Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

vaccine complete responders, who most likely do not require frequent re-dosing; partial responders, who would benefit from re-dosing; and limited or non-responders, for whom we desperately need alternative prevention options, such as effective pre-exposure or post-exposure prophylaxis.[3] Monoclonal antibody strategies have been shown to be ephemeral, and more advances are needed in this space.[4] The large UK dataset used by Agrawal and colleagues might be useful for identifying these vaccine response phenotypes, through subanalyses stratified simultaneously by age and the number of comorbidities, with separate analyses for boosted or unboosted patients. Findings could be used to inform practice regarding vaccine distribution campaigns, targeting those who are likely to derive substantial clinical benefit from additional vaccine doses.

WB-E and PAM were both site investigators for a clinical trial of remdesivir, which was sponsored by Gilead Sciences.

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1 Agrawal U, Bedston S, McCowan C, et al. Severe COVID-19 outcomes after full vaccination of primary schedule and initial boosters: pooled analysis of national prospective cohort studies of 30 million individuals in England, Northern Ireland, Scotland, and Wales. *Lancet* 2022; **400:** 1305–20.

2 Vo AD, La J, Wu JT, et al. Factors associated with severe COVID-19 among vaccinated adults treated in US Veterans Affairs hospitals. *JAMA Netw Open* 2022; **5:** e2240037.

3 Monach P, Branch-Elliman W. From pandemic to endemic. February, 2022. https://www.contagionlive.com/view/from-pandemic-to-endemic (accessed Oct 24, 2022).

4 Focosi D, McConnell S, Casadevall A. The omicron variant of concern: diversification and convergent evolution in spike protein, and escape from anti-spike monoclonal antibodies. *Drug Resist Updat* 2022; **65:** 100882.

Authors' reply

We welcome the Correspondence from Westyn Branch-Elliman and Paul A Monach in which they hypothesise that there are some individuals who, after completion of their primary COVID-19 vaccination course, do not need frequent vaccine re-dosing; others who might benefit from periodic re-dosing; and others who could, irrespective of the number of doses given, respond poorly to vaccines.[1]

Specifically, we support their suggestion of potential follow-up analyses of UK datasets[2] of severe COVID-19 outcomes after full vaccination and initial booster vaccines to investigate this hypothesis. An approach to tackle these analyses could be to develop a risk prediction model for severe COVID-19 outcomes (ie, COVID-19 hospitalisation or death), similar to the QCOVID model at the request of the UK's Chief Medical Officers.[3] This prediction model could help identify individuals at both very low risk and high risk of a severe COVID-19 outcome. With such a model, we could then explore if the individuals in the high-risk group are likely to benefit from either frequent vaccine re-dosing or the growing array of COVID-19 therapeutics. We are currently in the process of conducting a UK-wide analysis to investigate the factors associated with increased risk of severe COVID-19 outcomes among individuals in the UK who received a vaccine as part of the 2022 COVID-19 autumn booster campaign and who might also have received treatments with monoclonal antibodies or antivirals.[4]

There is also the opportunity to use the Scotland-wide Early Pandemic Evaluation and Enhanced Surveillance of COVID-19 (EAVE II) platform, which is uniquely placed within the UK, because towards the end of 2022 it had linked serology data to the existing electronic health record and vaccination data, to enable identification of serological responses to vaccination.[5]

AS and CR are members of the Scottish Government Chief Medical Officer's COVID-19 Advisory Group. AS is a member of the Scottish Government's Standing Committee on Pandemic Preparedness, the UK Government's New and Emerging Respiratory Virus Threats Advisory Group (known as NERVTAG) Risk Stratification Subgroup, the UK Department of Health and Social Care's COVID-19 Therapeutics Modelling Group, and was a member of AstraZeneca's COVID-19 strategic thrombocytopenia taskforce. All of AS's roles are unfunded. CR is a member of the Scientific Pandemic Influenza Group on Modelling, Medicines and Healthcare products Regulatory Agency Vaccine Benefit and Risk Working Group. UA declares no competing interests.

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1 Vo AD, La J, Wu JTY, et al. Factors associated with severe COVID-19 among vaccinated adults treated in US Veterans Affairs hospitals. *JAMA Netw Open* 2022; **5:** e2240037.

2 Agrawal U, Bedston S, McCowan C, et al. Severe COVID-19 outcomes after full vaccination of primary schedule and initial boosters: pooled analysis of national prospective cohort studies of 30 million individuals in England, Northern Ireland, Scotland, and Wales. *Lancet* 2022; **400:** 1305–20.

3 Clift AK, Coupland CAC, Keogh RH, et al. Living risk prediction algorithm (QCOVID) for risk of hospital admission and mortality from coronavirus 19 in adults: national derivation and validation cohort study. *BMJ* 2020; **371:** m3731.

4 Tibble H, Mueller T, Proud E, et al. Uptake of monoclonal antibodies and antiviral therapies for COVID-19 in Scotland. *Lancet* 2023; **401:** 101–02.

5 Mulholland RH, Vasileiou E, Simpson CR, et al. Cohort profile: Early Pandemic Evaluation and Enhanced Surveillance of COVID-19 (EAVE II) database. *Int J Epidemiol* 2021; **50:** 1064–74.

Gender inclusivity in India's National Family Health Survey

India's National Family Health Surveys (NFHSs), the most recent of which was done in 2019–21 (NFHS-5),[1] have provided rich insights into women's wellbeing and agency and the progress made in enabling women to claim their rights. The NFHSs have allowed policy makers, programme implementers, and researchers to track over time women's nutritional status, access to institutional delivery services, educational status, and agency—namely, participation in household decision making, freedom of movement, control over resources,