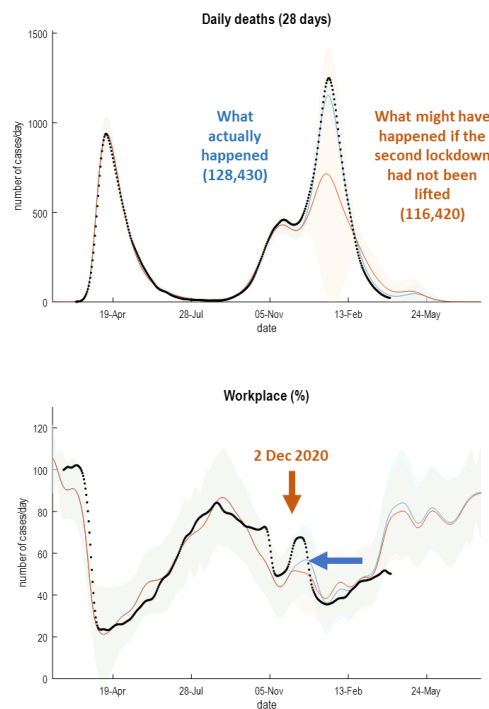


On **December 2, 2020** the second lockdown—that had been in place since 5 Nov 2020—was lifted. At that time, no one knew that B.1.1.7 was more transmissible, but they would find out a few days later (COG-UK had sequenced 700 samples of B.1.1.7. Since they sequence between 5% and 10% of positive Covid samples between 7000 and 14,000 cases of B.1.1.7 probably existed in Britain at that time).

The transmissibility findings were reported to [NERVTAG](#) on December 11 and Patrick Vallance was informed. Matt Hancock told the Commons on December 14 and on December 19, Boris Johnson reduced a suspension of Christmas restrictions from [five days to one](#). He also precluded households meeting in Tier 4 areas. London was put into Tier 4—resulting in an exodus from London raising the possibility that B.1.1.7 was disseminated around the country. A third lockdown was instantiated on January 4 and that remained in place until March 8.

### What was the effect of unlocking from December 2 to January 4, instead of maintaining the lockdown through from November 5 to March 8?

This can be estimated—using counterfactual scenario modelling—by increasing the sensitivity of contact rates to the prevalence of infection from 2 Dec 2020 until the start of the third lockdown on 4 Jan 2020.



This figure reports estimates based upon the parameters of a [dynamic causal model](#) based on data covering the entire pandemic until 10 Apr 2021. The lines correspond to expected deaths per day (upper panel) and mobility (lower panel), while the shaded areas correspond to 90% confidence intervals. The [blue lines](#) are the most likely estimate of deaths and mobility, while the black dots correspond to (smoothed) data from the [ONS](#) and [Google](#). The [red lines](#) show what might have happened if the second lockdown had been extended from 2 Dec 2020 to the start of the third lockdown on 4 Jan 2021 (modelled by increasing a sensitivity parameter by a factor of  $e^{1/2}$  and then returning to its estimated value on 4 Jan 2021). The numbers in brackets are the predicted cumulative deaths on 1 Aug 2021.

Under this scenario modelling, **between 5,800 and 18,200 deaths might have been avoided** (90% credible interval, to the nearest hundred). This is largely attributable to an attenuation of the post-Christmas resurgence driven by increases in transmission risk (due to changes in viral transmissibility and seasonal fluctuations). The attenuation in this instance can be attributed to a reduction of contact rates during the pre-Christmas period shown in the lower panel. The quantitative effects on contact rates (measured here in terms of Google mobility estimates) is relatively small (decreasing peak pre-Christmas contact rates from 57% to 52% ([blue arrow](#))). Note that this scenario modelling should not be over interpreted—because the second lockdown could have been extended with greater or lesser restrictions.