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.

been 6353 (5227–7501). Collectively, these two states could have averted more than 95 000 hospital admissions and 22 000 deaths had they reached the vaccination coverage achieved by the top five states and continued at the same pace until Aug 31, 2021.

We further projected the epidemiological impact of a 50% increase in the daily vaccination rate in Florida and Texas compared with the status quo from Sept 1, 2021 (figure; appendix p 6). Our projections suggest that between then and Oct 31, 2021, such acceleration of vaccination would prevent more than 26 000 cases and 1200 deaths in the two states.

Hospitals and intensive care units in several US states are currently overwhelmed by a surge in symptomatic COVID-19 illness almost entirely among unvaccinated individuals. The combination of relatively lower vaccination rates in southern and central US states, especially among younger people, is even more concerning as schools return to in-person classes and non-pharmacological measures such as mask wearing and physical distancing are relaxed. As the pandemic continues, efforts to increase vaccination will be crucial to preventing future SARS-CoV-2 variants that can fuel additional waves of severe illness, hospital admissions, and deaths.

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Addendum needed on COVID-19 travel study

The Article by Mathew Kiang and colleagues[1] is one of very few studies available to inform policy makers in Hawaii, USA, on the efficacy of different testing and quarantine strategies for preventing new introductions of SARS-CoV-2 variants into the island populations.

The primary endpoint of the study—the cumulative number of infectious days—is proposed to measure the risk to the destination population of importing infection through travel. However, the tallies include infectious days before travel, which do not expose the destination population. To assess exposure to the destination population only, the tally should start on the day of travel. Such a tally is shown in figure A, which overlays graphs from figure 1 of Kiang and colleagues' Article. Aligned are the curves for no testing and strategy 1 (PCR test within 3 days of departure) so as to start the count of

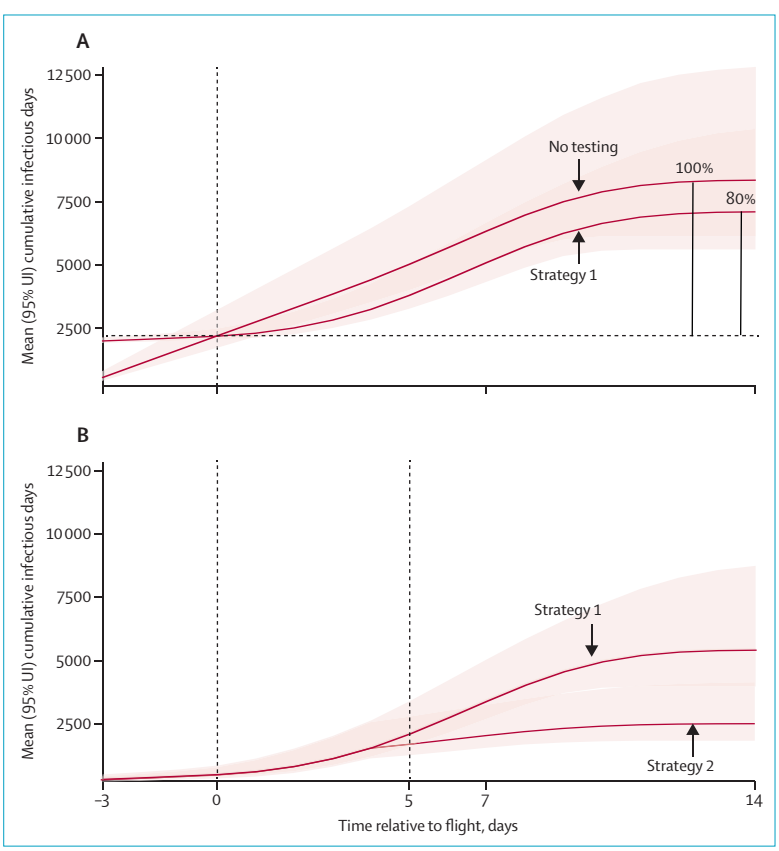

***Figure*: Overlays of strategies from Kiang and colleagues' study[1]**
(A)The graphs for the strategy of no testing and strategy 1 (PCR test within 3 days of departure) are offset to start the count of infectious days on the day of travel. (B) The graphs for strategy 1 and strategy 2 (PCR test within 3 days of departure, 5-day quarantine after arrival, and PCR test 5 days after arrival) are overlaid.

infectious days on the day of travel. By this measure, the 3-day pre-travel test reduces the days of exposure to the destination population by only 20% relative to no testing, less than the reported 36% reduction that includes pre-travel exposure days.

