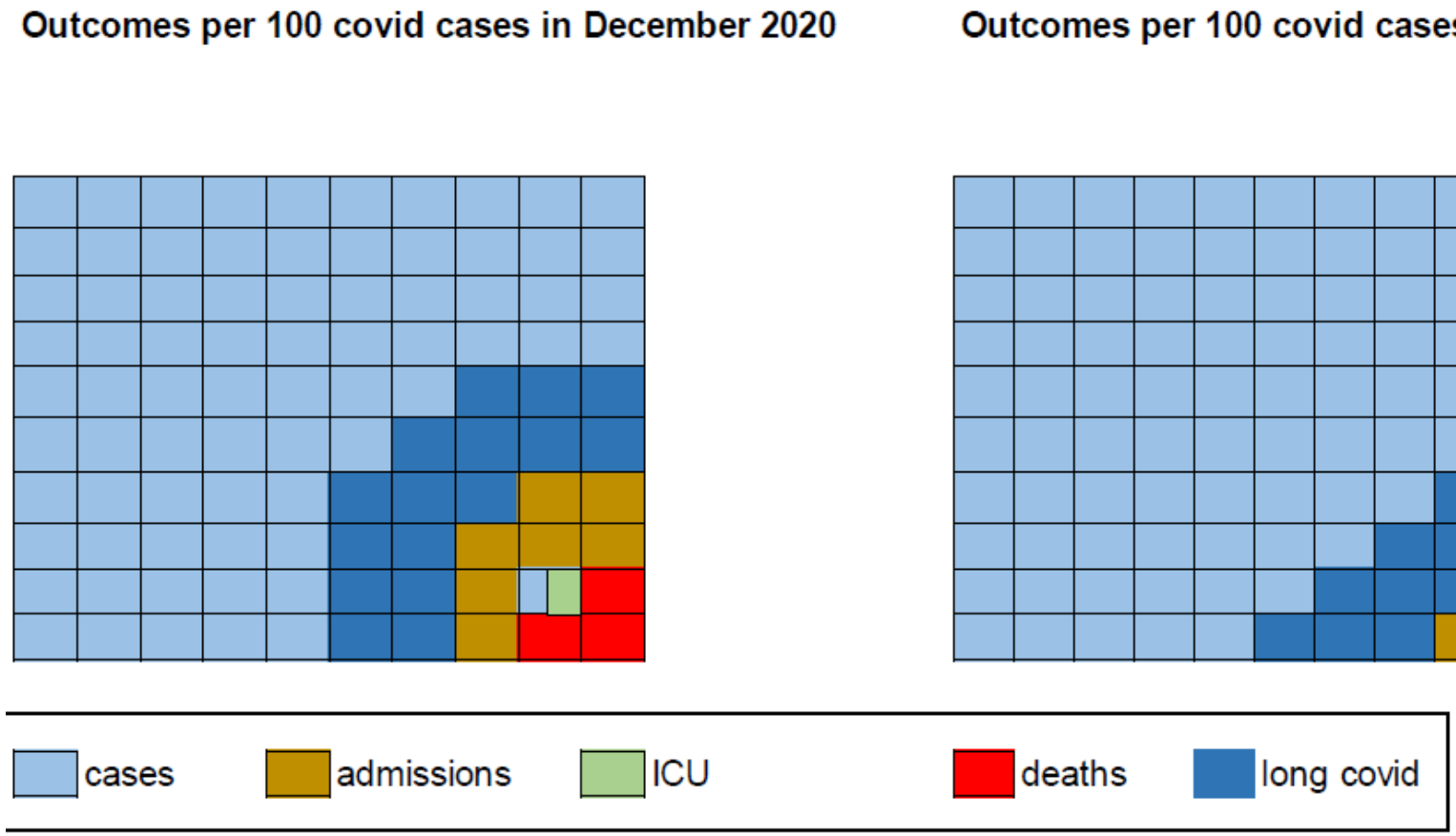
Trend in employment rate – UK vs. Wales

Chart 2.4: Employment rate for the UK and Wales

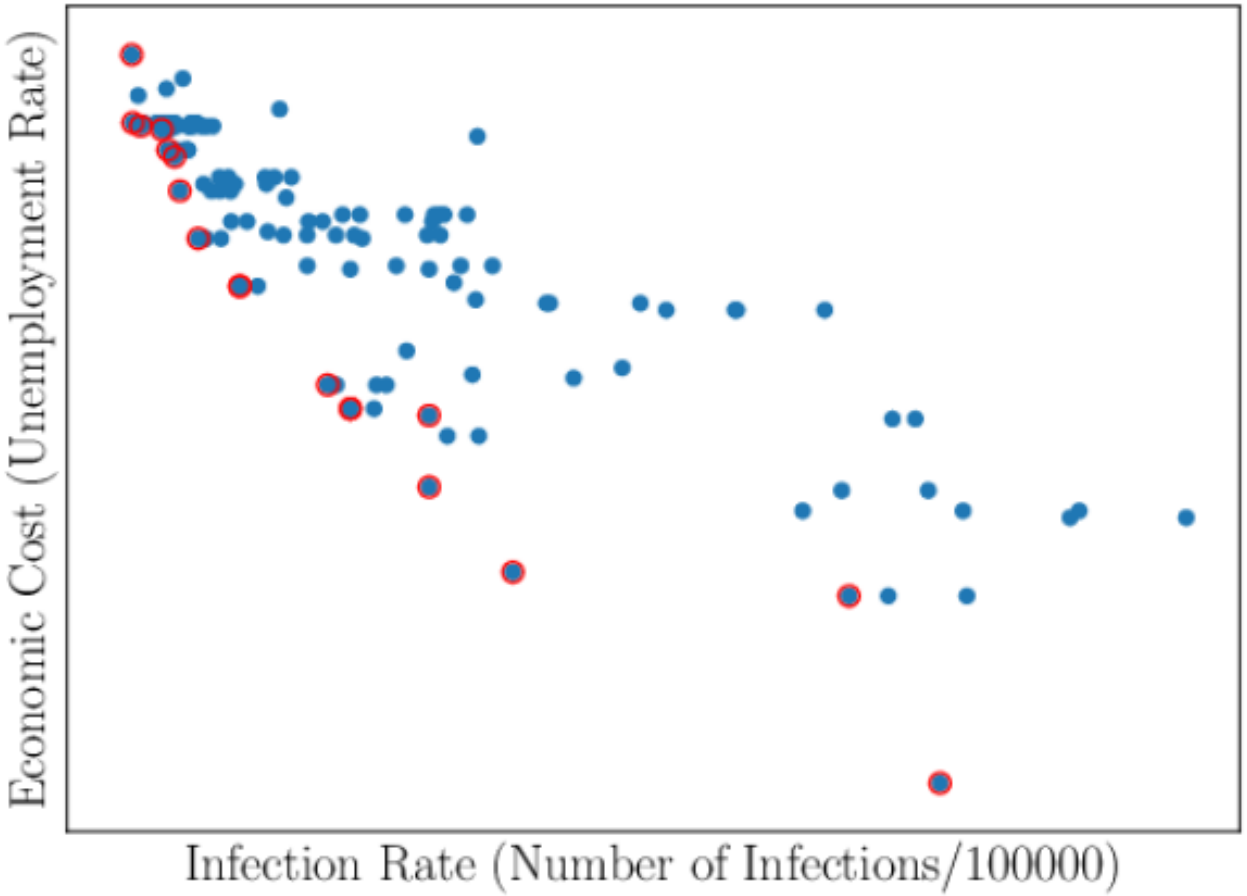


Source: ONS

Estimated social cost of a covid case in December 2020 was around £13,000 whereas in July 2021 it was around £2,500. Shift from mortality to morbidity making up majority of costs.



