Latest numbers on COVID-19 in the UK – 10 June 2022

My 6 May 2022 Headline: “We are out of this wave but counting the consequences. A new one might be on its way in a month or two.”

With many thanks to Bob Hawkins for his help in collating the data

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Latest numbers on COVID-19 in the UK – 10 June 2022

June Headline: A new wave is now starting

1. New variants
2. Vaccination
3. Prevalence of Covid
4. Hospitals
5. Deaths
6. Long Covid
7. What to do

With many thanks to Bob Hawkins for his help in collating the data

New variants

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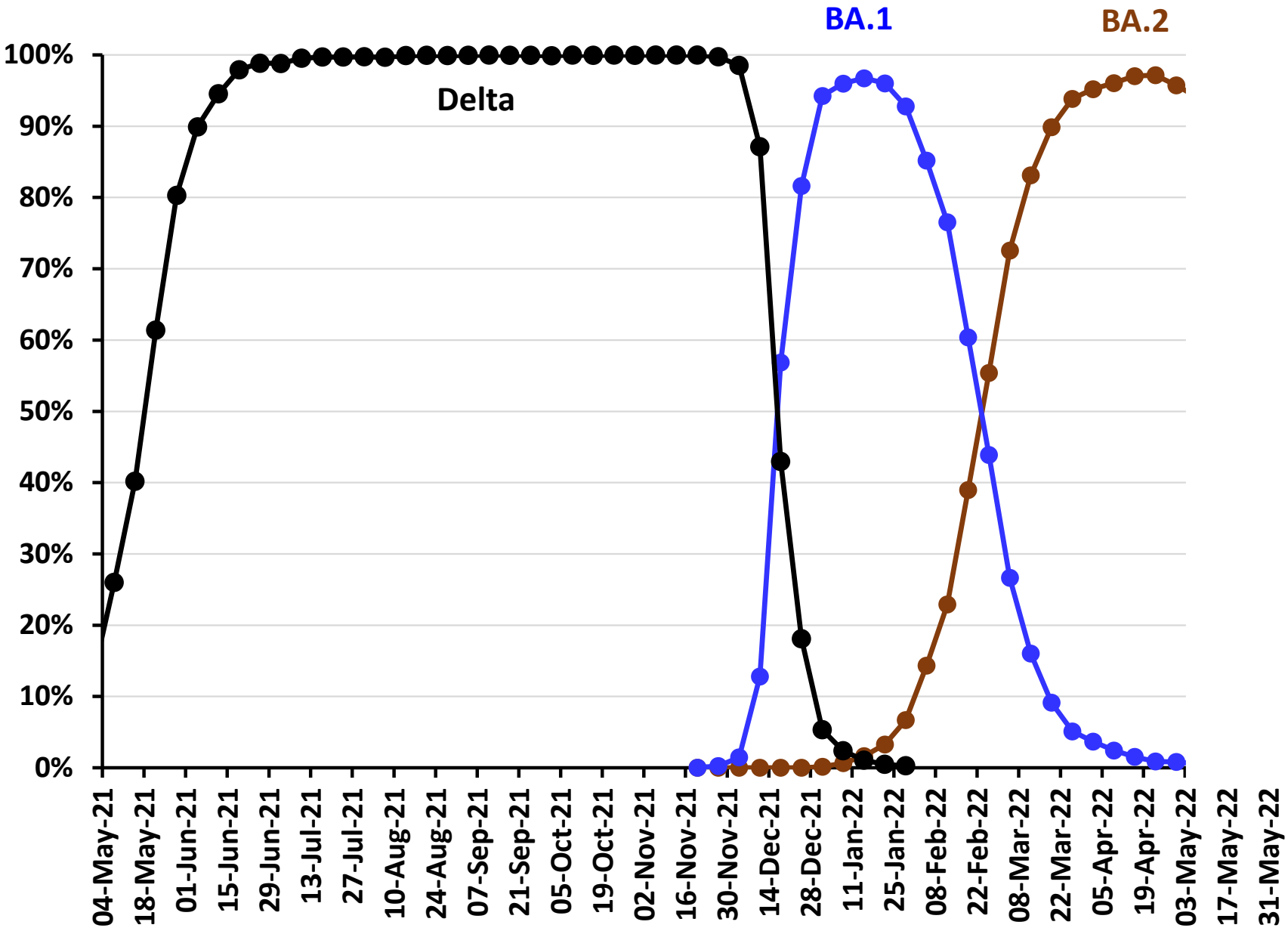
Proportion of sequenced cases in England that are Delta, Omicron BA.1, Omicron BA.2



Data from COG UK, https://www.cogconsortium.uk/priority-areas/data-linkage-analysis/public-data-analysis/

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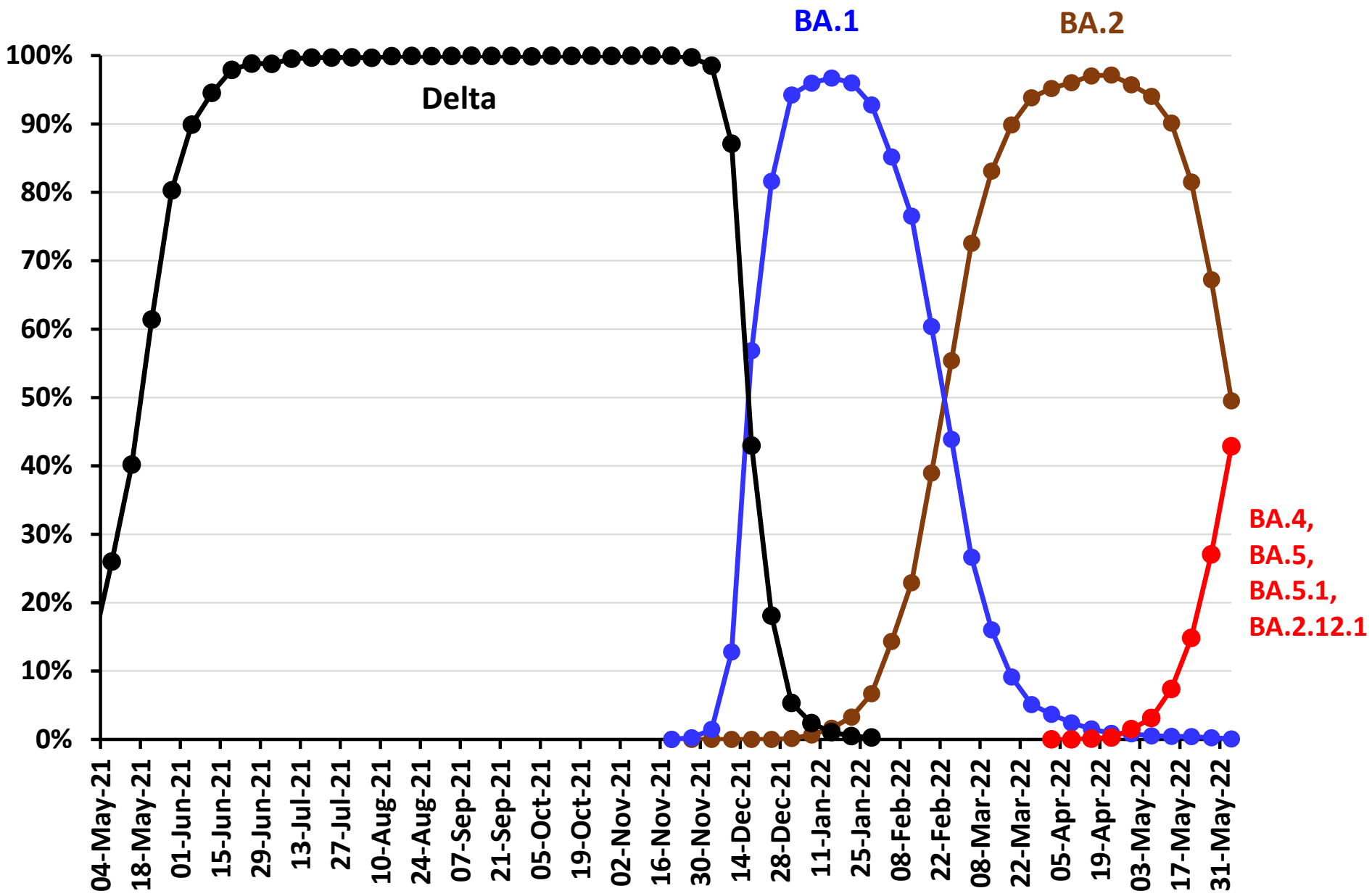
Proportion of sequenced cases in England that are Delta, Omicron BA.1, Omicron BA.2 and Omicron BA.2.12.1, BA.4, BA.5, BA.5.1 from 4 Dec 2021 to **4 June 2022**.



Data from COG UK, https://www.cogconsortium.uk/priority-areas/data-linkage-analysis/public-data-analysis/

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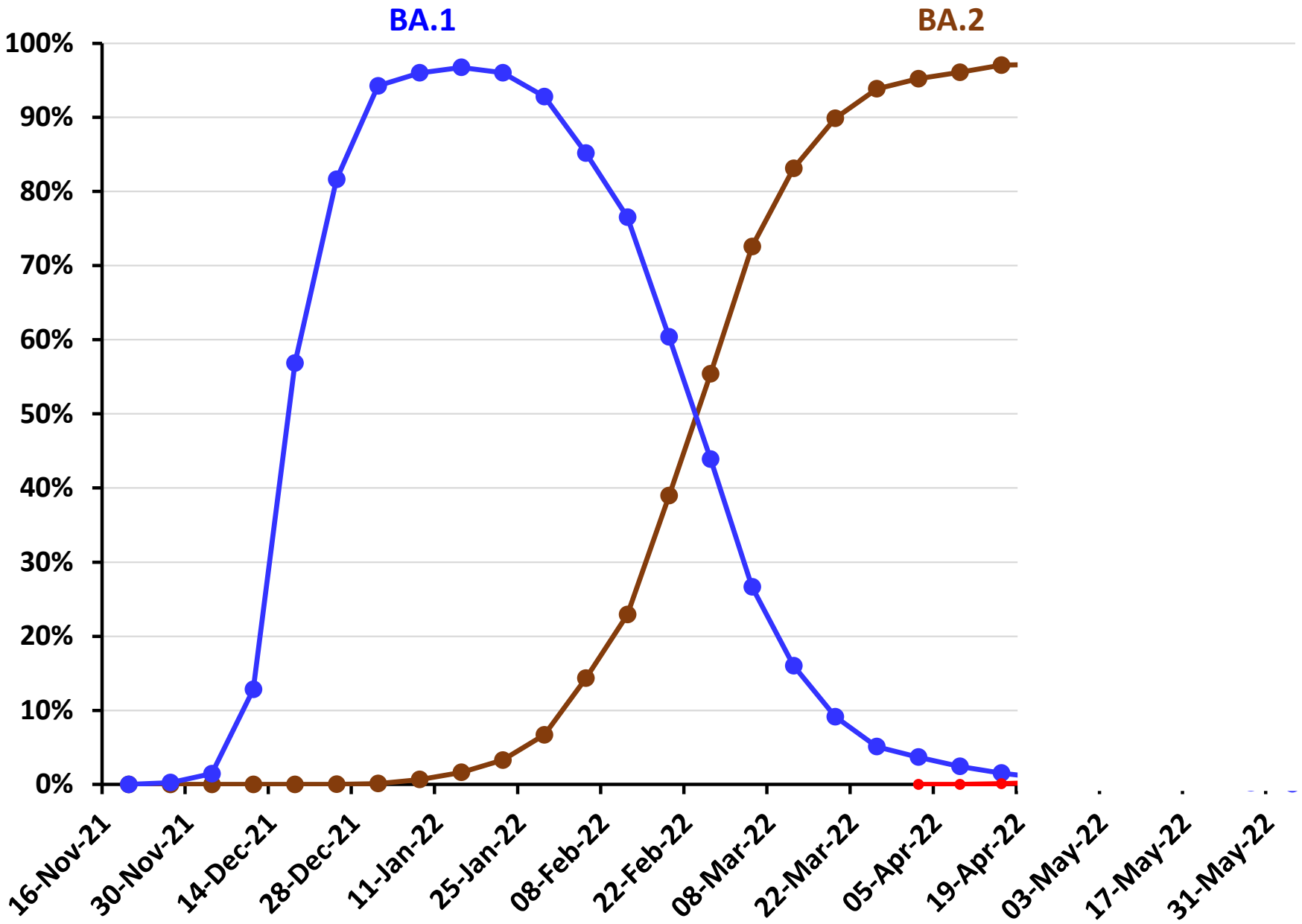
Dominant variants and prevalence of coronavirus November 2021 – 4 June 2022.



