

# Autumn–winter scenarios 2021–2022

## Contingency measures

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## Contingency measures (“Plan B”)

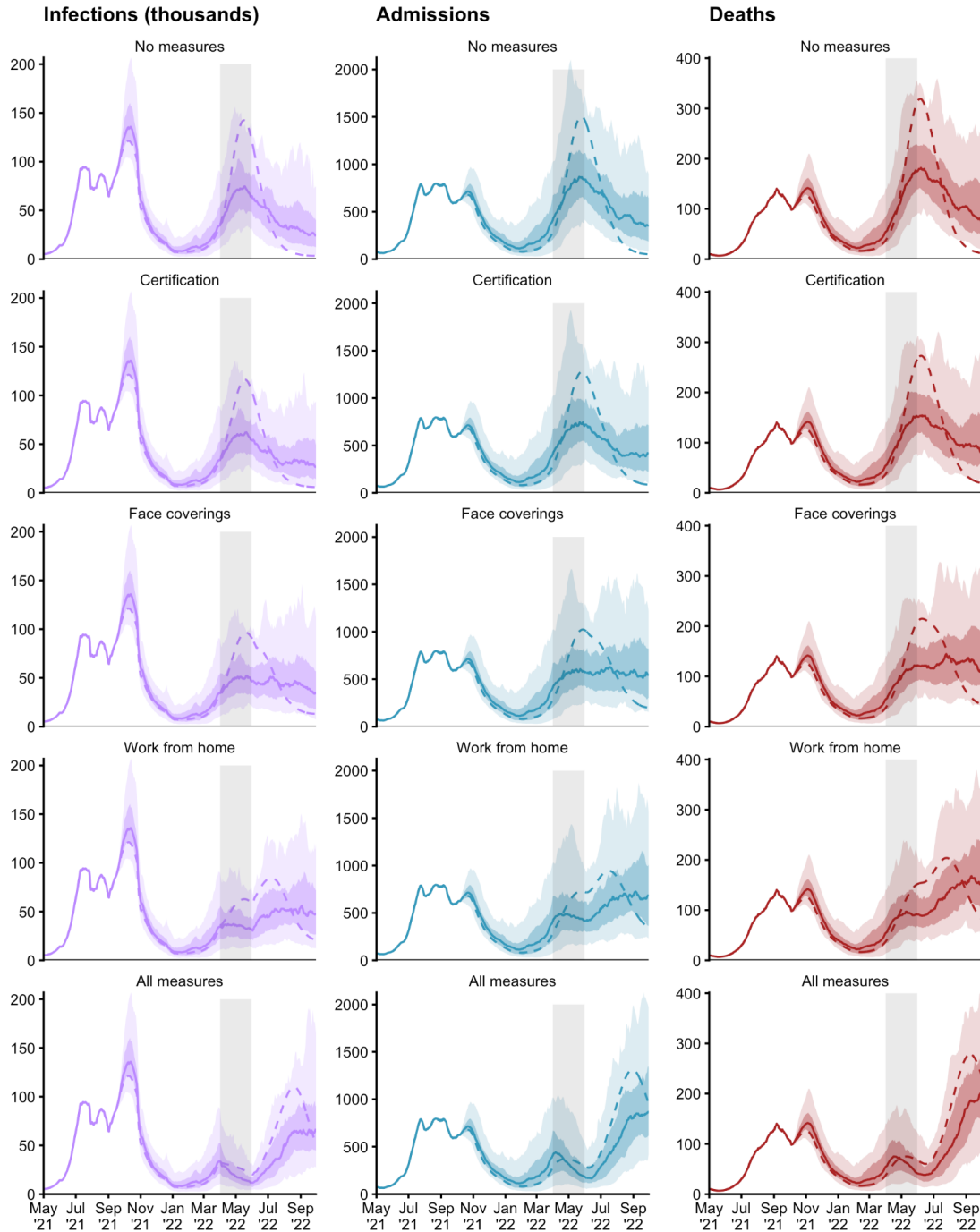
Here, we outline potential “Plan B” contingency measures for mitigating a surge in cases. As the baseline scenario for this set of simulations, we use the “more waning” scenario from Fig. 3 in the main paper to represent a larger wave of infection. We assume that the measures announced are temporary, and are in force between 1 April and 31 May 2022.

We consider three potential contingency measures. “Certification” represents the introduction of vaccination or testing requirements for nightclub attendance. We model the impact of the certification policy by assuming that it will lead to an increase in vaccination rates among young people, as has been observed in some other European countries ([Mills and Rüttenauer](#)). Certification policy in France was associated with a 2.5% increase in uptake across the entire population, particularly in ages 12-29. We assume that a similar policy in England could also increase vaccine uptake by 2.5%, specifically in individuals aged 18-29, and that this increase in uptake would occur between 14 days before and 7 days after the start of the contingency period.

“Face coverings” represents the reintroduction of mask-wearing. Since late August 2021, mask wearing in England has decreased by approximately 30% ([Jarvis et al.](#)). We assume that this decrease could be completely reversed by the face covering measure, and that this would result in a 7.5% reduction in R over the contingency period, comparable to the effect size measured in a regression analysis across 92 regions ([Leech et al.](#)) and a cluster randomized trial in Bangladesh ([Abaluck et al.](#)).

Finally, “Work from home” represents the reimposition of work from home guidance over the contingency period. We model this by returning work mobility indices to their value the week of March 15 2021, after Step 1 of the roadmap.

We also model a combined policy with all three elements. Of the policies modelled, the certification policy has the least impact while the work from home policy has the greatest impact on transmission (**Fig. 1**). The combination of all three policies is sufficient to bring the reproduction number below 1 for the duration of the contingency period.



**Fig. 1.** Impact of contingency measures on dynamics over the autumn and winter. Possible trajectories for infections, admissions, and deaths are simulated for different contingency measures. The shaded areas and solid lines show the 90% interquartile range, the 50% interquartile range, and the median for each time point, while the dashed line shows a sample trajectory. All contingency scenarios considered assume that mobility measures return to pre-pandemic baseline levels over a 6 month period, vaccine protection for individuals who don't receive a booster vaccine wanes to 50% of assumed levels shown in Table 2A of the main paper (the 'more waning' scenario in Table 2B), and 90% of individuals aged 50 years and above receive a booster dose. The grey shaded rectangle denotes the time period during which each contingency measure is implemented (1 April to 31 May 2022).