UKRI funded study; PI: Alma Rahat
Multi-objective Optimisation of Economics and Public Health



- UKRI grant
- Balancing other factors besides public health (e.g. economic) in pandemic
- Visual analytics for reasoning/explanation - analytics to process big data

Swansea University
Prifysgol Abertawe

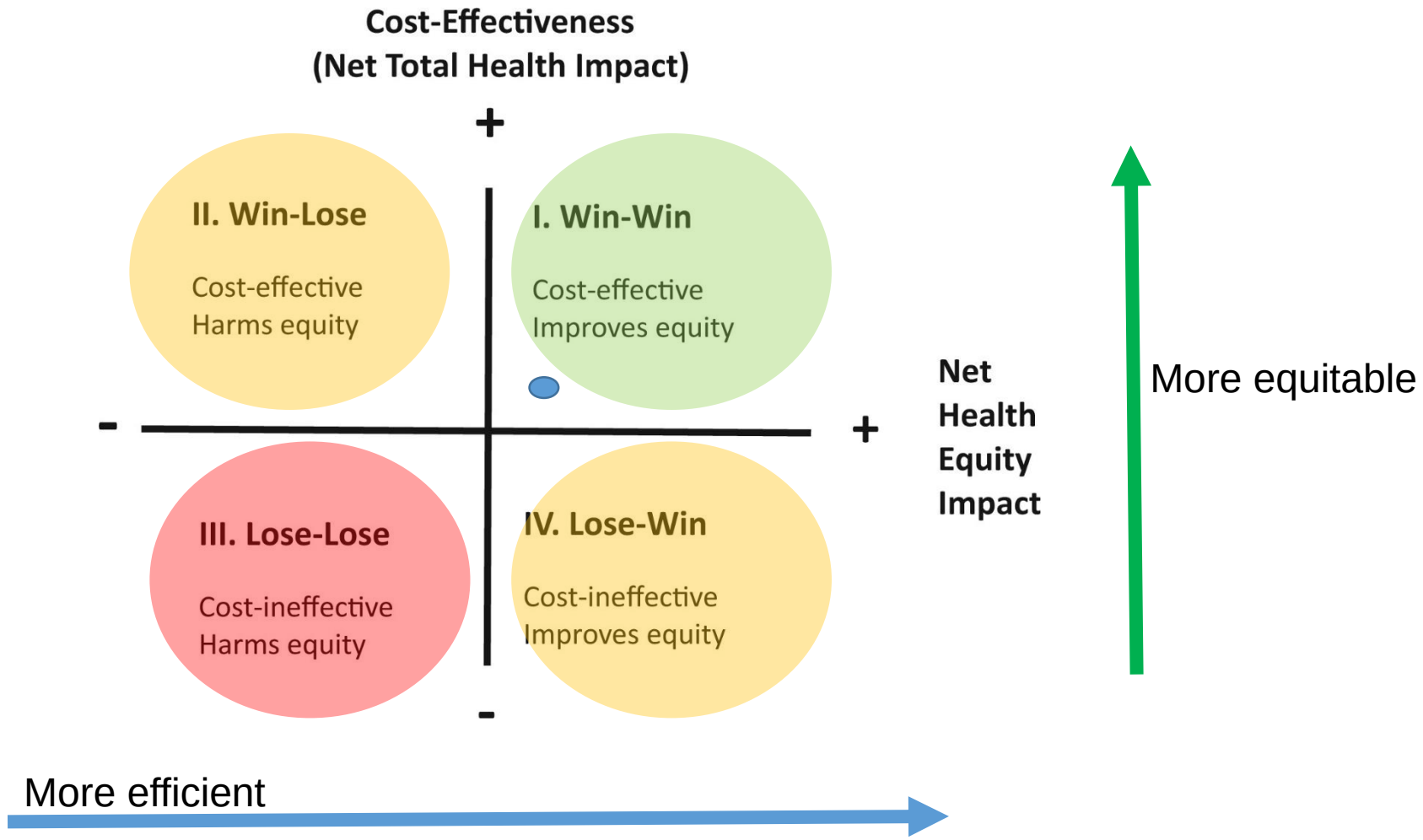
Balancing health, social and economic harms and inequalities