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And https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/coronaviruscovid19infectionsurveydata

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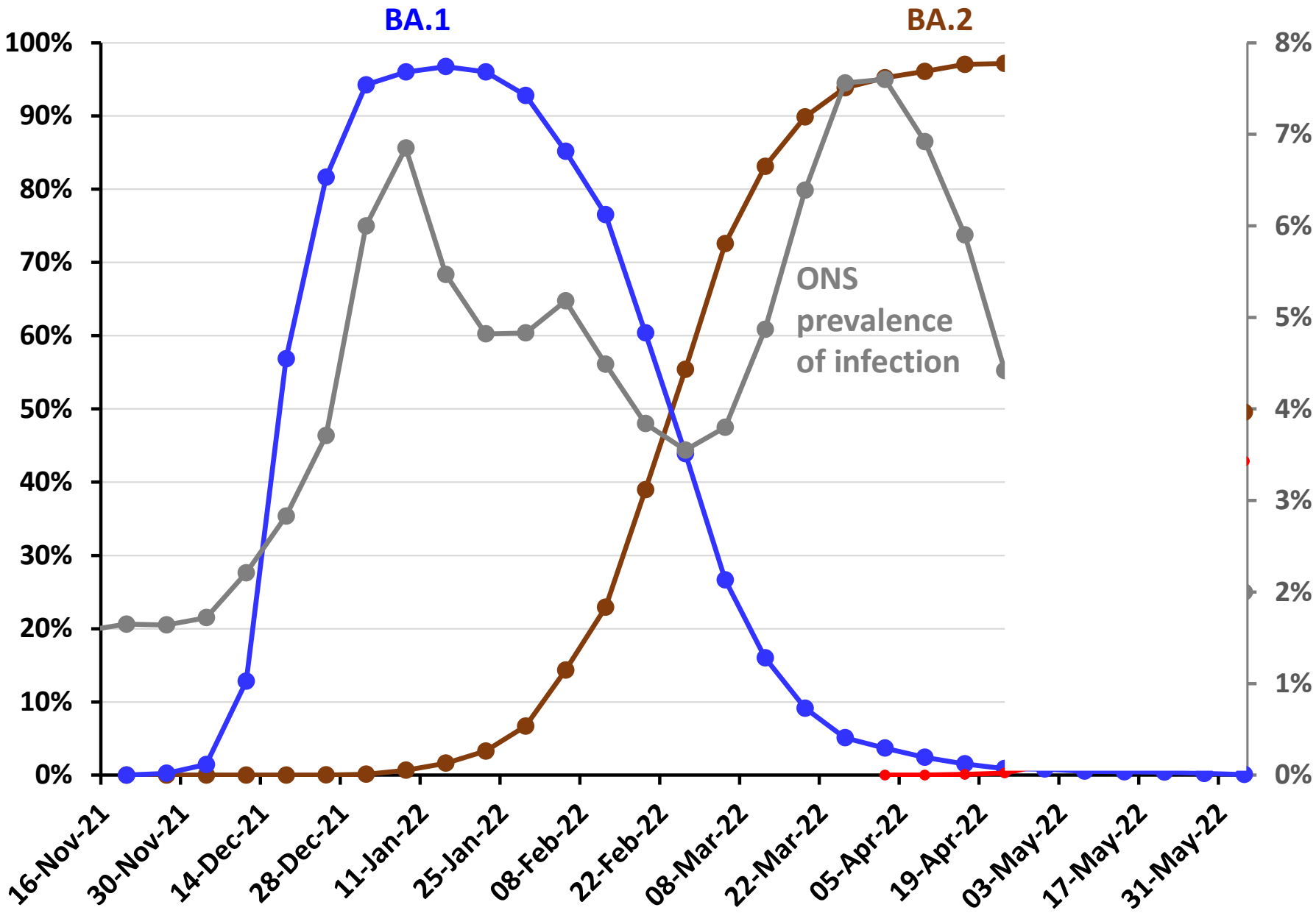

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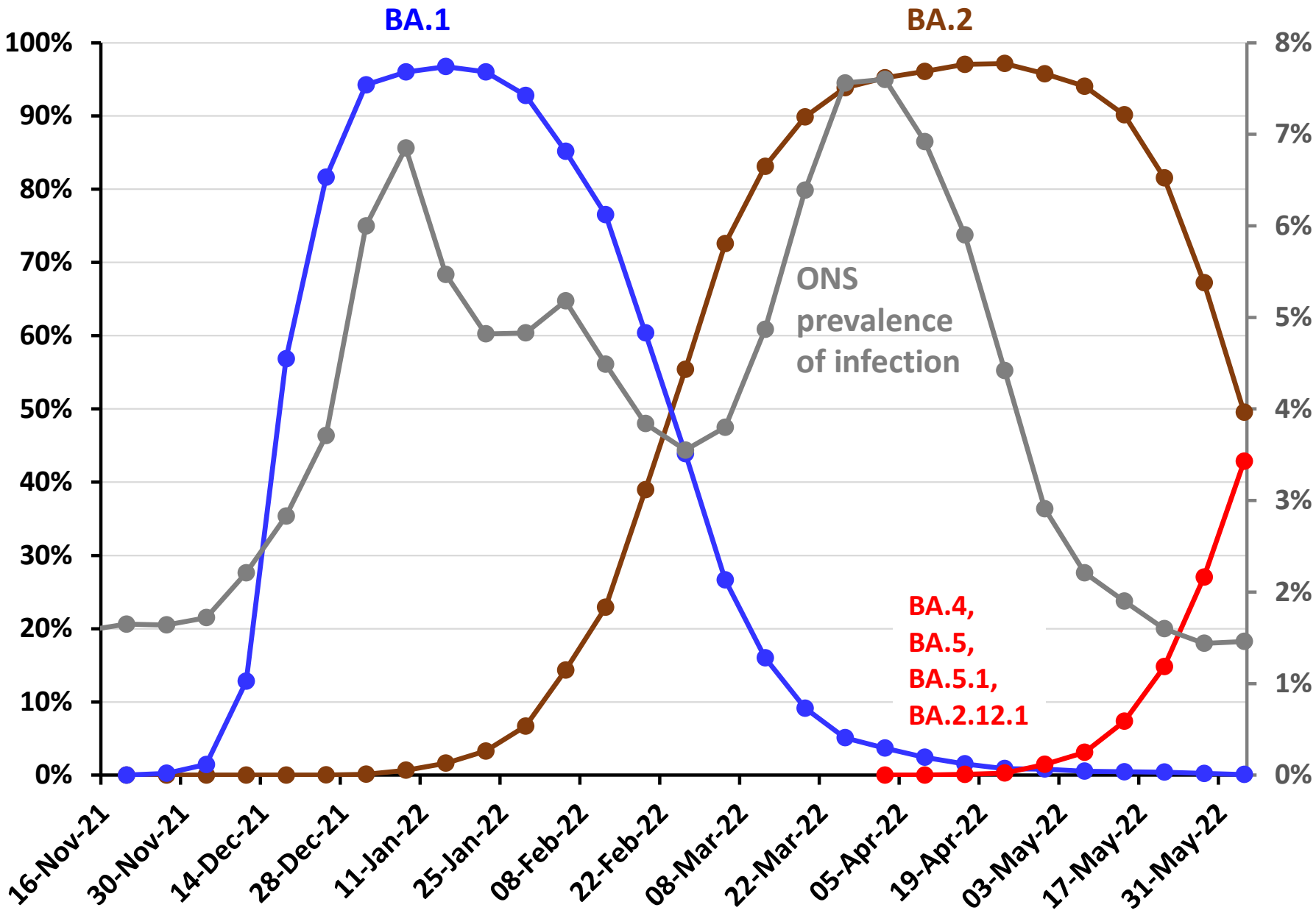

Data from COG UK, https://www.cogconsortium.uk/priority-areas/data-linkage-analysis/public-data-analysis/
And https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/coronaviruscovid19infectionsurveydata

