

# Impact of travel restrictions on Omicron in the UK

Prepared for Manchester Airports Group

5 January 2021

## 1 Introduction and executive summary

Oxera and Edge Health have been commissioned by Manchester Airports Group ('MAG') to consider the impact of travel restrictions on the spread of variants in the UK, and to compare this to the impact of domestic restrictions.<sup>1</sup>

The Omicron variant is now highly prevalent in the UK and the government is considering what, if any, further measures should be taken to mitigate the variant's impact. Our analysis indicates that when a variant is already highly prevalent in the domestic environment, travel restrictions are likely to have a very limited impact on the growth and the peak of cases and hospitalisations. This must be considered alongside analysis undertaken by Oxera in December 2021, which indicated that Omicron travel restrictions could lead to an additional £3.1bn loss in GVA and £1.5bn loss in tax revenue over the next year.<sup>2</sup>

This note sets out the high-level findings from our analysis. The key conclusions are as follows.

- Although it is now known that Omicron was circulating internationally throughout November, testing and sequencing of tests for air passengers arriving in the UK over the course of November did not identify Omicron as a Variant of Concern (VOC) in the UK before it was reported by South Africa towards the end of November.
- Additional testing requirements—i.e. pre-departure tests and Day 2 PCR tests—were put in place by the UK government quickly in late November/early December after Omicron was identified as a VOC.

<sup>1</sup> This work is an extension of previous analysis undertaken by Oxera and Edge Health for MAG in April 2021. Assumptions have been updated to take account of recent developments and evidence.

<sup>2</sup> Oxera (2021), 'Assessing the impact of recent international travel restrictions on the UK aviation sector and the wider economy', 15 December.

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However, these restrictions were ineffective at preventing the spread of Omicron in the UK.

- Even if these, or other, travel testing requirements had been in place from the beginning of November, they would not have had a significant impact on the spread of Omicron in the UK. Compared to a Day 2 antigen test, a Day 2 PCR and pre-departure testing regime would have delayed the peak of cases by just five days and reduced the peak by only 3%. If no travel restrictions had been in place at all in November/December, cases would have peaked seven days earlier and the peak would have been 8% higher than without any travel testing.
- Now that Omicron is highly prevalent in the UK, if all travel testing requirements are removed in January, there would be no impact on Omicron case numbers or hospitalisations in the UK, and there would be much lower costs imposed on the UK economy than if the current restrictions are kept in place.<sup>3</sup>

## 2 Overview of analysis

### 2.1 Background

There have been significant changes in travel policy in the UK over the course of the pandemic. By 1 November 2021, there were no remaining countries on the red list and the only restriction in place was a requirement to take an antigen test on or before Day 2 of a passenger's arrival in the UK.

While the first known Omicron sequence in South Africa was on 8 November 2021, Omicron was only identified as a VOC by the WHO on 26 November 2021. Therefore, for a month before it was identified as a concern, Omicron was in circulation internationally and being seeded in the UK, despite the travel testing regime in place.

Once Omicron was identified as a VOC, the UK government reacted quickly and introduced a number of new travel restrictions, including red listing six countries on 26 November<sup>4</sup> and requiring a Day 2 PCR test as of 27 November. On 7 December, the restrictions were further amended such that a pre-departure test was also required to enter the UK. The first domestic restriction, a mask mandate, was imposed on 10 December.

While red-listed countries had a higher proportion of Omicron cases than other countries, by 15 December Omicron was already highly prevalent in the UK. For this reason, the UK government removed all countries from the red list. However, the additional travel restrictions introduced over the course of November/December remain in place.

### 2.2 Impact of travel restrictions on Omicron in the UK

Our analysis indicates that the new travel restrictions introduced in late November/early December after Omicron was identified as a VOC were ineffective at preventing the spread of Omicron. In Figure 2.1 below we model the UK's actual travel restrictions over the course of November/December (the red line)<sup>5</sup> and compare this to what would have happened if the government

<sup>3</sup> Oxera (2021), 'Assessing the impact of recent international travel restrictions on the UK aviation sector and the wider economy', 15 December.