- Consider equity impact of covid policies

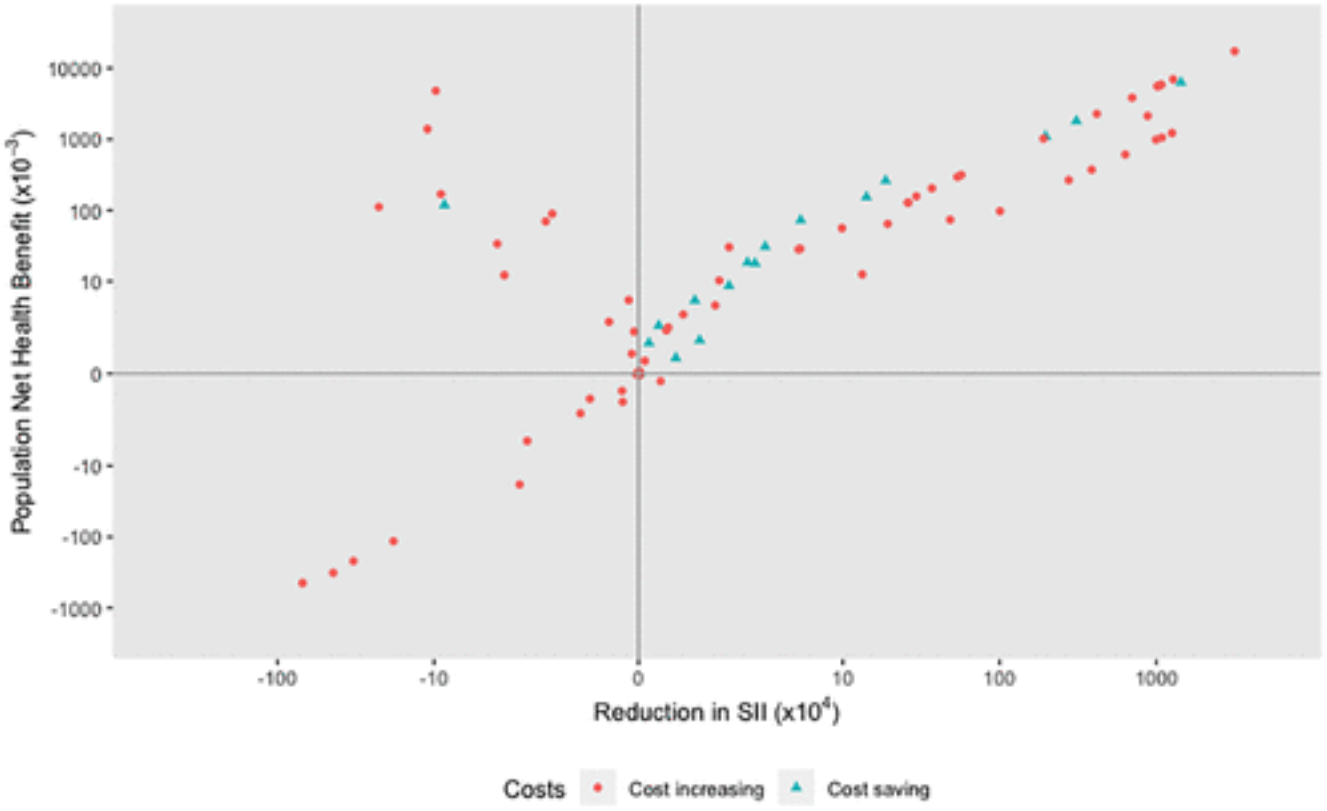
e.g. low income groups less likely to get tested, self isolate

- Low income groups less likely to get vaccinated.
- Minority ethnic groups (Pakistani and Bangladeshi) more likely to be in areas of enduring transmission, more likely to have severe outcomes of covid, and more likely to work in transport, hospitality and retail, where working from home is difficult.

