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- Horton R. Offline: Decolonisation and the demand for a just memory. *Lancet* 2021; **398**: 1787.



Depression and anxiety during COVID-19

The COVID-19 Mental Disorders Collaborators conclude that, throughout 2020, the pandemic led to a 27.6% increase in cases of major depressive disorders and 25.6% increase in cases of anxiety disorders globally.¹ However, we propose that these prevalence estimates are likely to be substantially inflated. Decades of trauma research has shown that, for most people, negative life events such as bereavement or disaster exposure are typically followed by resilience (minimal effect on symptoms of anxiety, or depression, or both) or recovery (initial short-term increase in symptoms of anxiety, or depression, or both, followed by recovery).² This pattern matches what large-scale studies and reviews³⁻⁵ have found in the context of COVID-19. In a meta-analysis of longitudinal cohort studies,³ there was an acute increase in mental health symptoms at the pandemic onset. Symptoms declined significantly over time and were indistinguishable from prepandemic symptom profiles within a few months of the outbreak.

Psychological adaptation matters in the context of the collaborators' study,¹ because the authors' estimates of the COVID-19 impact are based on studies done primarily during the very early phase of the pandemic (data collection for 39 of 48 studies occurred primarily between March and May, 2020; appendix). At that time, symptoms of anxiety or depression were at their most severe and probably represented an acute reaction to an unexpected

and unknown emerging crisis. The authors then extrapolated from those immediate reactions to infer how SARS-CoV-2 infection rates and human mobility affected mental health throughout 2020. However, a failure to take into account the short-lived nature of changes in mental health symptoms during the pandemic and the potentially diminishing relationship between indicators of COVID-19 impact and anxiety or depression throughout 2020, means that prevalence estimates might be grossly overestimated in the collaborators' study.

We declare no competing interests.

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- COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *Lancet* 2021; **398**: 1700-12.
- Chen S, Bonanno GA. Psychological adjustment during the global outbreak of COVID-19: a resilience perspective. *Psychol Trauma* 2020; **12**: S51-54.
- Robinson E, Sutin AR, Daly M, Jones A. A systematic review and meta-analysis of longitudinal cohort studies comparing mental health before versus during the COVID-19 pandemic in 2020. *J Affect Disord* 2022; **296**: 567-76.
- Daly M, Robinson E. Psychological distress and adaptation to the COVID-19 crisis in the United States. *J Psychiatr Res* 2021; **136**: 603-09.
- Fancourt D, Steptoe A, Bu F. Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: a longitudinal observational study. *Lancet Psychiatry* 2021; **8**: 141-49.

Authors' reply

We thank Michael Daly and Eric Robinson for their comments on our Article.¹ We share Daly and Robinson's caution against generalising mental disorder prevalence estimates solely from the very early phases of the COVID-19 pandemic. Our methods took this timing into account in several ways. Every estimate that informed our model had corresponding values of the impact of the pandemic (estimates of human mobility and SARS-CoV-2

infection rate) for the period in which the survey was done, whether it was early or later during the course of the pandemic. We extrapolated the change in prevalence (by age, sex, and location) for each day of the year 2020, on the basis of daily estimates of the COVID-19 impact indicators. We then calculated the average daily prevalence for the year 2020 to represent the annual point prevalence for that year. This approach meant that our extrapolated annual point prevalences incorporated the prevalences during the months leading up to the pandemic, the very early phases of the pandemic, the time between waves of infection, and subsequent waves and prevention measures.

Although Daly and Robinson are correct that the most common month of data collection was April, 2020, we also had studies providing data for every month between March, 2020 and January, 2021 (appendix). We had 12 studies reporting on prevalence from June, 2020 onwards. Many of these studies about the later months in 2020 still reported elevated COVID-19 prevalence. For example, data from Knudsen and colleagues² suggested a 70% increase in the prevalence of major depressive disorders (via diagnostic interview) in Trondheim, Norway, during August and September, 2020, compared with prepandemic estimates. Also, the Household Impacts of COVID-19 Survey³ in Australia reported a 71% increase in the prevalence of psychological distress in November, 2020 compared with prepandemic estimates.

The broader literature on the effect of past population shocks also shows substantial increases in mental disorder prevalence. For example, prevalences of major depressive episodes doubled after the 2009 financial crisis in Greece,⁴ and increased by more than 50% following the 2008 financial crisis in Hong Kong.⁵ Elevated prevalence of depressive and anxiety disorders have also been observed in conflict-affected populations.⁶

See Online for appendix



See Online for appendix