

Inequalities exacerbated: an all-too-familiar story

Jonathan Stokes 

Centre for Primary Care and Health Services Research, University of Manchester, Manchester, UK

Correspondence to

Dr Jonathan Stokes, 5th Floor, Williamson Building, University of Manchester, Manchester, M13 9PL, UK; jonathan.m.stokes@manchester.ac.uk

Accepted 15 December 2021

Published Online First

18 January 2022

The direct effects of COVID-19—at least in terms of cases, hospitalisations and deaths—have been well documented in almost real time throughout the pandemic. Researchers, policymakers, clinicians and the public are now increasingly able to reflect on the multiple *indirect* effects of the pandemic and associated policy responses. In this issue of *BMJ Quality & Safety*, Warner and colleagues add to this literature, highlighting socioeconomic and ethnicity inequalities in disruptions to non-COVID-19 hospital activity.¹

While the inequalities that Warner and colleagues highlight constitute the core of their article, the impacts they report across the whole population should be underscored as they are astounding. Across England, from March up to 21 December 2020, the authors estimate 35.5% (3 million) fewer elective (planned) admissions and 22.0% (1.2 million) fewer emergency admissions than the equivalent period during the previous year. By the end of the analysis period, these rates had still not recovered to pre-pandemic levels. The extent of disruption varied by level of socioeconomic deprivation within each geographical area (range for elective admissions, 35.4%–36.8% reduction; for emergency, 20.6%–23.8% reduction) and by proportion of ethnic minorities living within an area (range for elective admissions, 34.7%–36.7% reduction; for emergency, 19.6%–27.7% reduction),¹ while it is also clear there has been a huge disruption to admitted hospital care across all groups.

This was, to a large extent, a result of trying to ensure quality and safety by policy design. As a novel, highly infectious virus emerged, policymakers rightly took a cautious approach by restricting potential routes of transmission and freeing capacity to treat. National Health Service (NHS) England sent a letter to chairs of NHS hospitals on 17 March

2020, setting out the intention to ‘free up the maximum possible inpatient and critical care capacity’—at least 30% (very similar to the estimated result, above)—, including postponing ‘all non-urgent elective operations from 15 April at the latest, for a period of at least 3 months’, and urgently discharging ‘all hospital inpatients who [were] medically fit to leave’.²

This supply-side disruption strategy was not unique to England. A recent comparison across 31 comparable Organisation for Economic Co-operation and Development (OECD) countries showed that every health system analysed had similarly cancelled or delayed non-urgent elective surgeries for a period.³ Globally, too, there have been disruptions to usual care in almost all country settings. The first WHO pulse survey on continuity of essential health services (collected May–July 2020) found that 90% of 105 countries experienced some disruption. Respondent countries listed cancellation of elective care as the predominant reason (66% of all countries) for inpatient care disruptions. Greater disruptions, however, were found in low/middle-income countries,⁴ thus highlighting that poorer countries have also been hit hardest by disruptions, just as poorer areas within countries have been. These disruptions, although reportedly less severe latterly (in terms of number of tracer services affected), were still being experienced by almost all countries (94% of 135) in the second wave of the survey (collected January–March 2021), and so were not just transient.⁵

THE IMPORTANCE OF PRE-EXISTING SYSTEM CONDITIONS

As with the direct effects of the virus, though, there are questions about whether, and to what extent, pre-existing system conditions might have moderated



► <http://dx.doi.org/10.1136/bmjqs-2021-013942>



© Author(s) (or their employer(s)) 2022. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Stokes J. *BMJ Qual Saf* 2022;**31**:561–564.

the policy response and effects. For example, it has been highlighted that, compared with similar OECD countries, in 2019 the NHS had a very low number of hospital beds (with high occupancy rates), and low numbers of staff (doctors and nurses) per capita.³ So few staff, in fact, that it struggled to use its purpose-built bed surge capacity, the Nightingale hospitals.⁶ The UK had also spent relatively less on healthcare capital expenditure (eg, infrastructure and equipment) compared with its OECD peers in the run-up to the pandemic.³ For all these measures, the UK was in the bottom third of OECD countries, except for nurses per capita (middle third). The nature of UK supply-chains also meant that testing and personal protective equipment was in short supply early in the pandemic, which may have further influenced policy decisions, leading, in the aftermath, to calls for a much larger UK manufacturing base, increased stockpiles and a better distribution network.⁷ A decade of fiscal austerity measures has also been suggested as a potential moderator, with cuts to multiple public services, including stretched public health and social care services⁸—that is, a gradual destruction of a public safety net, especially relevant for the least well-off. In general, all else equal, a system is likely to be less resilient and more vulnerable to longer-term consequences, including any negative policy spill-overs, when entering a crisis with less slack and fewer resources.³