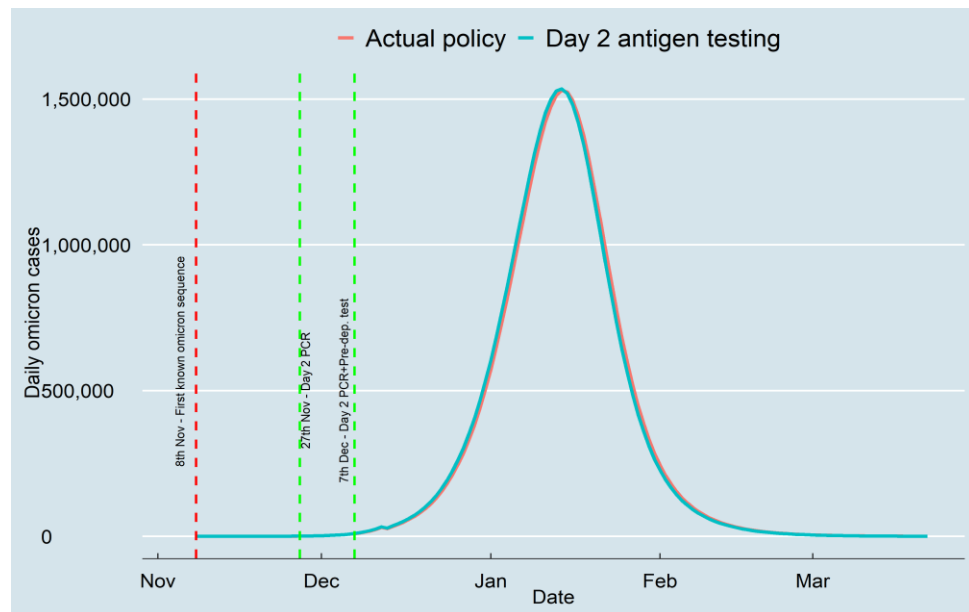
<sup>4</sup> More countries were later added to the red list.

<sup>5</sup> The actual policy modelled is a Day 2 antigen test until 27 November, a Day 2 PCR test from 27 November, and then a Day 2 PCR and a pre-departure test from 7 December.

had not made changes to the travel testing policy—i.e. requiring only Day 2 antigen testing (the blue line).

The figure illustrates that the modelled trajectories of Omicron cases in the UK between the two scenarios are indistinguishable. This suggests that at the point that Omicron was identified, putting further travel restrictions in place was ineffective.

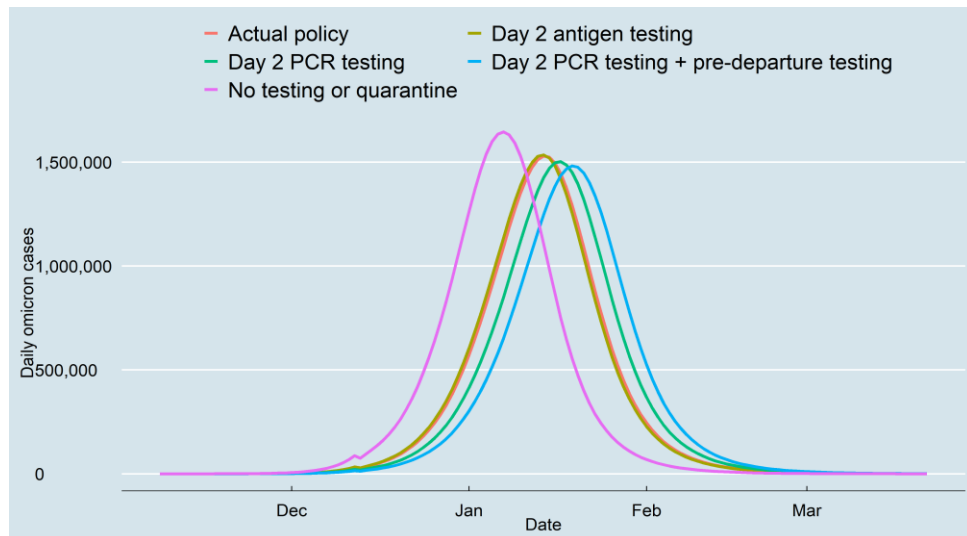
**Figure 2.1** Trajectory of Omicron cases in the UK, comparing a continuation of Day 2 antigen testing to the travel policies introduced in November/December



Source: Edge Health and Oxera.

