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Covid-19: Rates fell rapidly on Isle of Wight after test and trace launch, early data show

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The Isle of Wight moved from having one of the worst covid-19 reproduction rates in England to one of the best after the test, trace, and isolate programme and app were introduced there, a preliminary analysis has found.¹

A preprint paper from researchers at Oxford University found that the island saw a rapidly declining total incidence, per capita incidence, and reproduction number (R) levels among hospital and community tested cases after a pilot of the UK's test and trace programme was launched on 5 May 2020.

The Isle of Wight moved from having the third highest reproduction number R in England (ranking at 147 of 150 upper tier local authorities) in mid-April before the programme launched to the 10th lowest at the end of the study period on 29 June. The study team of epidemiologists, mathematical modellers, and economists said a more detailed breakdown of data was needed to determine the exact causes of the island's success and to inform local and national intervention strategies.

Speaking at a Science Media Centre press briefing on 15 July, Michelle Kendall, a senior researcher at Oxford University's Nuffield Department of Medicine and the report's first author, said, "Infections . . . and the R number on the Isle of Wight began high and decreased really rapidly after the test and trace launch . . . and the incidence decreased faster than in other comparable areas. So it really seems like something different happened on the Isle of Wight from elsewhere."

The island's test and trace programme included community testing and human contact tracing, which is now operational across the UK. But the Isle of Wight also used the NHS contact tracing app, which is not yet available elsewhere.

David Bonsall, clinician and senior researcher at the Nuffield Department of Medicine and a coauthor of the study, said, "I am disappointed that the app hasn't been released in the UK by now. The policy decisions are not ours to take, but we are supportive of the app being included as part of an integrated approach."

The team estimated incidence and the R value by using reported covid-19 cases tested in hospital laboratories under "Pillar 1" of the government's testing scheme. Additional analysis of community testing data under "Pillar 2" of the government's scheme confirmed the trends, with the Isle of Wight's R number estimated to be 20-25% lower than the national level during May and June.

To validate their results the researchers created a "synthetic control" approach combining data from other English areas that closely resembled the Isle of Wight with regard to initial R, age distribution, and ethnicity. The epidemic on the Isle of Wight improved significantly faster than would have been expected in the absence of the test and trace programme, with R as low as 0.25 in mid-May, when R in a similar region would be expected to be around 0.75.

Kendall added, "For areas that were comparable in their R number beforehand . . . there were no other areas that had the same trajectory or even close."

"If infection numbers had been low throughout, it would be easier to say [that] because it's an island it's different. But because it started off with a bad epidemic, the geography alone can't explain all of the success that it's had."

The study was funded by an award from the Li Ka Shing Foundation to Christophe Fraser, lead author and group leader in pathogen dynamics at Oxford University.

¹ Kendall M, Milsom L, Abeler-Dörner L, et al. Covid-19 incidence and R decreased on the Isle of Wight after the launch of the Test and Trace programme. <https://www.medrxiv.org/content/10.1101/2020.07.12.20151753v1.full.pdf>.

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