Inequalities themselves constitute pre-existing conditions within England, and elsewhere. In 2018, the UK ranked 11th highest of 27 OECD countries on wealth inequality, and 3rd for income inequality, each measured by top 10% share. Wealth inequalities also grew in the UK (similar to the USA) post-2008 global financial crisis, whereas there were much more modest changes in other countries.⁹ England began the pandemic, despite universal health coverage, with ethnic inequalities in health-related quality of life and determinants of health.¹⁰ Moreover, inequalities by socioeconomic status also existed, in terms of exposure to risk factors, healthcare utilisation and health outcomes (although there were relatively fewer inequalities for measures of unmet need due to cost/distance, because access is free at the point of use).¹¹ A country's pre-existing income inequality was itself associated with higher numbers of COVID-19 cases and deaths across OECD countries.¹²

Pre-COVID-19, emergency admissions were already significantly higher in more deprived populations in England too, with a more equal dispersion of elective admissions.¹³ The higher use of emergency inpatient services in deprived areas in England was driven primarily by a higher prevalence of underlying diseases that have high national rates of emergency admissions, rather than because of less effective primary care, for example.¹⁴ These socioeconomic inequalities in emergency admissions were also already present in children, for all of the most common chronic conditions.¹⁵ These

pre-existing issues, particularly patterns of past care, meant Propper and colleagues were able to predict the resulting unequal impacts of hospital disruptions from the very beginning of the pandemic.¹³

Indeed, Warner and colleagues confirm these differential impacts of the disruptions.¹ Particularly, they found a greater reduction in elective admissions for the most deprived compared with the least deprived, but no significant ethnicity gradient. For non-COVID-19 emergency admissions, after controlling for differential prevalence of COVID-19 cases by area, they instead found smaller reductions for the most deprived (who, as above, already had the most emergency admissions—something health systems want to avoid)—but only for the less severe admissions (ie, those admissions with a primary diagnosis previously associated with a lower mortality rate). There were larger reductions for areas with greater numbers of ethnic minorities (for all admission severities).

These findings fit with the larger post-COVID-19 inequalities in literature, showing, as in previous pandemics,¹⁶ that existing inequalities do generally tend to be exacerbated across almost all measurable outcomes. For example, the direct impact of COVID-19 infection, as well as all-cause mortality, hospital occupancy rates and economic outcomes have all worsened in more deprived regions. People in such regions also spent longer in more severe lockdowns, with larger declines in mental well-being, greater loneliness and higher rates of antidepressant medications prescribed.¹⁷ More recently, the post-COVID-19 global economic downturn and rising inflation are also now likely to hit the most deprived hardest.¹⁶ In the same way as for differences between countries, individuals with the least resources, and already with the poorest health, tend to be least resilient to shocks.

Warner and colleagues thus report a familiar finding: when there is a crisis, those who are already worst off suffer the most. This begs important follow-up questions.

WHY HAVE INEQUALITIES BEEN EXACERBATED, AND WHAT CAN WE DO ABOUT IT?

Warner and colleagues discuss plausible explanations, but it was not possible to get at the underlying reasons for this inequality exacerbation. While, as outlined above, the overall disruptions were largely a policy decision on the supply-side, Warner and colleagues suggest that inequality exacerbation is more likely to be driven by the demand-side, especially those for ethnicity.¹ 'Demand-side' here includes any reason that the patient might not seek or attend care, however. So, it is not possible, for instance, to conclude whether any changes in care corresponded to changes in *need* for care. If, for example, any decreases in care were caused by a greater decrease in workplace or traffic accidents, or other risky behaviours during this period, then there might actually be a positive inequality. However,

if the decrease was caused by patients with a medical need choosing not to attend, or being unable to attend despite their need, this would amount to unequal access and perhaps reduced quality of care.