While the figure above compares the effect of travel policies once Omicron was identified as a VOC, it is also important to consider whether the spread of Omicron could have been prevented if more stringent travel restrictions had been in place earlier—i.e. already from the beginning of November. Figure 2.2 below presents the results of our analysis, and shows that if more stringent testing requirements had been in place from the beginning of November, there would not have been a significant impact on the spread of Omicron in the UK.

**Figure 2.2 Trajectory of Omicron cases in the UK, based on different testing policies in November/December**



Source: Edge Health and Oxera.

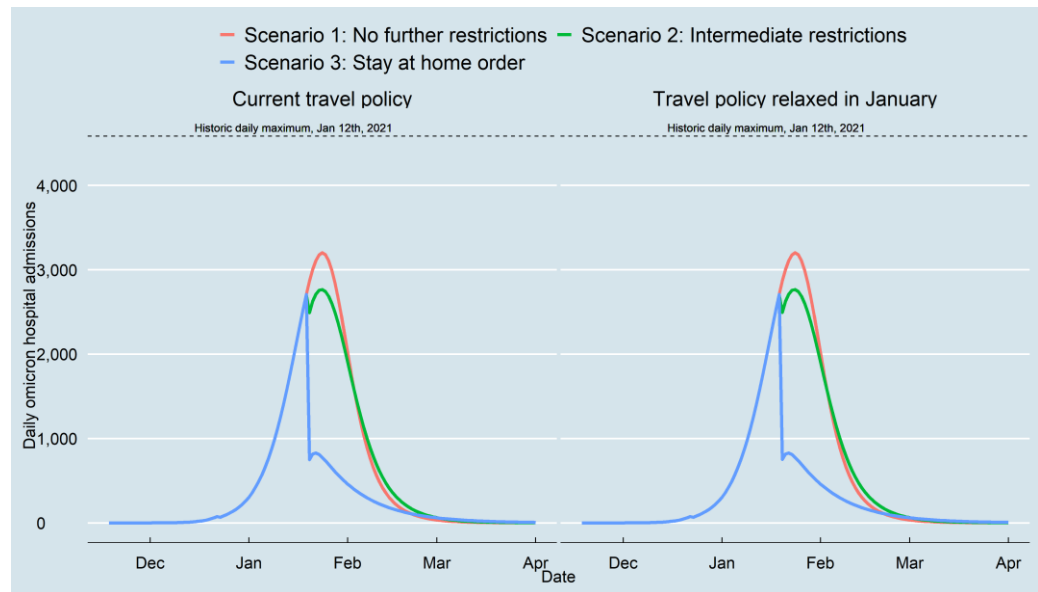
For example, if the government had introduced Day 2 PCR tests and pre-departure tests (i.e. the current policy) in early November rather than continuing with Day 2 antigen tests, the peak of cases would have only been 3% lower and would have been delayed by five days. If no travel restrictions had been in place at all in November/December, cases would have peaked seven days sooner and the peak would have been 8% higher than without any travel testing.

### 2.3 Impact of travel restrictions compared to domestic restrictions

As demonstrated above, now that Omicron is highly prevalent in the UK, removing all travel testing in January would not affect domestic Omicron spread. Domestic measures are currently the best approach to reducing potential pressure on the healthcare system. Figure 2.3 below plots the trajectory of future Omicron hospitalisations in the UK, based on three different domestic policies:

- Scenario 1: mandatory masks, work-from-home orders and further roll-out of booster doses (i.e. the current policy with no further restrictions);
- Scenario 2: intermediate interventions (i.e. with gathering sizes limited to ten people);
- Scenario 3: stay at home order (i.e. national lockdown, with schools and businesses closed).

**Figure 2.3** Trajectory of future Omicron hospitalisations in the UK, based on different domestic policies



Source: Edge Health and Oxera.

The figure above demonstrates that across all domestic restriction scenarios, there is no benefit to maintaining the current travel policy indefinitely compared to removing travel restrictions in January.