The equity impact plane: showing equity/efficiency trade-offs

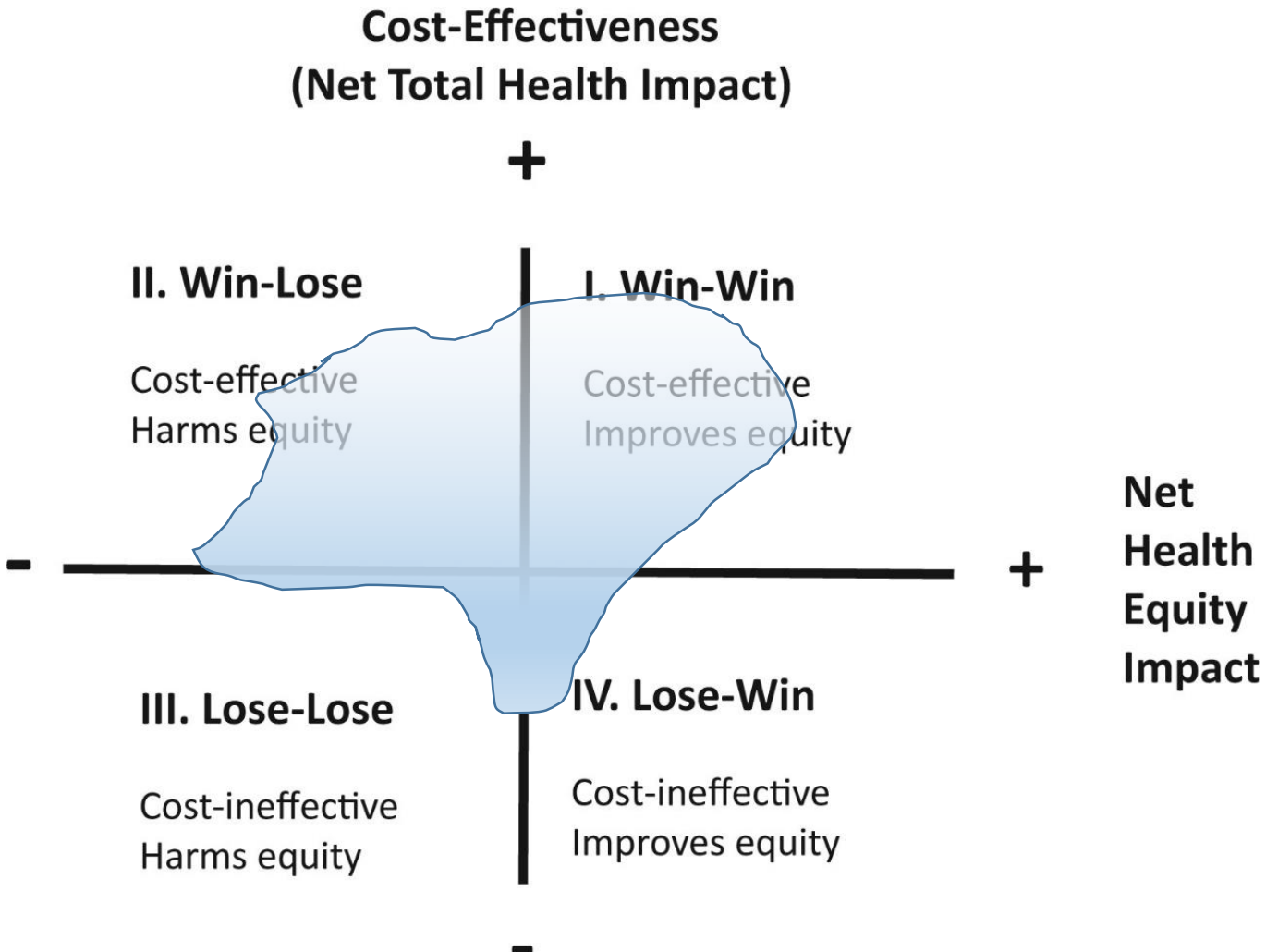


Work looking at NICE public health interventions on the equity plane



Griffin S, Love-Koh J, Pennington B, Owen L. Evaluation of