In reality, there is likely to be a mix of positive and negative reasons. There were correspondingly large decreases in diagnoses of physical and mental health conditions in primary care during this period,¹⁸ which does suggest that there was significant unmet need in the system as a whole. There is also growing evidence of non-COVID-19 excess deaths that has appeared more recently,¹⁹ possibly linked to delayed care. But, there are also historical differences in occupational injury rates, with a higher than average risk of workplace injury in 'blue-collar', as opposed to 'white-collar' jobs.²⁰ Low earners, likely to be most at risk of workplace injury, were seven times as likely to have worked in sectors shut down due to social isolation measures in the UK.²¹ 'Community fear' was another major reason for reduced demand highlighted in the WHO pulse survey.⁵ While, as Warner and colleagues point out,¹ a demand-side response to a supply-side intervention, government messaging (eg, 'Protect the NHS'), along with lockdowns and other responsive policies, might also have restricted patient access. In some settings, 43% of countries also reported reduced access due to financial difficulties caused by lockdowns.⁵ Although healthcare access itself is free at the point of delivery in the UK, this constraint could also apply to travel to care settings.

The inability to fully tease out the contributions of each of these potential reasons, and so to address them in future policy, is largely due to a lack of availability of appropriate data. In England, as in many countries, we do not have research data linked across all public, or even all NHS healthcare, administrative settings. This means that we are unable to check whether care for an individual has been transferred to other settings, or whether the individual has perhaps even moved to another region or country and received care there instead. As Warner and colleagues point out, they are unable to rule out whether results are actually driven by changes to the denominator, that is, changes to the underlying composition/numbers of population living in the areas of interest which could also affect the volumes of admissions.

This lack of individual-linked data also forces researchers to conduct inequalities research at the aggregate level. For instance, Warner and colleagues use a standard census geographical unit of over 8000 people for analysis.¹ This means they need to assume everyone within that geographical unit is exposed to the same (ie, the average) level of ethnicity (which is hard to imagine in terms of what that might mean for an individual), and deprivation assigned to that unit. To illustrate, instead of your own income defining your 'inequality exposure', it is defined by those of the 8000 people living around you. This is clearly

far from ideal, but necessary when we do not have individual-linked administrative data (eg, tax/census data for income/ethnicity). Having this linkage, while necessary to fully capture inequality effects, is a rarity worldwide. However, it does tend to be available in Scandinavian countries—coincidentally those countries with some of the smallest inequalities.

Arguably, though, to do something about the root causes of inequalities, we already have sufficient information. I will concentrate here on deprivation since it is most obviously changeable and highly correlated with ethnicity inequalities. While strong and resilient health systems are important, we know that up to 90% of our health is determined outside of the health system directly²²—so health systems are not the only, nor likely even the main, actor able to address these 'wider determinants of health'.²³ Emphasis, then, needs to be placed on getting upstream, on addressing these social determinants directly, and preventing these diseases from developing in the first place. After all, it is the prevalence of these diseases which seems to drive the underlying emergency admission inequalities too.¹⁴ This is a wider economic distributional issue and will, therefore, probably involve mainly tried and tested economic interventions, such as a strong welfare state, progressive tax rates to redistribute income from top to bottom, and perhaps also more innovative interventions, such as universal basic incomes and/or progressive wealth taxes.²⁴

CONCLUSION

In sum, policymakers, faced with a novel virus, disrupted hospital care for everyone. As ever, those individuals, and countries, with least resources were affected most by the shock. Researchers, in most countries, lack enough individual-linked data to fully explore the mechanistic nuances. Making such data available for research should thus be a priority for the future. Those working to improve quality and safety within health systems might have access to better data more immediately to begin to explore and address these drivers, and will also need to begin to manage waiting lists and prioritise access to care as beds become available. Policymakers should ultimately, though, work on addressing the root cause(s), that is, the underlying, persistent inequalities directly, particularly relating to income/wealth. This is a wider economic distributional issue, which would simultaneously address multiple 'social determinants of health'. We should, therefore, pressure policymakers to address inequalities through economic interventions, and not pretend we can plaster over them with individually targeted healthcare interventions after the damage has already been done.

Contributors JS wrote the editorial.

Funding JS is funded by a personal research fellowship from the Medical Research Council (MRC grant ref: MR/T027517/1).

Competing interests None declared.

Patient consent for publication Not required.

Ethics approval This study does not involve human participants.

Provenance and peer review Commissioned; internally peer reviewed.

