

Covid is on the rise again—so what next?

Christina Pagel, Professor of Operational Research

1. Clinical Operational Research Unit, University College London, London, UK

It is reasonably certain that we have entered another covid-19 wave, writes Christina Pagel. But what are the implications?

There are very few ways now to track the prevalence of SARS-CoV-2 in England since the end of wastewater monitoring in March 2022, the end of the Office for National Statistics Covid-19 Infection Survey in March 2023, and the gradual reduction of SARS-CoV-2 testing in hospitals since August 2022.¹⁻³ However, all indications are that prevalence reached its lowest level this June/July since the summer of 2020. Weekly deaths with covid on the death certificate from that period are at the lowest recorded level since the start of the pandemic.⁴

But since the start of July 2023, daily hospital admissions with covid have been increasing (more than doubled as at 4 August compared to four weeks earlier) and the number of patients in hospital primarily *because* of covid has also doubled in that time.^{5 6} Secondary indicators such as the Zoe Symptom Tracker app and Google Trends of searches for covid-19 symptoms have also been increasing since early July.^{7 8} So it is reasonably certain that we have entered another covid-19 wave. But what are the implications?

While 2022 saw three enormous covid-19 waves by August, driven by different Omicron variants (BA.1 in January, BA.2 in March, and BA.5 in July, peaks 6-8% prevalence⁹), followed by two more waves in October and December, 2023 has been quieter so far. January saw high prevalence from the winter 2022/2023 wave (peak 4% prevalence) and a smaller wave in March 2023 (likely about 3% peak prevalence), but little else until now.^{10 11} In the absence of any mitigations, this is likely because the variants since BA.5 (mostly BQ and XBB strains) have not been sufficiently different to drive very large waves in the presence of a highly vaccinated and highly previously infected population.

The variants currently increasing in the UK are still XBB Omicron substrains, and on their own there is no reason to think they will cause a large wave.¹² However almost all under 50s have not had a vaccine dose for 18 months, and most under 75s not for a year.¹³ Protection from previous infection will also be waning in the absence of a large wave for several months. It is thus likely that this wave is hitting a more susceptible population than the last few waves, and this might be enough to drive a large wave this September when coupled with return to school and work and more time spent inside, where the virus spreads most easily.

Given protection from vaccines and past infection, it is unlikely that this wave will cause a large surge in hospital admissions or deaths. However, any increase in hospital burden is bad news, given record waiting lists for diagnosis and treatment and persistently high waits in hospitals for admission.¹⁴ Infection is also not harmless simply because it's causing fewer hospital admissions—long covid remains an ongoing significant problem, damaging people's lives (e.g. through persistent fatigue or brain fog), as well as taking them out of the workforce.^{15 16}

There are two major concerns. The first seems, unfortunately, quite plausible—a repeat of last winter's unprecedented NHS crisis of covid, flu, and respiratory syncytial virus hitting all around the same time, especially with 50-65 year olds now not being offered either the flu or covid vaccine this autumn.¹⁷

The second is less likely, but would have a bigger impact—another Omicron like event where a new variant emerges, very different from previous strains so that our hard won protection is much less protective. Given few, if any, mitigations worldwide and much lower surveillance, such a variant could spread a long way before we realised it was a problem.

The resulting covid wave in the UK winter from such an event could cause major difficulties for the NHS and cause widespread workplace disruption if significant numbers of people are off work ill. Earlier this year, experts put the chance of this happening at about 20% within two years.¹⁸ The current growing variant in the UK (EG.5.1 or "Eris") is not that variant.¹⁹ However, the last couple of days have seen a new, as yet unnamed, variant show up in Israel and Denmark which has caught the attention of many experts because it has so many new mutations, some long associated with increased fitness and immune escape, and others entirely new.^{20 21} So far, we have only three sequences although geographic spread means community transmission has occurred. It is still quite possible that this fizzles out—either because its hosts don't happen to infect anyone or because, despite its novelty, it does not outcompete the current dominant XBB strains. However, this should act as a reminder that without ramping up surveillance, and in the face of waning immunity, we are travelling into winter more vulnerable and with blinkers on.

Competing interests: CP is a member of Independent SAGE.

Provenance and peer review: commissioned, not externally peer reviewed.

