

Adrien Allorant's contribution to the Discussion of 'Some statistical aspects of the Covid-19 response' by Wood et al.

Dr. Adrien Allorant, Lecturer in Social Statistics, Social Statistics and Demography, University of Southampton, adrien.allorant@soton.ac.uk

Wood et al. offer a valuable perspective on COVID-19 response strategies, including a preliminary cost–benefit assessment. Nonetheless, several points warrant further scrutiny. First, their estimate of life-years saved accounts only for mortality while excluding morbidity—such as long COVID and post-infection cognitive impairment—which can reduce quality of life and exert substantial economic and healthcare burdens. Moreover, the mortality figures themselves may be conservative, as indicated by the WHO Excess Mortality Team's *Nature* study suggesting that true COVID-19 death tolls outstrip official counts ¹. Such underestimation risks skewing the cost-per-life-year analysis upward.

Second, while Figure 1 clarifies that COVID-19 contributed a small share of total deaths in younger populations, it does not imply a low case fatality rate for those groups. Historically, all-cause mortality among the young is low, so even a modest infection fatality rate can produce significant excess deaths when large cohorts are exposed.

Third, the paper's argument that economic shocks may ultimately cause more life loss than COVID itself rests on historical recession data that may not extrapolate cleanly to the UK pandemic context. Crises in countries without universal health coverage have shown strong links between economic hardship and mortality. Yet in the UK, extensive fiscal measures, furlough schemes, and the NHS likely mitigated the worst outcomes. Consequently, interpreting the 2008 global financial crisis as a straightforward analogue could overstate the indirect health costs of COVID-19 interventions.

Finally, Wood et al. give insufficient attention to the imminent threat of critical care overload. Nonpharmaceutical interventions aimed to reduce ICU saturation, an acute danger during infection surges. Had the NHS been overwhelmed, mortality from both COVID-19 and other conditions would have escalated sharply ². Assessing the cost-effectiveness of lockdowns and related policies should factor in the potential collapse of healthcare delivery, which carries profound human and economic ramifications.

In summary, while Wood et al. stimulate a valuable debate, future analyses should incorporate morbidity measures, robust excess mortality estimates, careful evaluation of recession analogies, and the imperative of safeguarding healthcare capacity. Such a holistic approach would yield more balanced conclusions about the trade-offs entailed in pandemic policymaking.

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References

- 1 Msemburi W, Karlinsky A, Knutson V, Aleshin-Guendel S, Chatterji S, Wakefield J. The WHO estimates of excess mortality associated with the COVID-19 pandemic. *Nature* 2023; **613**: 130–7.
- 2 Kj F, C S, Tm C. NHS hospital capacity during covid-19: overstretched staff, space, systems, and stuff. *BMJ (Clinical research ed)* 2024; **385**. DOI:10.1136/bmj-2023-075613.