intervention impact on health inequality for resource allocation. Medical Decision Making. 2019 Apr;39(3):171-82.

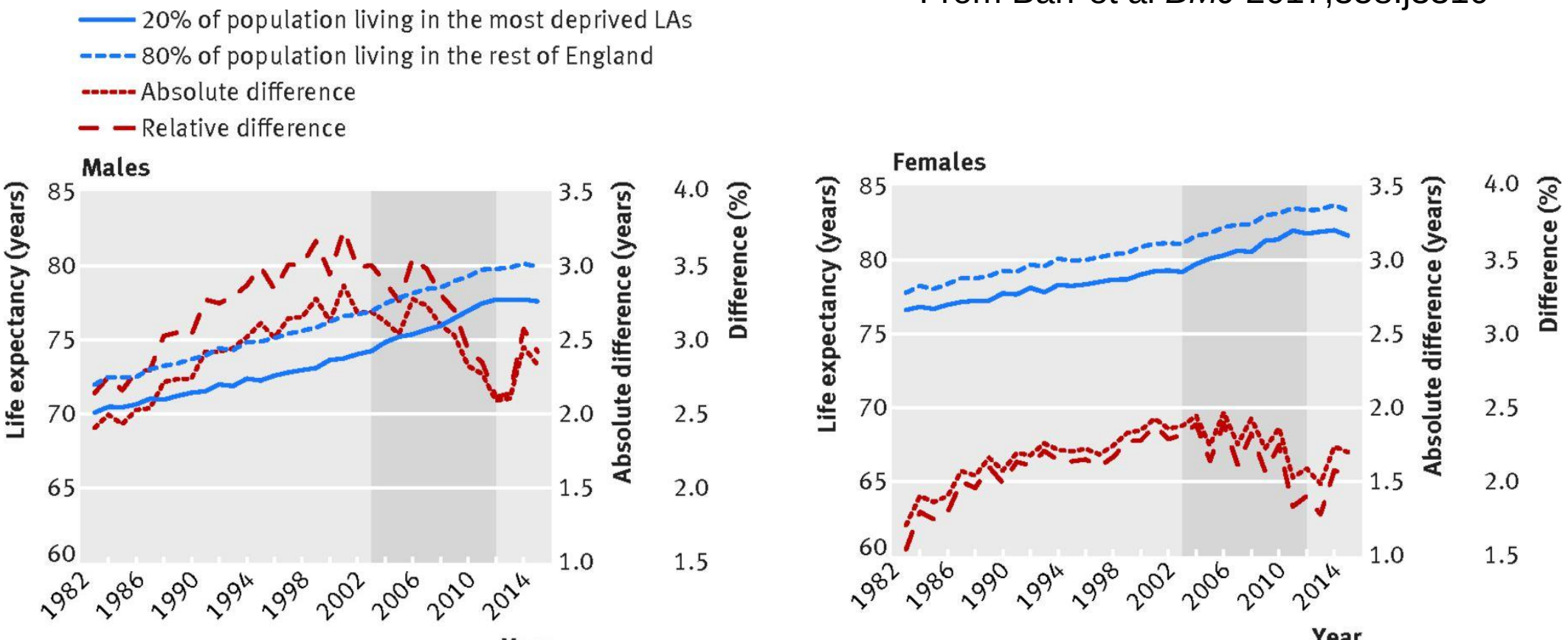
We want a win-win **portfolio** of interventions, not all interventions will be a win-win