ORCID iD

Jonathan Stokes <http://orcid.org/0000-0002-3266-1474>

REFERENCES

- Warner M, Burn S, Stoye G, *et al.* Socioeconomic deprivation and ethnicity inequalities in disruption to NHS hospital admissions during the COVID-19 pandemic: a national observational study. *BMJ Qual Saf* 2022;31:590–8.
- NHS England and NHS Improvement. Important and urgent—next steps on NHS response to covid-19, 2020. Available: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/20200317-NHS-COVID-letter-FINAL.pdf>
- Reed S. Resuming health services during the Covid-19 pandemic What can the NHS learn from other countries?2020. Available: <https://www.nuffieldtrust.org.uk/files/2020-07/resuming-health-services-web.pdf>
- World Health Organization. Pulse survey on continuity of essential health services during the COVID-19 pandemic: interim report, 2020. Available: https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS_continuity-survey-2020.1 [Accessed 27 Aug 2020].
- World Health Organization. Second round of the National pulse survey on continuity of essential health services during the COVID-19 pandemic: interim report, 2021. Available: <https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1> [Accessed 22 Apr 2021].
- Charlesworth A. Staff shortages left the NHS vulnerable to the COVID-19 storm, 2021. Available: <https://www.health.org.uk/news-and-comment/blogs/staff-shortages-left-the-nhs-vulnerable-to-the-covid-19-storm>
- National Audit Office. The supply of personal protective equipment (PPE) during the COVID-19 pandemic, 2020. Available: <https://www.nao.org.uk/wp-content/uploads/2020/11/The-supply-of-personal-protective-equipment-PPE-during-the-COVID-19-pandemic.pdf>
- BMA. Austerity – COVID’s little helper, 2020. Available: <https://www.bma.org.uk/news-and-opinion/austerity-covid-s-little-helper>
- Balestra C, Tonkin R. Inequalities in household wealth across OECD countries: evidence from the OECD wealth distribution database, 2018. Available: <https://dx.doi.org/10.1787/7e1bf673-en>
- Watkinson RE, Sutton M, Turner AJ. Ethnic inequalities in health-related quality of life among older adults in England: secondary analysis of a national cross-sectional survey. *Lancet Public Health* 2021;6:e145–54.
- OECD. *Health for everyone?: social inequalities in health and health systems*. OECD Health Policy Studies: OECD Publishing Paris, 2019. <https://doi.org/10.1787/3c8385d0-en>
- Wildman J. COVID-19 and income inequality in OECD countries. *Eur J Health Econ* 2021;22:455–62.
- Propper C, Stoye G, Zaranko B. The wider impacts of the coronavirus pandemic on the NHS. *Fisc Stud* 2020;41:345–56.
- McCormick B, Hill P-S, Redding S. Comparative morbidities and the share of emergencies in hospital admissions in deprived areas: a method and evidence from English administrative data. *BMJ Open* 2018;8:e022573.
- et alKossarova L, Cheung R, Hargreaves D. Admissions of inequality: emergency hospital use for children and young people, 2017. Available: <https://www.nuffieldtrust.org.uk/files/2017-12/nt-admissions-of-inequality-web.pdf>
- Bambra C, Riordan R, Ford J, *et al.* The COVID-19 pandemic and health inequalities. *J Epidemiol Community Health* 2020;121:964–8.
- Munford L, Khavandi S, Bambra C. A year of COVID-19 in the North: regional inequalities in health and economic outcomes, Northern health science alliance, Newcastle, 2021. Available: <https://www.thenhsa.co.uk/app/uploads/2021/09/COVID-REPORT-2021-EMBARGO.pdf>
- Williams R, Jenkins DA, Ashcroft DM, *et al.* Diagnosis of physical and mental health conditions in primary care during the COVID-19 pandemic: a retrospective cohort study. *Lancet Public Health* 2020;5:e543–50.
- ONS. Deaths registered weekly in England and Wales, provisional, 2021. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredweeklyinenglandandwalesprovisional/29october2021> [Accessed 29 Oct 2021].
- McKnight A, Elias P, Wilson L. *Workplace injuries and workforce trends: HSE books*, 2001. https://www.hse.gov.uk/research/crr_pdf/2001/crr01281.pdf
- Joyce R, Xu X. Sector shutdowns during the coronavirus crisis: which workers are most exposed, 2020. Available: <https://ifs.org.uk/publications/14791>
- McGovern L, Miller G, Hughes-Cromwick P. *The relative contribution of multiple determinants to health outcomes*. Health Affairs, 2014.
- World Health Organization. Closing the gap in a generation: health equity through action on the social determinants of health: final report of the Commission on social determinants of health, 2008. Available: https://www.who.int/social_determinants/final_report/csdh_finalreport_2008.pdf
- Piketty T. *Capital and ideology*. Harvard University Press, 2020.