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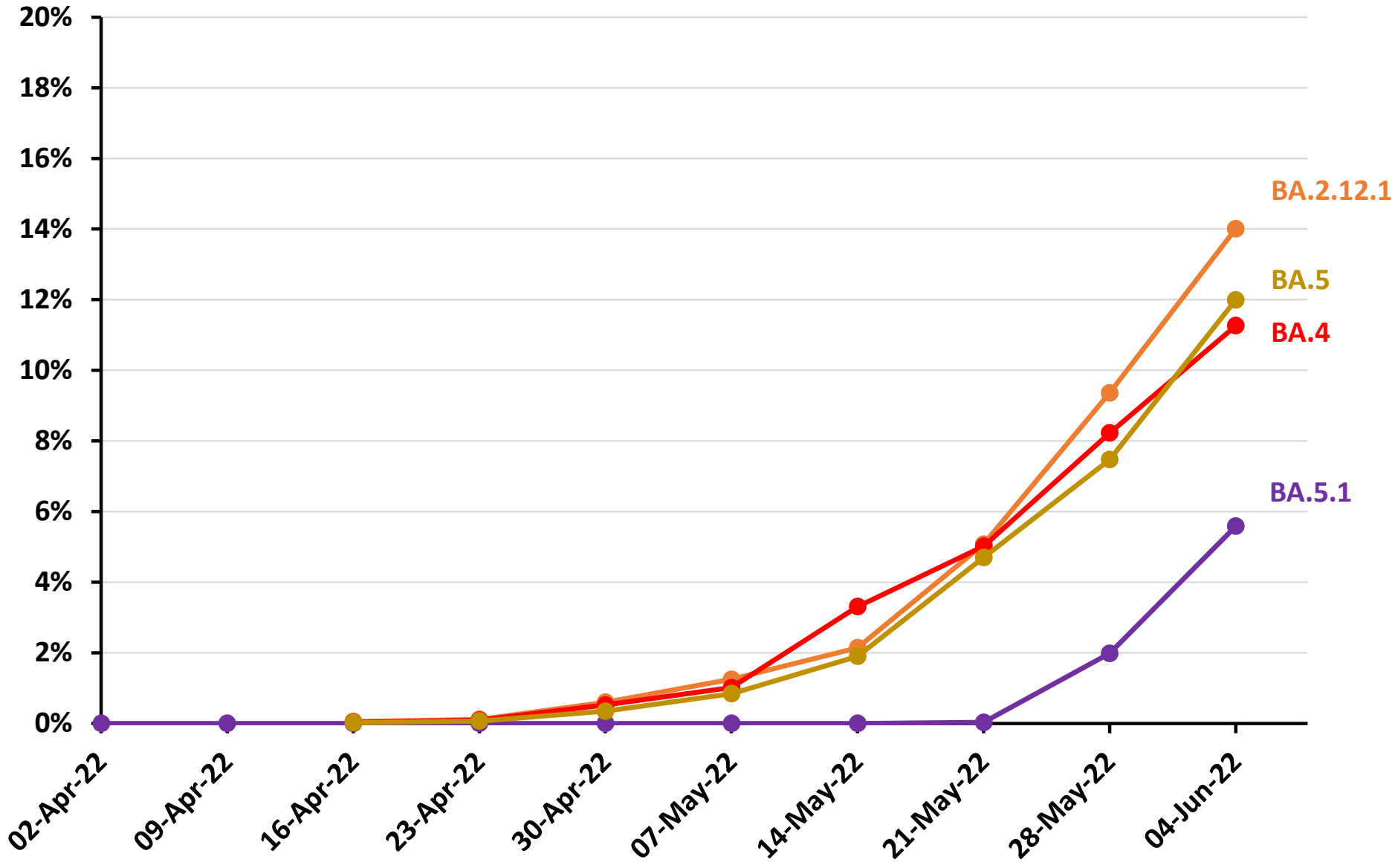
Proportion of sequenced cases in England that are Omicron BA.4, Omicron BA.5, Omicron BA.5.1 & Omicron BA.2.12.1 from 1 April 2022 to 4 June 2022.



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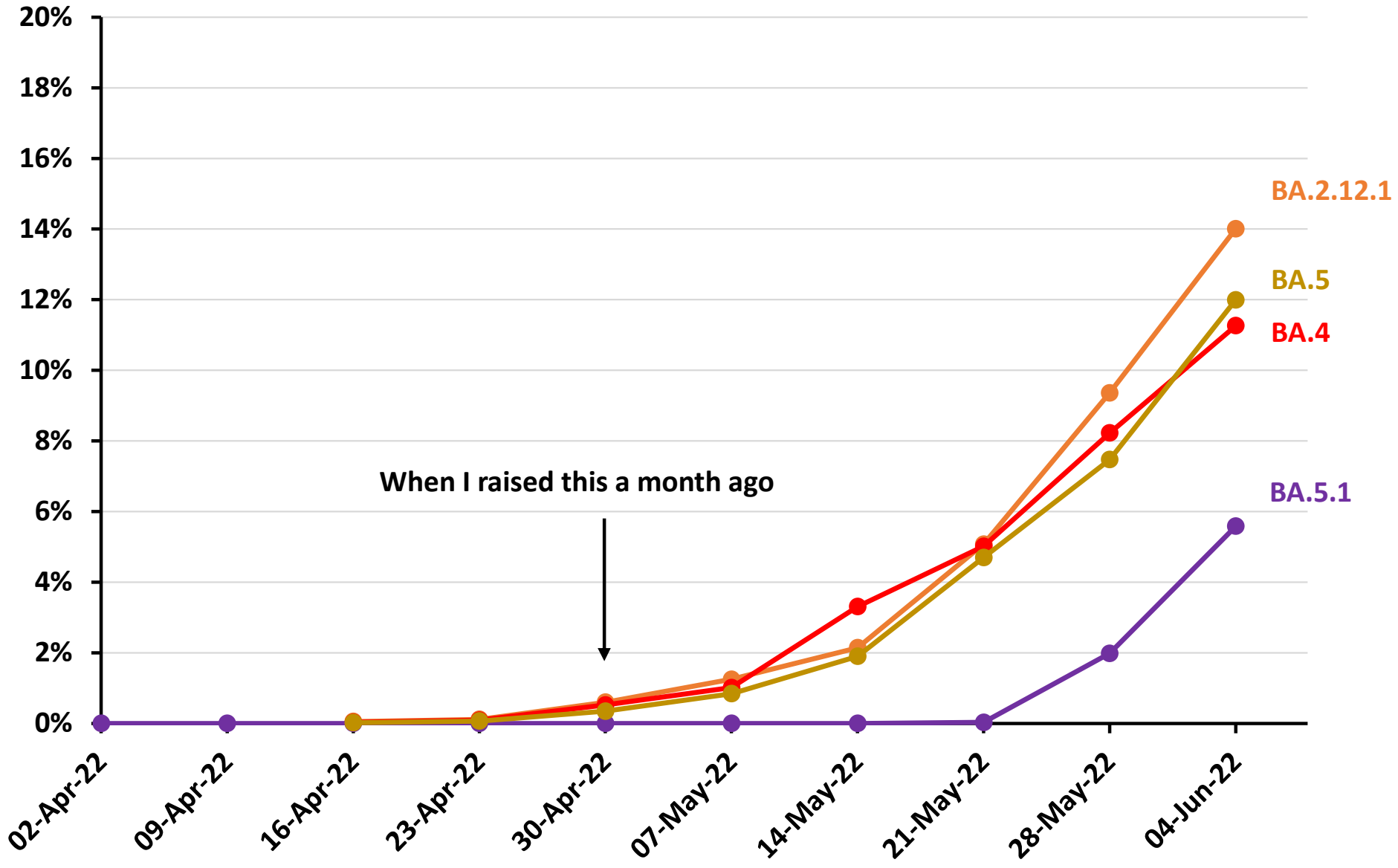

Data from COG UK, https://www.cogconsortium.uk/priority-areas/data-linkage-analysis/public-data-analysis/

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What do we know about BA.4/5?

Distinct antigenic properties of the SARS-CoV-2 Omicron lineages BA.4 and BA.5

Brian J. Willett, Ashwini Kurshan, Nazia Thakur, Joseph Newman, Maria Manali, Grace Tyson, Nicola Logan, Pablo R. Murcia, Luke B. Snell, Jonathan D. Edgeworth, Jie Zhou, Ksenia Sukhova, Gayatri Amirthalingam, Kevin Brown, Bryan Charleston, Michael H. Malim, Emma C. Thomson, Wendy S. Barclay, Dalan Bailey, Katie J. Doores, Thomas P. Peacock

doi: https://doi.org/10.1101/2022.05.25.493397

This article is a preprint and has not been certified by peer review [what does this mean?].

In summary:

- Similar antibody response in boosted people to BA.1 and BA.2 *but* almost everyone is now several months out from their booster

- Infection with Delta (June – Dec 2021) gave least protection against any Omicron variant

- Infection with BA.1 (Dec/Jan 2022) had quite a lot less protection against BA.4/5

- Infection with BA.2 (Mar/Apr 2022) gave good protection against BA.4/5

- Booster plus BA.1 or BA.2 gave the highest protection against BA.4/5 (but still lower than prev variants)

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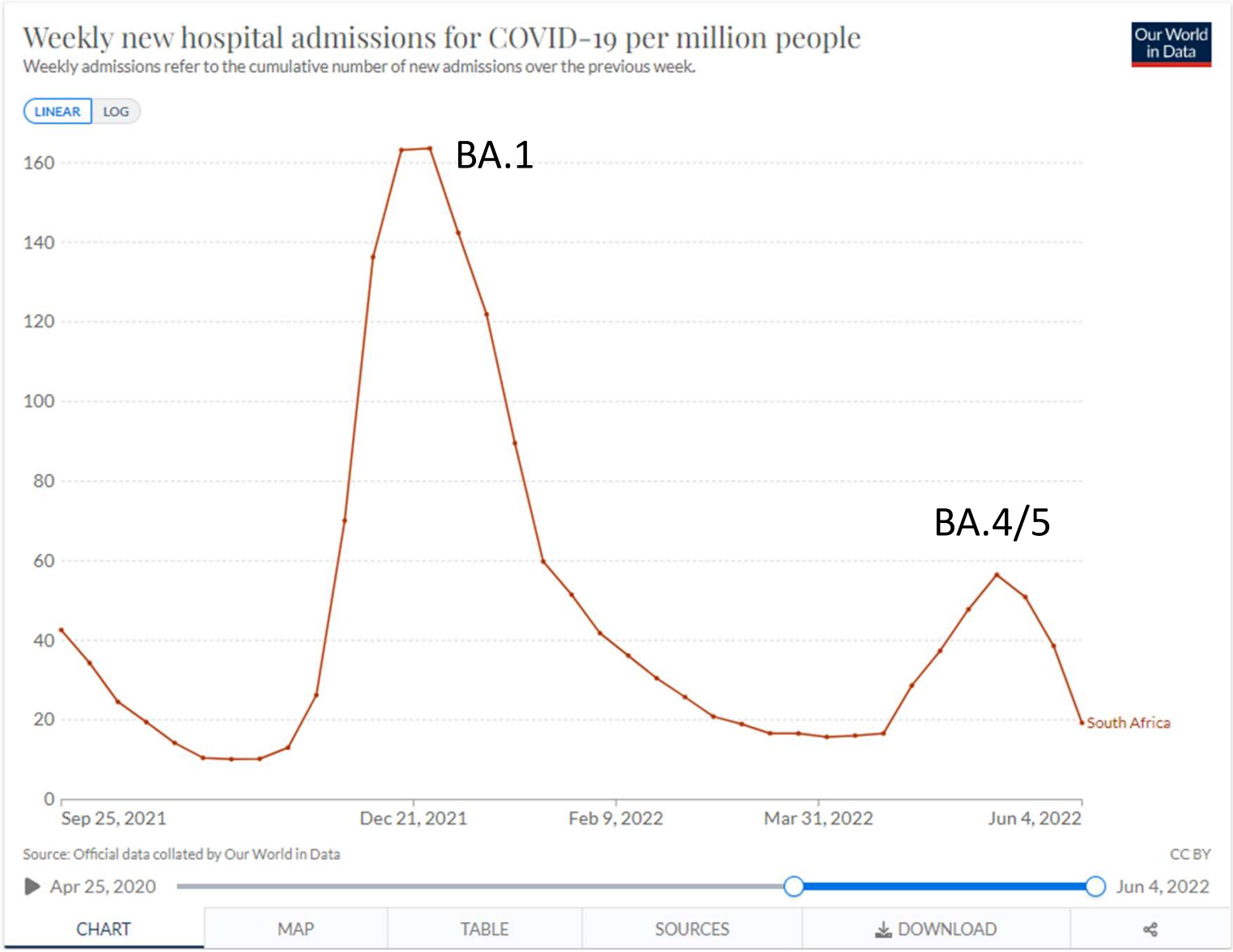
South Africa BA4/5 wave – hospital admissions



