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# Covid-19: Symptom tracking app shows UK surge may be bigger than reported

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Cases of covid-19 in the UK could be nearly twice as high as the official figures, shows modelling by researchers who run a smartphone symptoms app.<sup>1</sup>

Since March 2020 hundreds of thousands of members of the public have used a smartphone app to report their symptoms and covid test results to researchers at the healthcare company ZOE and King's College, London,<sup>2</sup> which are behind the study.

For most of the pandemic the ZOE study's estimate of positive cases has been roughly in line with official figures. But on 26 October the ZOE study estimated 92 500 new covid cases in the UK that day, whereas the UK's official covid website shows that only 40 000-50 000 people have been testing positive for covid each day recently.<sup>3</sup>

The recent disparity between the two sources was spotted by, among others, Lawrence Gilder, a University of East Anglia undergraduate who routinely shares covid statistics on Twitter.<sup>4</sup>

The ZOE figures were "unusually out of sync" with government data, said the ZOE study's leader, Tim Spector, professor of genetic epidemiology at King's College, London. "It's based on positive tests and done as a rolling proportion of how many people have positive tests compared to how many people are reporting illness," he explained.

This, he added, should mean that the ZOE projection is not inflated by people reporting cold or flu symptoms, since positive covid test results are part of the analysis.

## False positives and negatives

Just under a million people currently used the ZOE app, said Spector. Users can access a covid-19 test if they have any potential symptom of the disease, whereas members of the public who do not use the app can book a test through the NHS only if they experience one of three key symptoms: cough, fever, or loss of smell.

The ZOE app asks users for many different types of data, including PCR or antibody test results and vaccination status.

Irene Petersen, professor of epidemiology and health informatics at University College London, said it was possible that some users of the app were recording infections that had actually occurred a few weeks ago, since people can still test positive for the virus after they have recovered from it. "You report, let's say, a headache or a fever to ZOE, and you get a PCR test and the PCR test is positive, but that's not because you have covid now but because you had covid two weeks ago," she said.

However, Petersen acknowledged that this scenario could explain some of the discrepancies seen and that the UK's official figures probably did underestimate the severity of the current situation. "I think we are probably somewhere in between the two estimates," she said.

Spector said that the general public might be less likely to come forward for a covid test at the moment because of the Immensa scandal,<sup>5</sup> in which a laboratory in Wolverhampton was found to have issued around 43 000 false negative results from 8 September to 12 October. This could be deflating the government's case count.

"I just think it's really bad news," he said, referring to the high estimates of UK cases at present. He suggested that the government should enforce mask wearing on public transport and in crowded places and should speed up the vaccination and booster programme.

Petersen also expressed concern about the situation, noting that rising case numbers were already translating into more hospital admissions. "Too many people are dying," she said.

The Department of Health and Social Care and the UK Health Security Agency were approached for comment but had not responded by the time of publication.

- 1 ZOE Covid Study. Covid reaches new highs for 2021. Oct 2021. <https://covid.joinzoe.com/post/covid-reaches-new-highs-for-2021>
- 2 Mayor S. Covid-19: Researchers launch app to track spread of symptoms in the UK. *BMJ* 2020;368:m1263. doi: 10.1136/bmj.m1263 pmid: 32220898
- 3 Gov.uk. Coronavirus (COVID-19) in the UK: UK summary. <https://coronavirus.data.gov.uk/>
- 4 Gilder L. Twitter. 25 Oct 2021. <https://twitter.com/LawrenceGilder/status/1452694357342138371>
- 5 Torjesen I. Covid-19: PCR testing is suspended at private laboratory after high rate of false negatives. *BMJ* 2021;375:n2535. doi: 10.1136/bmj.n2535 pmid: 34654726

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