<eref>1 [Gov.uk](https://www.gov.uk/government/publications/monitoring-of-sars-cov-2-rna-in-england-wastewater-monthly-statistics-1-june-2021-to-7-march-2022/emhp-wastewater-monitoring-of-sars-cov-2-in-england-1-june-2021-to-7-march-2022). EMHP wastewater monitoring of SARS-CoV-2 in England: 1 June 2021 to 7 March 2022. March 2022.

<https://www.gov.uk/government/publications/monitoring-of-sars-cov-2-rna-in-england-wastewater-monthly-statistics-1-june-2021-to-7-march-2022/emhp-wastewater-monitoring-of-sars-cov-2-in-england-1-june-2021-to-7-march-2022></eref>

<eref>2 Office for National Statistics. Coronavirus (COVID-19) Infection Survey, UK: 24 March 2023.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/24march2023></eref>

<jrn>3 Mahase E. Covid-19: Asymptomatic testing is “paused” in England’s hospitals and care homes. *BMJ* 2022;378:o2099. doi:10.1136/bmj.o2099. [PubMed](#)</jrn>

<eref>4 Stuart Mcdonald. X

<https://twitter.com/ActuaryByDay/status/1688832923602968576?s=20></eref>

<eref>5 Gov.uk. Healthcare in England.

<https://coronavirus.data.gov.uk/details/healthcare?areaType=nation&areaName=England></eref>

<eref>6 Weekly covid admissions and beds. <https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2023/08/Weekly-covid-admissions-and-beds-publication-230810.xlsx></eref>

<eref>7 Zoe health study. COVID-19 infections in the UK today. <https://health-study.joinzoe.com/data></eref>

<eref>8 Google trends.

<https://trends.google.com/trends/explore?geo=GB&q=%2Fg%2F11mtd7fx1k&hl=en-GB></eref>

<eref>9 Office for National Statistics. Coronavirus (COVID-19) Infection Survey, UK: 1 April 2022.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/1april2022></eref>

<eref>10 Office for National Statistics. Coronavirus (COVID-19) Infection Survey, UK: 6 January 2023.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/6january2023></eref>

<eref>11 Office for National Statistics. Coronavirus (COVID-19) Infection Survey, UK: 24 March 2023.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/24march2023></eref>

<eref>12 SARS-CoV-2 genome sequence prevalence and growth rate update: 2 August 2023. <https://www.gov.uk/government/publications/sars-cov-2-genome-sequence-prevalence-and-growth-rate/sars-cov-2-genome-sequence-prevalence-and-growth-rate-update-2-august-2023></eref>

<eref>13 Gov.uk. Guidance. COVID-19: the green book, chapter 14a.

<https://www.gov.uk/government/publications/covid-19-the-green-book-chapter-14a></eref>

<eref>14 The BMA. NHS backlog data analysis. <https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/nhs-backlog-data-analysis></eref>

<jrn>15 Altmann DM, Whettlock EM, Liu S, Arachchilage DJ, Boyton RJ. The immunology of long COVID. *Nat Rev Immunol* 2023. doi:10.1038/s41577-023-00904-7. [PubMed](#)</jrn>

<eref>16 Office for National Statistics. Self-reported long COVID and labour market outcomes, UK: 2022.

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/selfreportedlongcovidandlabourmarketoutcomesuk2022/selfreportedlongcovidandlabourmarketoutcomesuk2022></eref>

<unknown>17. Mahase E. Covid and flu boosters to start in October to “maximise” protection, says NHS England BMJ 2023; 382:p1860 doi:10.1136/bmj.p1860</unknown>

<eref>18 The Washington Post. Disease experts warn White House of potential for omicron-like wave of illness. <https://www.washingtonpost.com/health/2023/05/05/covid-forecast-next-two-years/></eref>

<eref>19 The Guardian. New Covid variant Eris is reminder to monitor virus data, US experts say. <https://www.theguardian.com/us-news/2023/aug/14/new-covid-variant-eris-surge-vaccine-boosters-data></eref>

<eref>20 Eric Topol. X. <https://twitter.com/EricTopol/status/1691222156376780800?s=20></eref>

<eref>21 GitHub. Open Discussion of #2183 (BA.2 saltation with 30+ AA mutations in the spike Isr, Den) #606. <https://github.com/sars-cov-2-variants/lineage-proposals/issues/606></eref>