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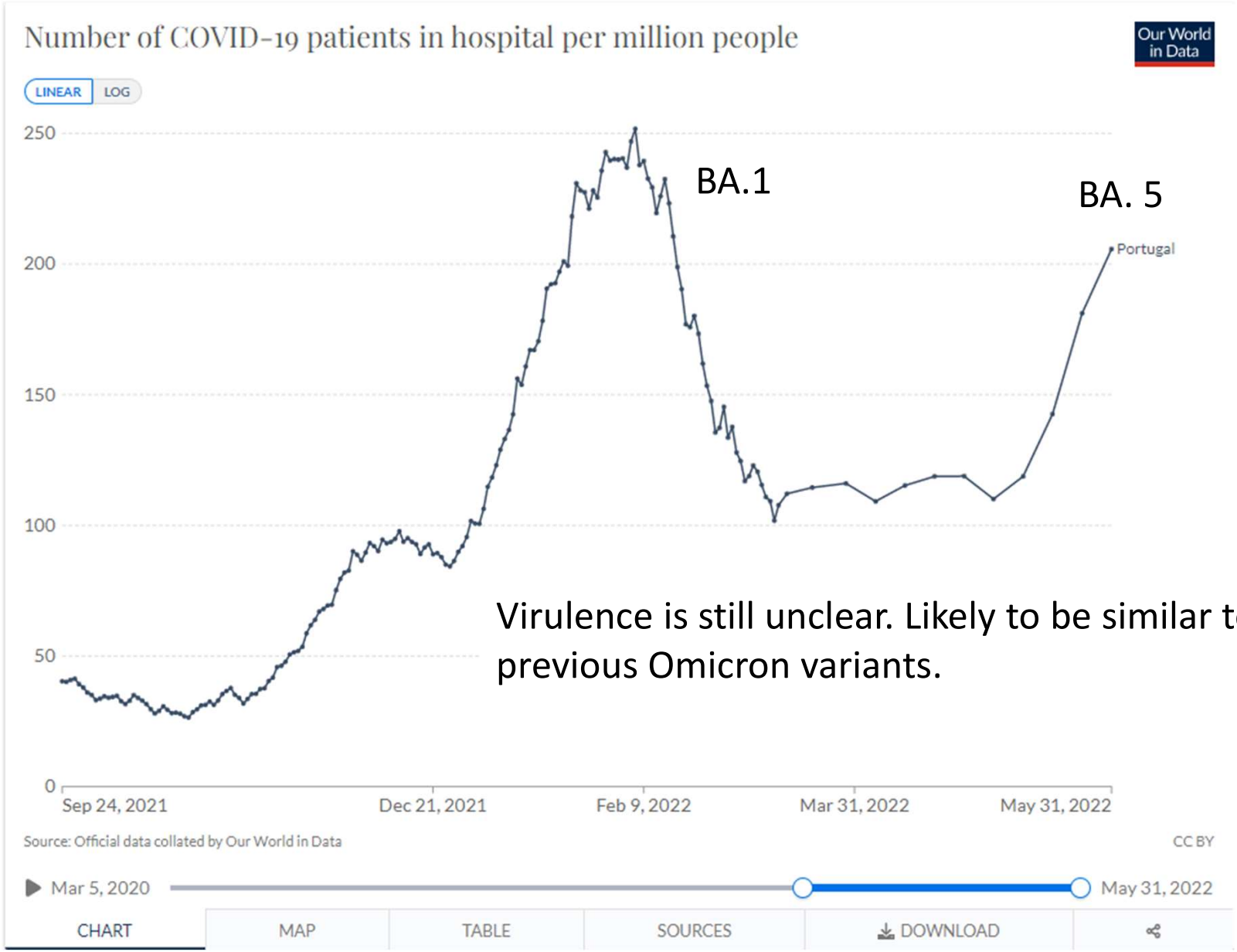
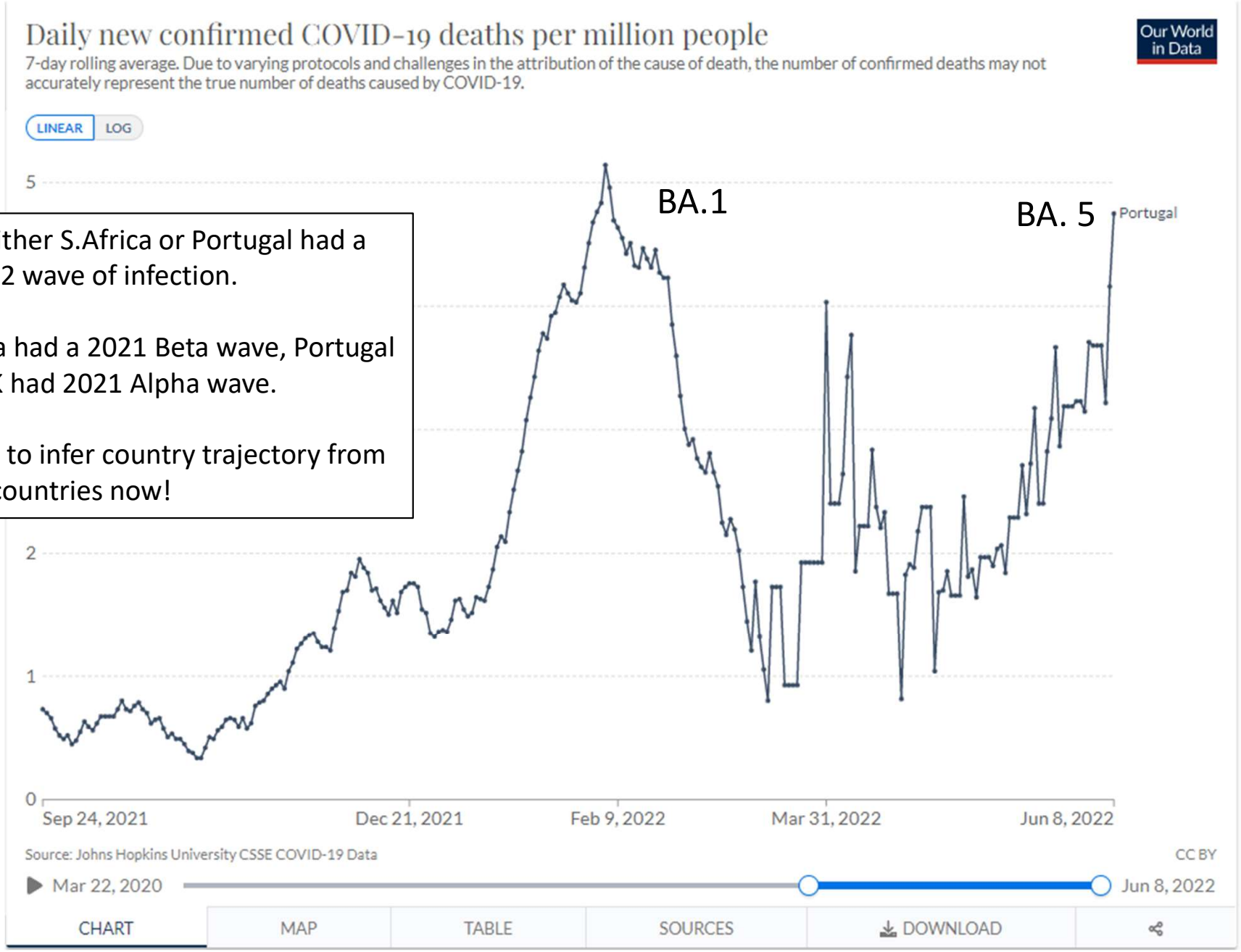
Portugal BA.5 / 5.1 wave – hospital patients



Virulence is still unclear. Likely to be similar to previous Omicron variants.

Portugal BA.5 / 5.1 wave – hospital patients



But neither S.Africa or Portugal had a big BA.2 wave of infection.

S Africa had a 2021 Beta wave, Portugal and UK had 2021 Alpha wave.

Harder to infer country trajectory from other countries now!

Portugal BA.5 / 5.1 wave – hospital patients

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Harder to infer country trajectory from other countries now!