Examples of where health inequalities have been reduced

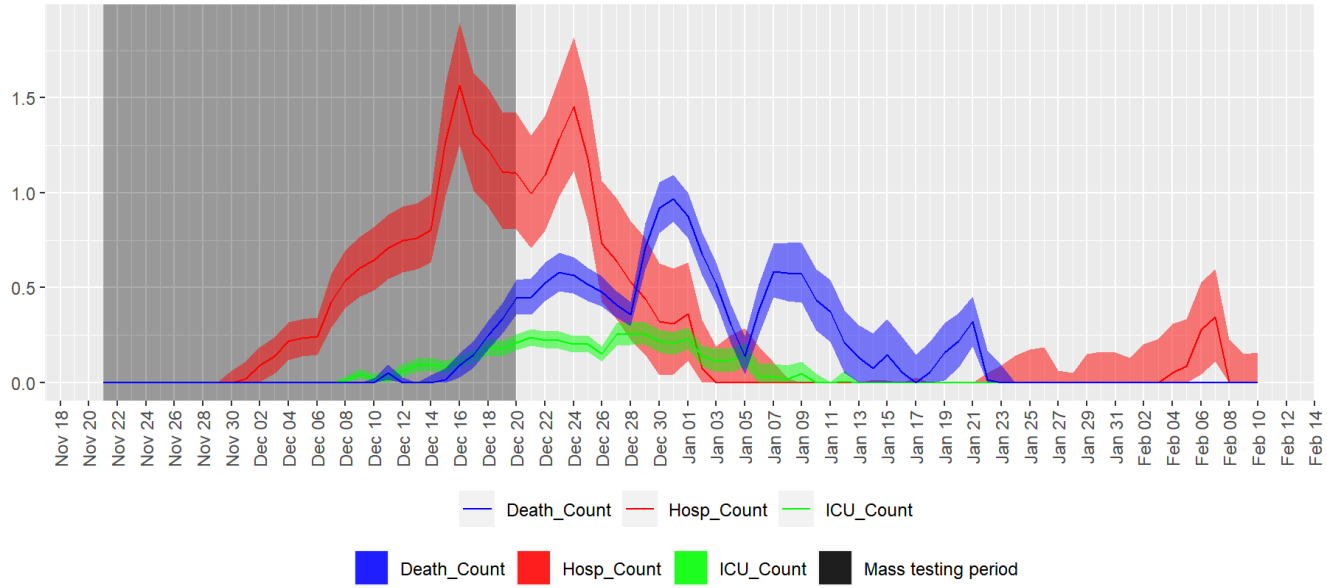
- English health inequalities strategy from 1997-2010

From Barr et al *BMJ* 2017;358:j3310



Local insights: example of mass testing in Merthyr Tydfil

- Deprived local authority with population of around 60,000
- Had very high cumulative infections, admissions and deaths
- Mass testing in around Nov-Dec 2020 was cost effective with an ICER of £2,143 per QALY
- However this was where WT and alpha were dominant variants, and before vaccination roll out – uptake was not equitable within the LA



Future considerations

- NHS balancing recovery and preparedness
- Social care capacity
- Educational losses and equity impact of these (£1,600 per week of face to face school missed) – time-poor parents
- A new understanding of winter viruses in general – better IPC including PPE and ventilation
- Long covid and other sequelae of covid infection like diabetes and CVD
- Fitness of the population – e.g. obesity, deconditioning
- Multi crisis – war in Ukraine, inflation, fuel/food poverty and impact on health, climate change and sustainability
- Health as part of foundational economy, promoting fair/good work

Summary

- Covid has exacerbated inequalities and created some new ones.
- Government, scientific, local and community response has been unprecedented – different disciplines working together.
- Need to take the best elements of this and use it to ‘build back better’ and look at equity impacts of Government policies in more detail.

Thank you

- Brendan Collins

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