![UK Longitudinal Linkage Collaboration logo]

We spoke with first author, Mark Green, about their experience writing their paper and working with UK LLC.

[Associations between self-reported healthcare disruption due to covid-19 and avoidable hospital admission: evidence from seven linked longitudinal studies for England.](#)

How did the study come about?

I was fortunate to be accepted onto a MRC fellowship in 2021 titled 'Using data to improve public health: COVID-19 secondment'. During the fellowship, myself and the other secondees were asked to select a research area and I joined the 'healthcare disruption' team led by Vittal Katikireddi and John Macleod. Following quite a fair bit of discussion and reviewing

the literature, we identified that there was a lot of evidence describing the extent of disrupted access to healthcare during the COVID-19 pandemic but far less actually showing what the impact of this disruption was. This really peaked our interests – there were a lot of opinions about what might happen, but no-one seemed to have any empirical evidence to back this up.

What difficulties did you encounter along the way?

The biggest difficulty we encountered was how best to conceptualise and measure our exposures and outcomes. Measuring what exactly healthcare disruption was meant trying to find something that could capture the complexity of how people might engage with healthcare. People were disrupted in seeing their GPs (both in person, but also people were put off using online forms), treatments and surgery were cancelled or postponed, and constant worries might have put people off going to hospital. We ended up using self-reported questions asked to individuals about their experiences. We felt that individuals were best placed to report on their lived experiences and this was therefore valid at capturing this wider range of disruption.

Similarly, linking these experiences of disruption to observable health outcomes was also complex. Disruption across different levels of the health system might produce different health impacts, creating a complicated web of potential cause and effects. We ended up investigating the impacts

on avoidable hospitalisations – hospital admissions for causes that could have been potentially prevented with adequate access to healthcare (e.g., asthma complications, diabetes, conditions that could have been vaccinated against). We felt that if any disruption in accessing healthcare was meaningful, we might see people being admitted to hospital for reasons that could have easily been prevented.

Ultimately, having access to the UK LLC was the only way we could do our analyses. There were no other datasets available that had linked detailed individual-level surveys about lived experiences during COVID-19 to electronic health records. We were quite uniquely placed compared to others to investigate this research question that no one else could.

What did you learn that you didn't expect?

I honestly did not have any preconception about the nature of the association we would detect. For me, this was truly exciting as I did not know what to expect when we ran our analyses. One might argue that the NHS was resilient during the pandemic – able to reorganise and continue to deliver a high level of care (e.g., moving appointments online, offering individuals different types of treatment). Others could argue that the level of disruption was unprecedented and that disruptions in accessing treatment have longer term consequences (e.g., disease progression making it harder to treat). Finding out and making sense of our results was interesting because we did not know what to expect.

About:

UK Longitudinal Linkage Collaboration (UK LLC) is the national Trusted Research Environment for longitudinal research. Led by the Universities of Bristol and Edinburgh, in collaboration with UCL, SeRP UK, Swansea University and the University of Leicester, it is a collaborative endeavour with many of the UK's most established longitudinal studies.

UK LLC's mission is to provide a data linkage resource to its partner studies and to provide a simple one-application process to UK based researchers applying to access linked longitudinal data.

This unique resource enables cross-sector research and supporting research responses to immediate situations and future policy needs. The greater availability of large scale, diverse linked data will help provide numbers for researchers to study rarer outcomes and seldom reached populations.

UK LLC's TRE approach helps ensure that data it holds is secure, transparent and subject to the 'Five Safes' set of safeguards. The partnership includes a strong public contribution with members of the public and study participants informing decision-making and design.

The studies collaborating in UK LLC are:

Airwave Health Monitoring Study, Avon Longitudinal Study of Parents and Children (ALSPAC), 1970 British Cohort Study (BCS70), Born in Bradford (BIB), English Longitudinal Study of Ageing (ELSA), The European Prospective Investigation into Cancer (EPIC) Norfolk Study, Extended Cohort for E-health, Environment and DNA (EXCEED), The Fenland Study, Generation Scotland, Genetic Links to Anxiety and Depression Study (GLAD), The Millennium Cohort Study (MCS), 1958 National Child Development Study (NCDS), Next Steps, Northern Ireland Cohort for the Longitudinal Study of Ageing (NICOLA), MRC National Survey of Health and Development Cohort/1946 Birth Cohort (NSHD/1946BC), National Institute of Health Research (NIHR) BioResource COVID-19 Psychiatry and Neurological Genetics (COPING) Study, Southall and Brent Revisited (SABRE) (non-linked data only), TRACK-COVID Study, TwinsUK, Understanding Society - the UK Household Longitudinal Study (UKHLS).

Enquire via the UK LLC portal on the HDR UK Innovation Gateway

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