Omicron variant

Concern grows as two new Omicron sub-variants spread across US

Scientists warn that BA.4 and BA.5 are more contagious forms that could escape immunity from past infections and vaccinations

Gloria Oladipo
@gaoladipo
Wed 8 Jun 2022 16.58 BST

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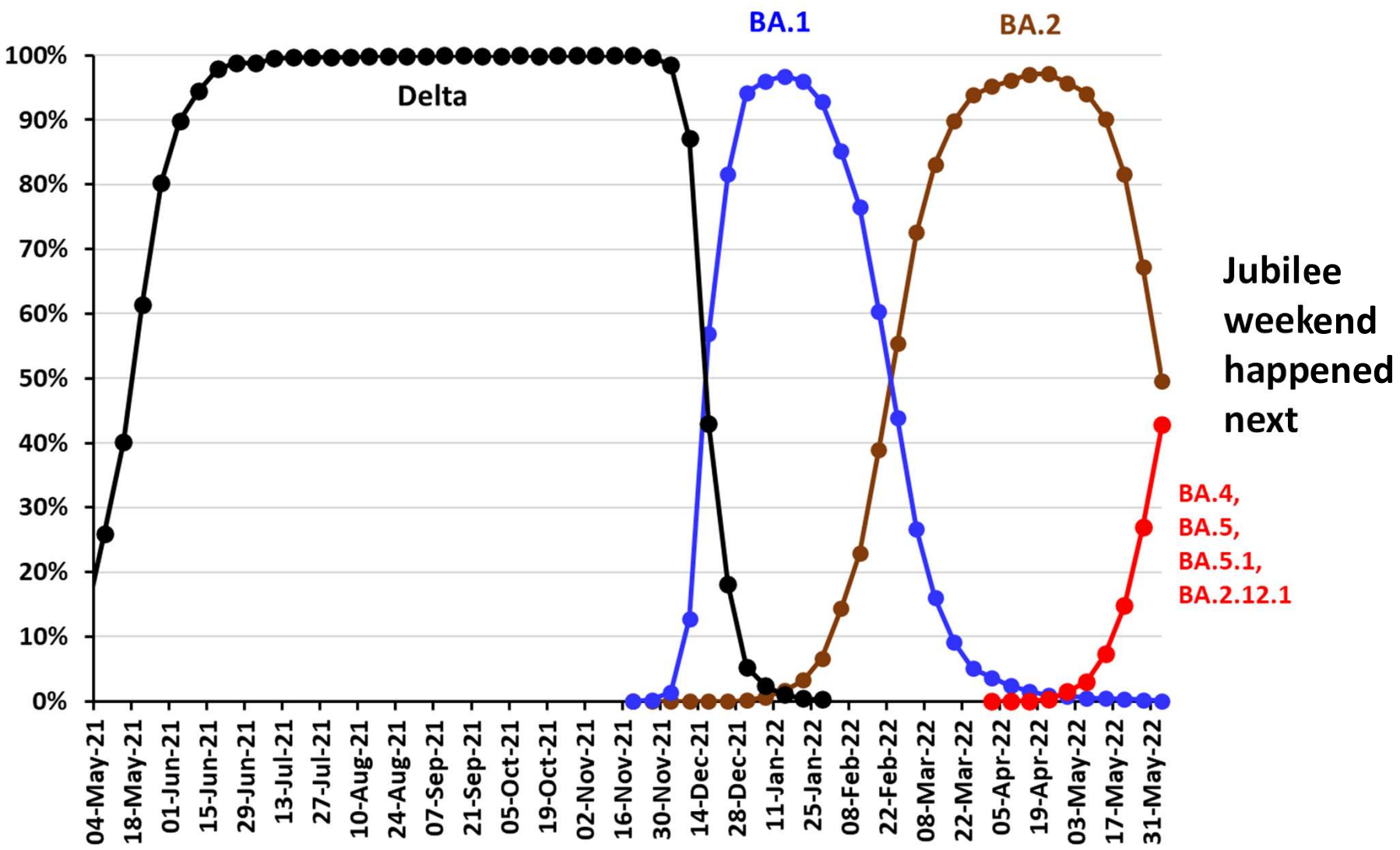
Proportion of sequenced cases in England that are Delta, Omicron BA.1, Omicron BA.2 and Omicron BA.2.12.1, BA.4, BA.5, BA.5.1 from 4 Dec 2021 to 4 June 2022.



Data from COG UK, https://www.cogconsortium.uk/priority-areas/data-linkage-analysis/public-data-analysis/

Vaccination

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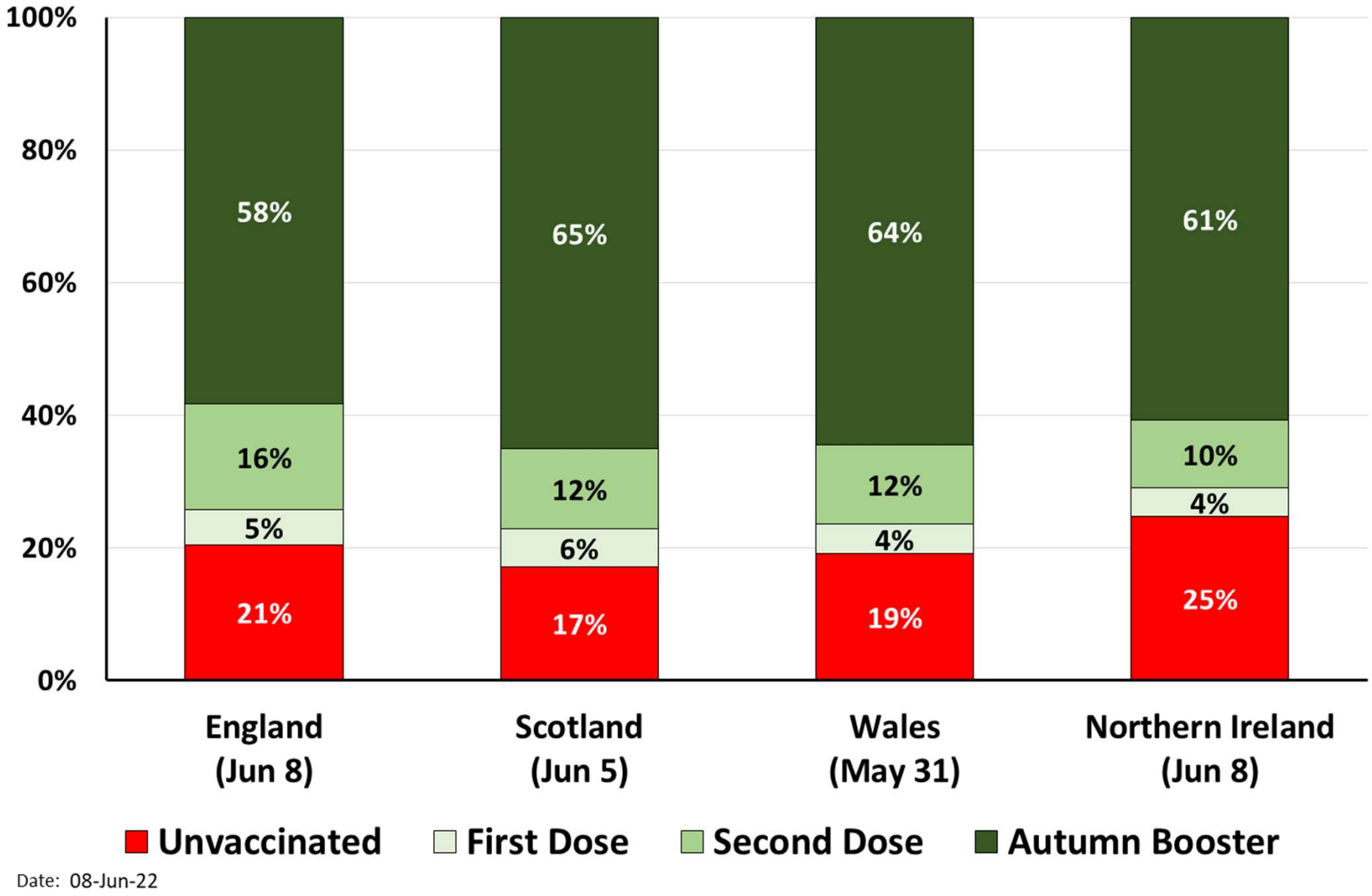
Percent of Total Population Unvaccinated, First Dose, Second Dose, and Autumn Booster – Latest Data

(Source: Covid Daily Update and Mid-2020 ONS Population Estimates)



Date: 08-Jun-22

Thanks to Bob Hawkins for the chart

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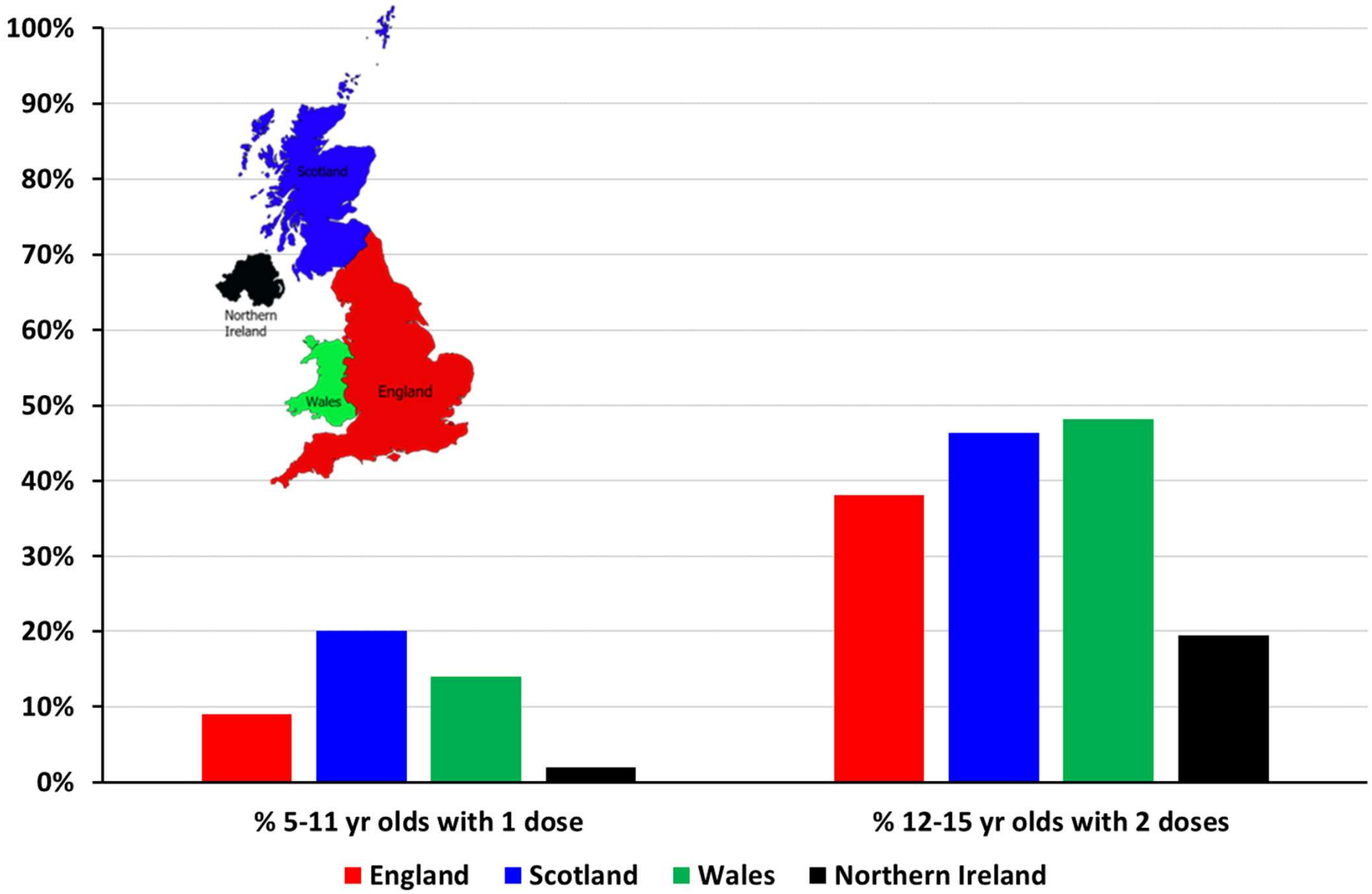
Current coverage of vaccination in children