Another confusion comes from the tally of infectious days during the 5-day post-arrival quarantine simulations. In figure B, the curve for strategy 1 in the study by Kiang and colleagues is overlayed with the curve for strategy 2 (PCR test within 3 days of departure and PCR test on day 5 after arrival, with 5 days of quarantine upon arrival). It shows that quarantine has no effect on the cumulative days of exposure until day 5 and beyond. For some reason, Kiang and colleagues included the travellers' infectious days during 5 days of quarantine in the cumulative count, even though these days are not exposing the destination population. If the infectious days during the 5-day quarantine period were excluded, the reduction in exposure to the destination population under strategy 2 would be far greater than the 70% reported in the study.

Finally, most helpful would be to add a table that shows, for each strategy, the number of infectious people on each day of travel.

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1 Kiang MV, Chin ET, Huynh BQ, et al. Routine asymptomatic testing strategies for airline travel during the COVID-19 pandemic: a simulation study. *Lancet Infect Dis* 2021; **21:** 929–38.

Authors' reply

We thank Lee Altenberg and Mohammad Shahid for their comments on our study.[1–3] Despite efficacious COVID-19 vaccines becoming available since our study was originally designed, the use of routine testing for SARS-CoV-2 during travel has become increasingly relevant due to: (1) groups of people who have declined vaccination, (2) vaccine-breakthrough infections (that might be symptomatic or asymptomatic), (3) new variants with higher degrees of infectiousness, and (4) lack of access to vaccination in many parts of the world.

Altenberg comments on a number of methodological points.[1] First, he suggests that we do not include the entire travel period when calculating our primary study outcome, the cumulative number of infectious days experienced by travellers. However, we deliberately included days before travel because we were interested in overall population-level transmission, which includes the origin population in addition to the destination population. Routine asymptomatic testing potentially stops transmission in the origin city as passengers become aware of a positive test and self-isolate, which is a relevant effect of this testing strategy. However, we have included the suggested analysis that excludes the pre-travel period in measuring total infectious days as a sensitivity analysis in the new appendix of the Article (p 7), with largely similar findings.

Second, Altenberg suggests not counting infectious people during their quarantine period in our primary study outcome. We agree and have made this correction to the Article.[3] This update increases the effectiveness of testing strategies with post-travel quarantine, but the overall study conclusions remain similar. This estimate assumes relatively strict adherence to quarantine and therefore might represent the upper limit of benefit of post-travel quarantine. We share Altenberg's concern about the importance of providing up-to-date, context-specific modelling analyses to inform decisions on various test-and-travel strategies to control COVID-19. We have provided all data and code underlying the analyses online since before publication and believe our paper can be used as a framework for producing these analyses for public health departments.

Finally, Altenberg requests a table with the number of infectious people on each day of travel for each strategy, and we now provide this in the appendix of the Article (p 7).

In his Correspondence,[2] Mohammad Shahid proposed a three-test strategy for SARS-CoV-2 to improve detection of infectious passengers during travel. The three-test strategy would include a pre-travel, day-of-travel, and post-arrival test for SARS-CoV-2. This strategy was not considered among the five strategies we evaluated, which all used either one or two tests. We agree that a three-test strategy might modestly improve the overall proportion of infectious people detected, although the additional yield is likely to be minimal, with higher logistical and resource challenges, as well as risk of false positives, as shown in our original analysis. Overall, a well timed, two-test strategy is likely to balance optimal effectiveness with resources and logistical considerations.

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