



The BMJ

Cite this as: *BMJ* 2021;373:n1346
<http://dx.doi.org/10.1136/bmj.n1346>
 Published: 25 May 2021

Covid-19: Single vaccine dose is 33% effective against variant from India, data show

Gareth Iacobucci

The UK government has been urged to speed up giving two doses of the covid-19 vaccine after data showed a single dose was only 33% effective against the B.1.617.2 variant first detected in India, which continues to see a rapid growth in cases in the UK.

A preprint paper released by Public Health England on 22 May showed that between 5 April and 16 May the Pfizer vaccine was 88% effective, two weeks after the second dose, against the B.1.617.2 variant and 93% against B.1.1.7, known as the UK or Kent variant.¹ The AstraZeneca vaccine was 60% effective against B.1.617.2 at two weeks after the second dose and 66% against the Kent variant.

But both vaccines were only 33% effective against symptomatic disease from B.1.617.2 three weeks after the first dose, whereas they were 50% effective against B.1.1.7.

Christina Pagel, director of the Clinical Operational Research Unit at University College London and a member of the Independent Scientific Advisory Group for Emergencies, said that, given these data, the government should not proceed to the next stage of its roadmap to ending lockdown before more people were fully vaccinated with two doses, given that cases of the B.1.617.2 variant rose sharply in the week to 19 May.^{2 3}

Posting on Twitter,⁴ Pagel wrote, “The good news is that it confirms that full vaccination still provides a way out (alongside other measures). The bad news is that it makes proceeding with [the] current roadmap a very bad idea and moving to step 3 last Monday [17 May] might have been a big mistake. The way out is to vaccinate—fully vaccinate—as many people as possible as quickly as possible. And to do this before we move to step 4 of the roadmap.”

Paul Hunter, professor of medicine at the University of East Anglia, said, “What is clear from this research is that the main thing we can do to reduce the spread of this variant is to ensure that we get our second dose of vaccine, whatever vaccine we had for our first injection.”

Adam Finn, professor of paediatrics at the University of Bristol, said that, given the findings, public health authorities should focus on “timely administration of second doses . . . which ought to provide rapid valuable additional protection against this new strain.”

Pagel said full vaccination should be augmented with support for isolation, local contact tracing, targeted testing, and safer indoor spaces. She said this particularly applied to schools and called on Public Health England to release data on the spread of

B.1.617.2 in schools, amid accusations that the government had suppressed these data.⁵

In its latest risk assessment,⁶ published on 22 May alongside a technical briefing paper,⁷ Public Health England said, “It is likely that B.1.617.2 is more transmissible than B.1.1.7. The magnitude of the change in transmissibility remains uncertain.”

The North West of England currently has the most cases of the B.1.617.2 variant (at 1122), followed by London (650) and the East Midlands (300). The lowest numbers are currently in the North East (43), Yorkshire and the Humber (49), and the South West (56).

Pagel emphasised the need for caution,⁸ noting the warning from the Juniper (Joint Universities Pandemic and Epidemiological Research) subgroup of SAGE on 13 May: “Incontrovertible evidence that B.1.617.2 is more transmissible may come too late.”⁹

Pagel said, “The data do not support moving to step 4 of the roadmap unless the current risk assessment of B.1.617.2 reduces significantly. Waiting too long [to act] as we did in March, September, and December means that restrictions if they do come will be longer and harsher. We don’t want to do that again.”

Speaking on 23 May, the health and social care secretary for England, Matt Hancock, said, “We’ve brought forward second doses to those who are vulnerable from 12 to 8 weeks. This makes me more confident that we’re on track and our strategy is the right one. There has been a rise in the number of cases, and we’re watching very carefully to see if it’s got an impact on the number of people going into hospital. We’ll look at all that data then announce the decision on 14 June as to whether we can take the step on 21 June.”

1 Lopez Bernal J, Andrews N, Gower C, et al. Effectiveness of COVID-19 vaccines against the B.1.617.2 variant. <https://khub.net/documents/135939561/430986542/Effectiveness+of+COVID-19+vaccines+against+the+B.1.617.2+variant.pdf/204c11a4-e02e-11f2-db19-b3664107ac42>.

2 Wise J. Covid-19: UK cases of variant from India rise by 160% in a week. *BMJ* 2021;373:n1315. doi: 10.1136/bmj.n1315 PMID: 34020965

3 Public Health England. Variants: distribution of cases data May 2021. 20 May 2021. <https://www.gov.uk/government/publications/covid-19-variants-genomically-confirmed-case-numbers/variants-distribution-of-cases-data>.

4 Pagel C. Twitter. 22 May 2021. <https://twitter.com/chrischirp/status/1396154081106874382>.

5 Cadwalladr C. No 10 “tried to block” data on spread of new covid variant in English schools. *Guardian*. 22 May 2021. <https://www.theguardian.com/world/2021/may/22/no-10-tried-to-block-data-on-spread-of-new-covid-variant-in-english-schools>.

6 Public Health England. Risk assessment for SARS-CoV-2 variant: VOC-21APR-02 (B.1.617.2). 22 May 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/988613/22_May_2021_Risk_assessment_for_SARS-CoV-2_variant_VOC-21APR-02_B.1.617.2.pdf.

- 7 Public Health England. SARS-CoV-2 variants of concern and variants under investigation in England: technical briefing 12. 22 May 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/988619/Variants_of_Concern_VOC_Technical_Briefing_12_England.pdf.
- 8 Pagel C. Twitter. 23 May 2021. <https://twitter.com/chrischirp/status/1396574267349872644?s=20>.
- 9 Challen R, Dyson L, Overton C, Guzman-Rincon L, Danon L, Gog J. Briefing note: Potential community transmission of B.1.617.2 inferred by S-gene positivity. Juniper. 11 May 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/988205/S1239_Joint_UNiversities_Pandemic_and_Epidemiological_Research.pdf.

This article is made freely available for use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.