Thanks to Bob Hawkins for the chart

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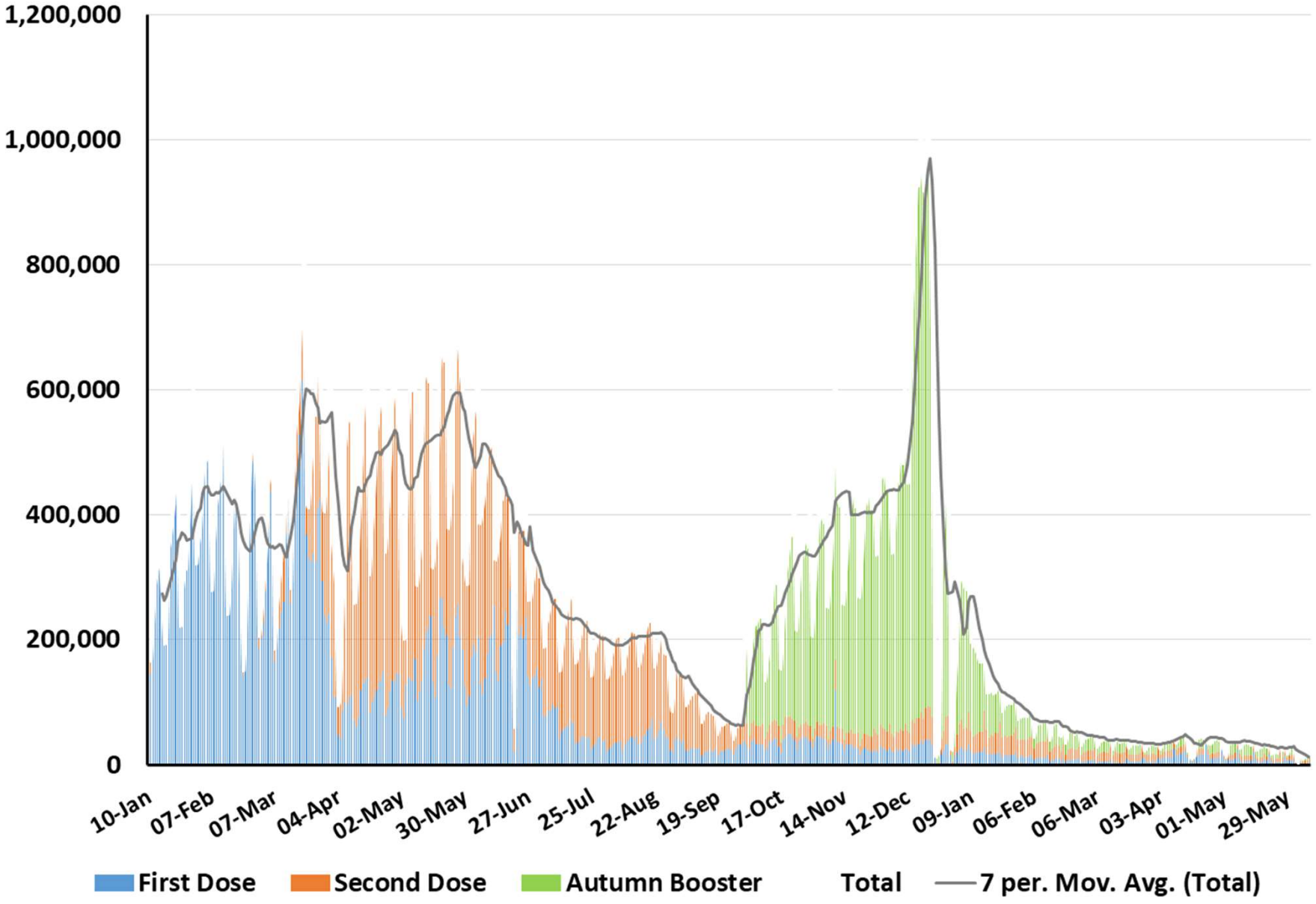
Number of First, Second, and Autumn Booster Doses given by Day in the UK
Jan 11, 2021 to Jun 8, 2022

(Source: Covid Daily Update)



Thanks to Bob Hawkins for the chart

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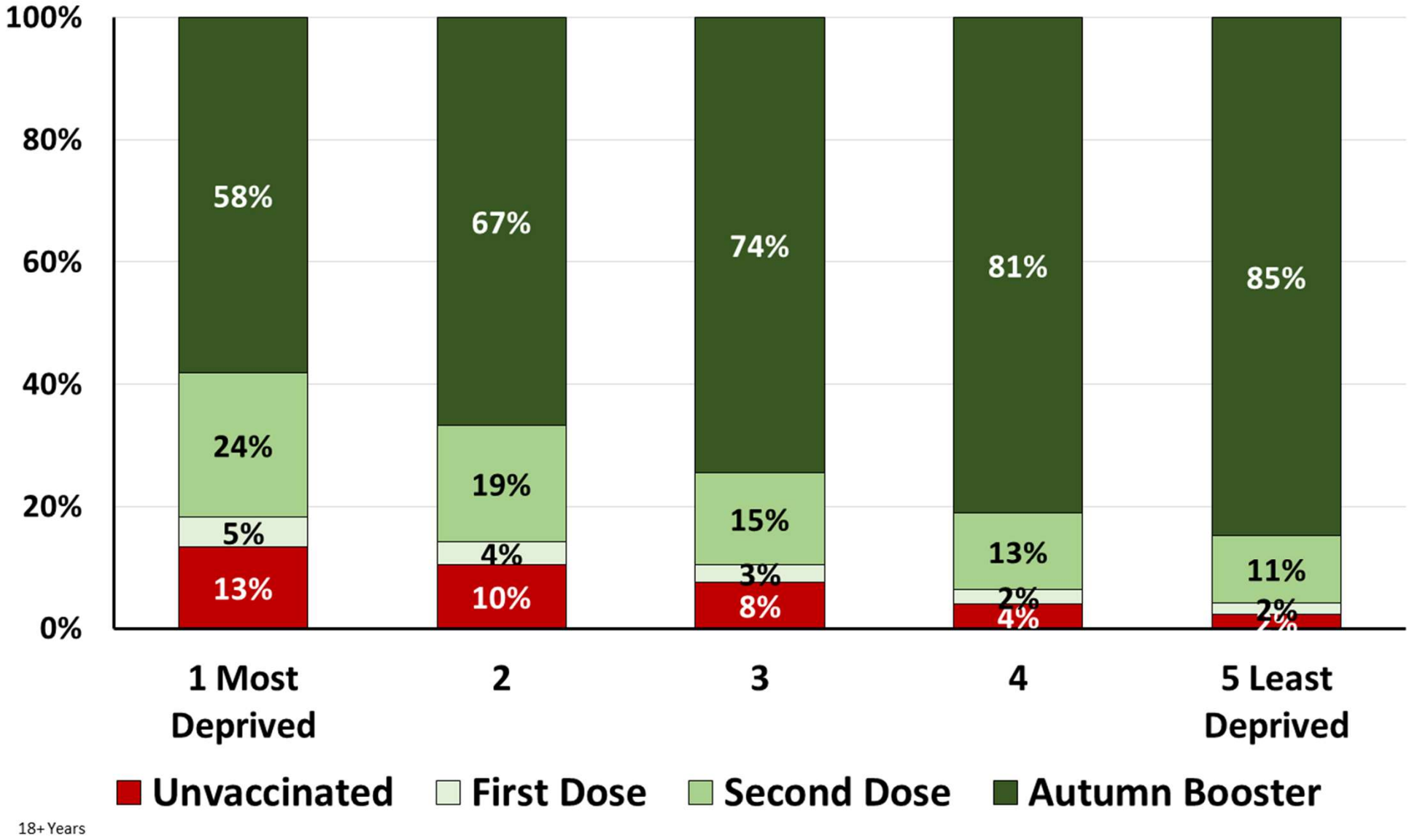
Vaccine Coverage by Deprivation for Over 18 Year Olds in England as at 5 Jun 2022

(Source: Weekly NHS England Vaccination Reports)



Thanks to Bob Hawkins for the chart

https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/

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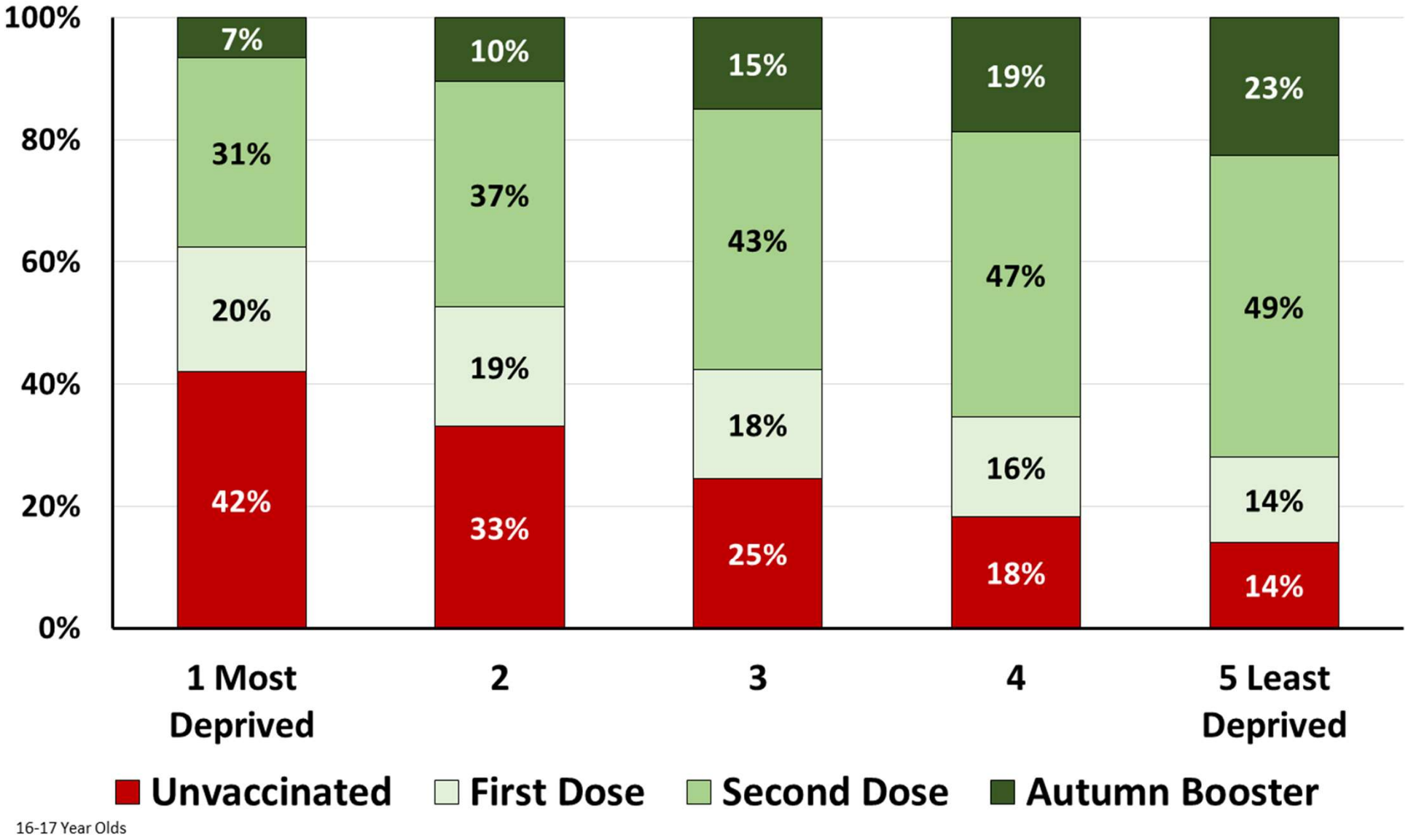
Vaccine Coverage by Deprivation for 16-17 Year Olds in England as at 5 Jun 2022

(Source: Weekly NHS England Vaccination Reports)



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https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/

Prevalence of Covid

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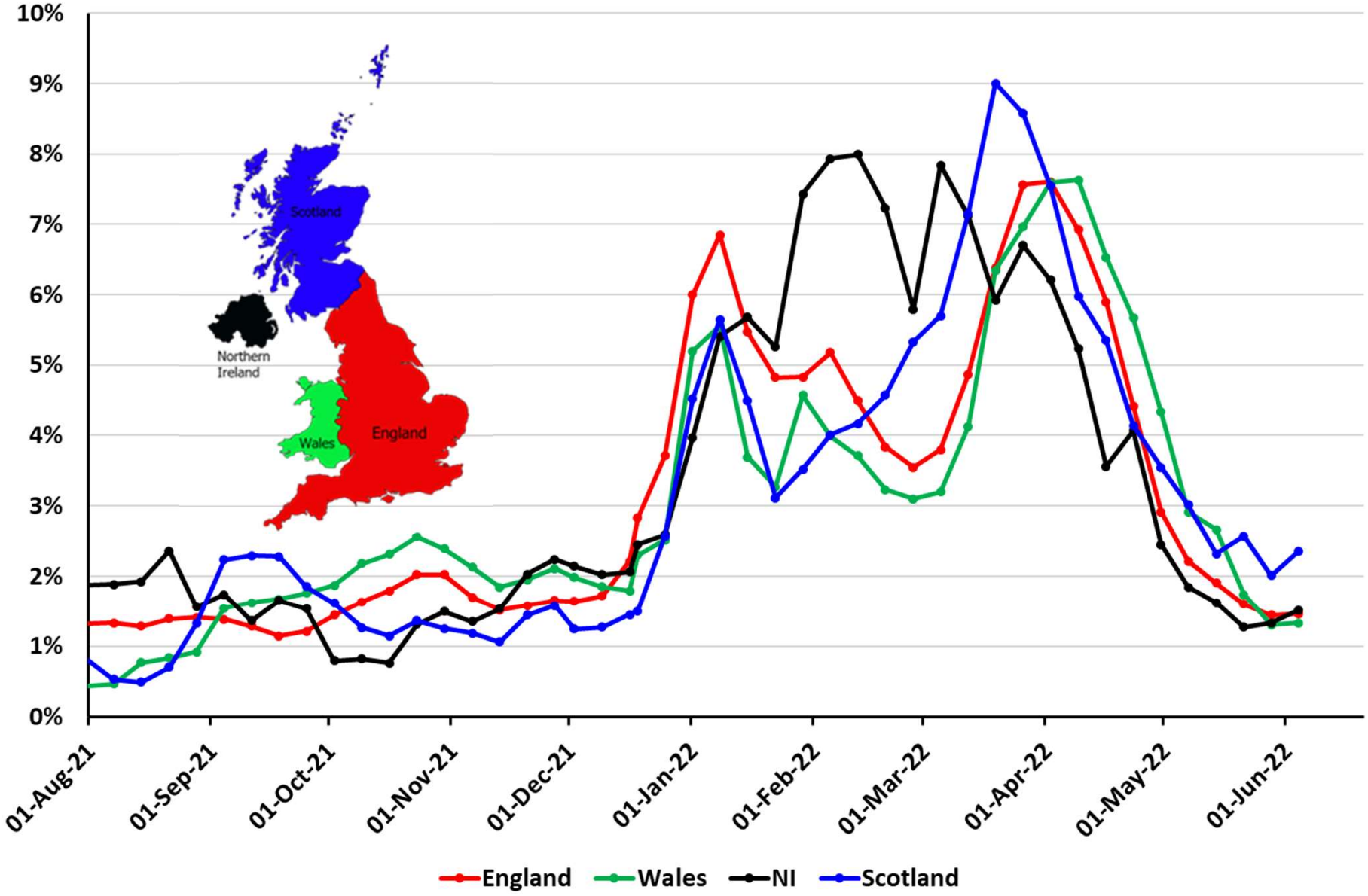
Percent of population testing positive each week by nation: 1 Aug 2021 to 2 June 2022 ONS Infection Survey (random testing)



Data from https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/coronaviruscovid19infectionsurveydata .

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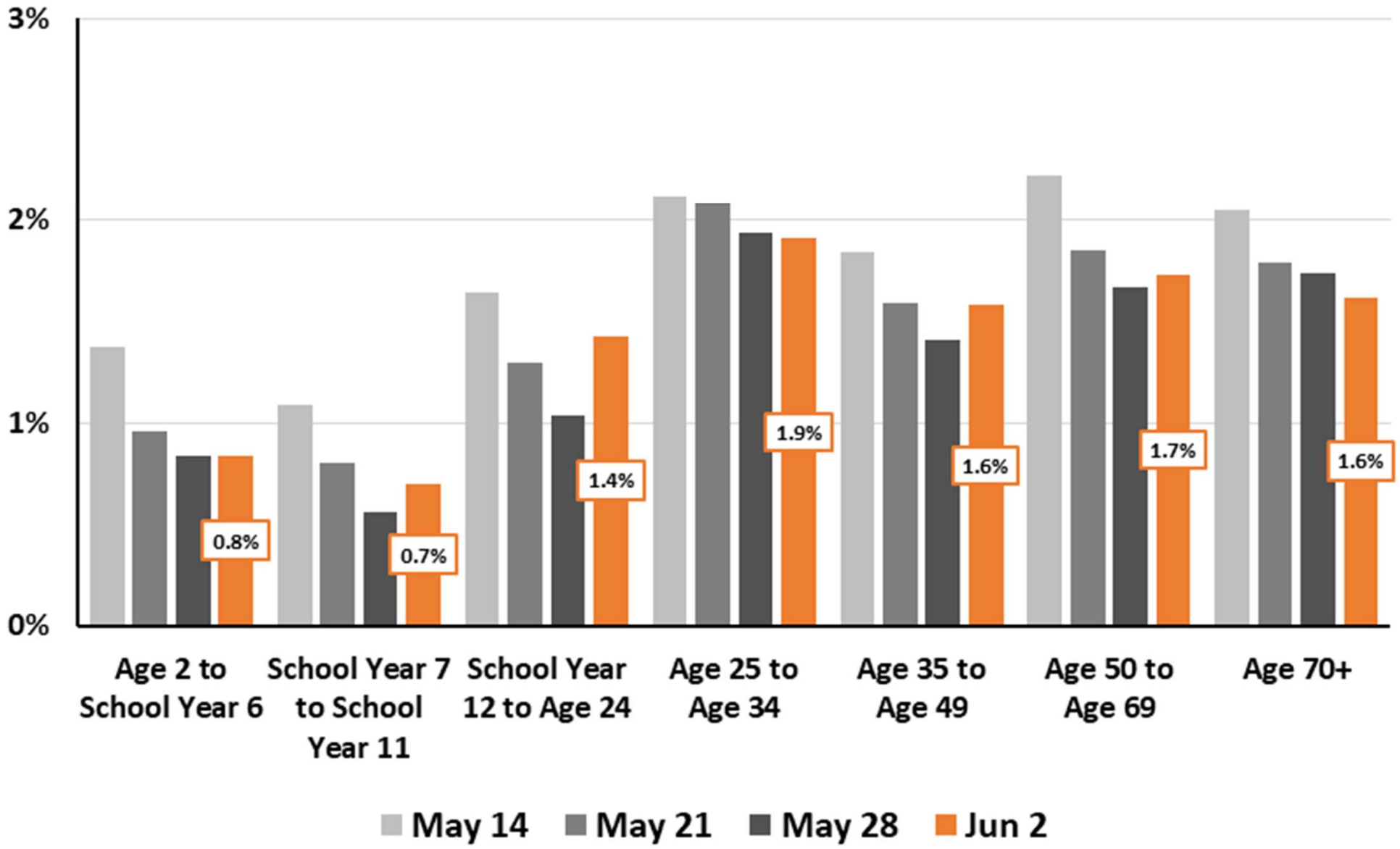
Percent Testing Positive by Age for England: Recent Trend

(Source: ONS Coronavirus (COVID-19) Infection Survey results)



Thanks to Bob Hawkins for the chart

Hospitals

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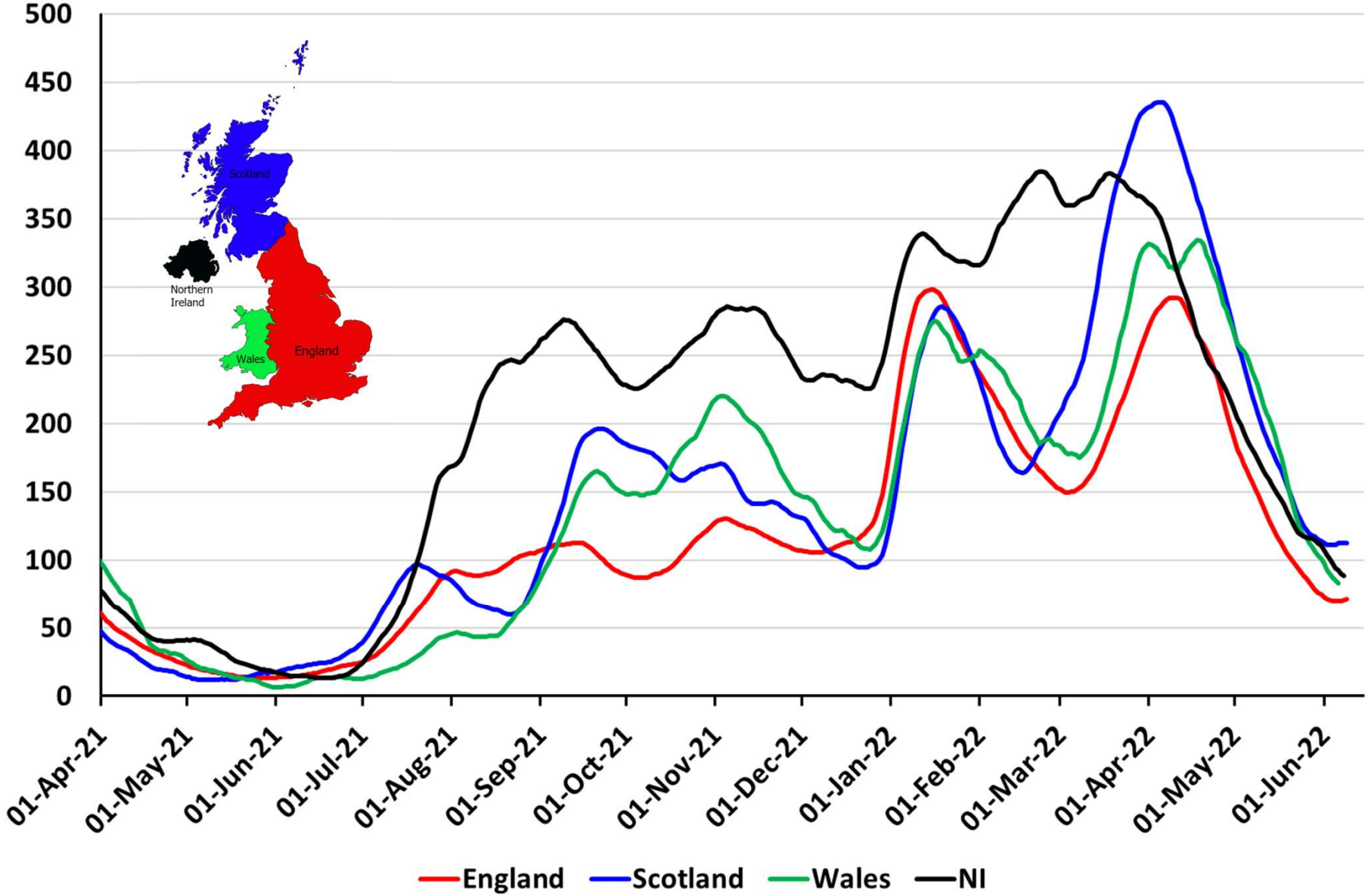
Number of people in hospital with Covid per million people – UK nations
7 day rolling average to 9 June 2022



Data from https://coronavirus.data.gov.uk.

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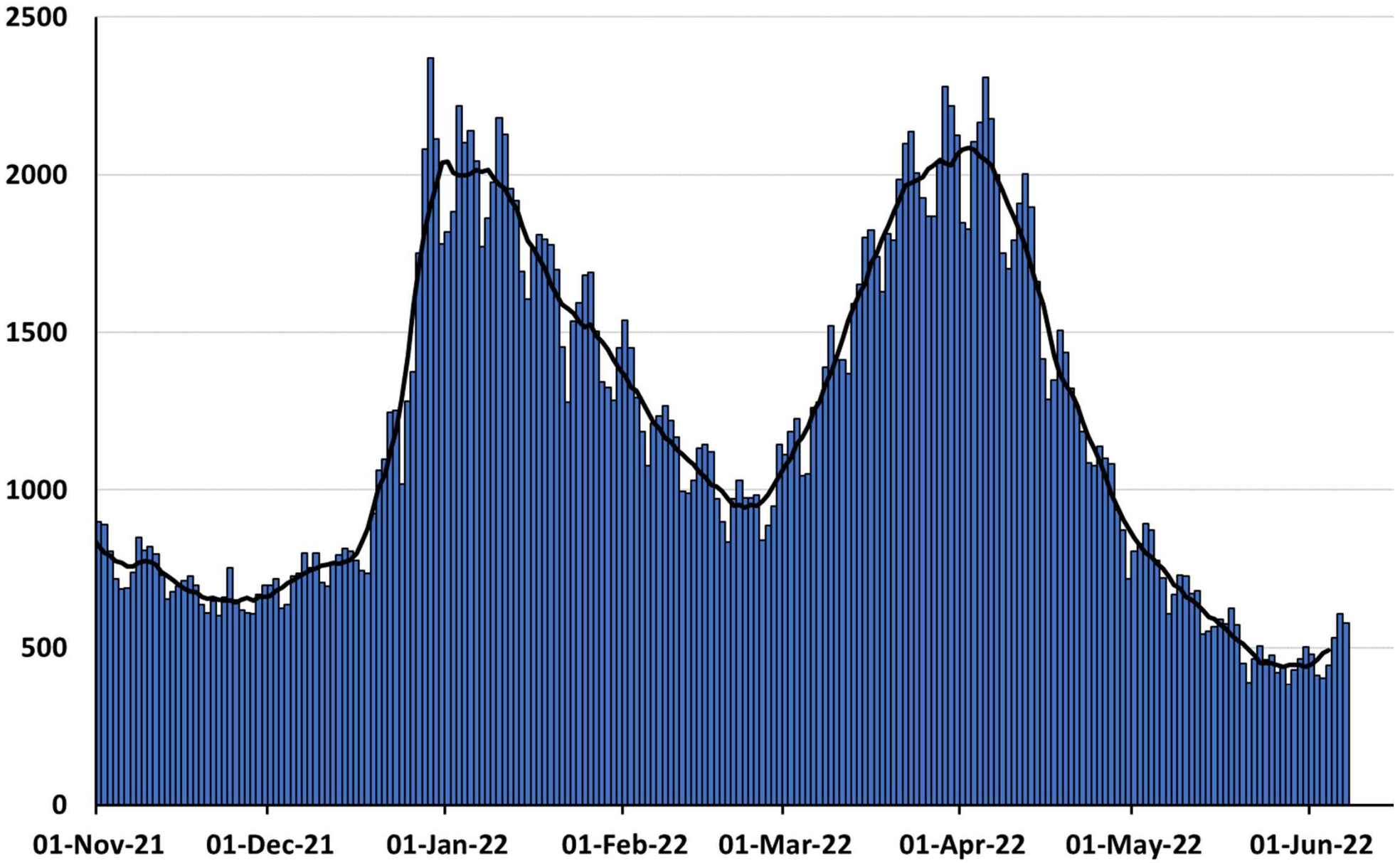
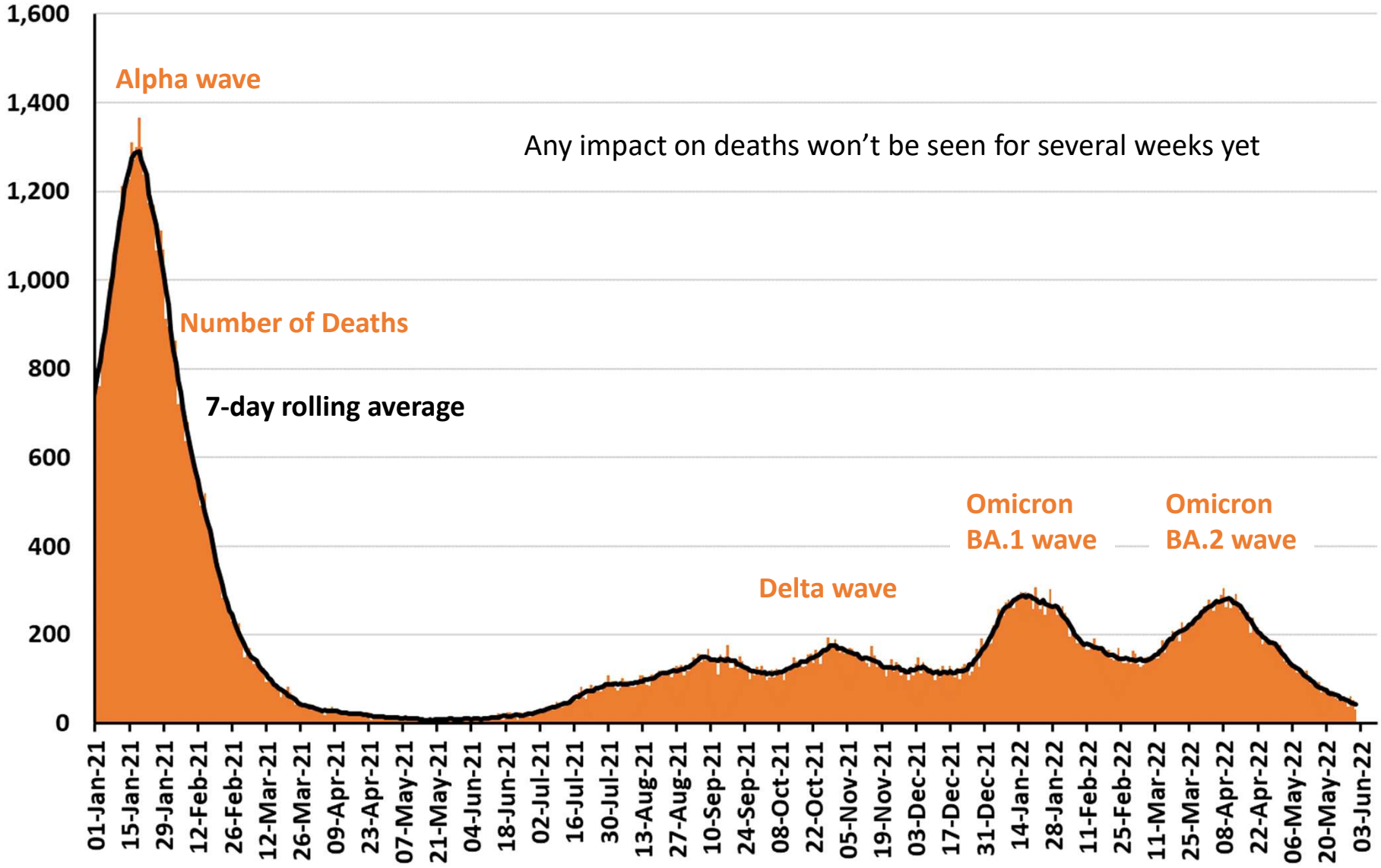
Number of daily hospital admissions with Covid in England to 7 June 2022



Data from https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-hospital-activity/

Deaths

Number of deaths within 28 days of +ve COVID test by date of death across the UK to 26 April 2022



Data from https://coronavirus.data.gov.uk/

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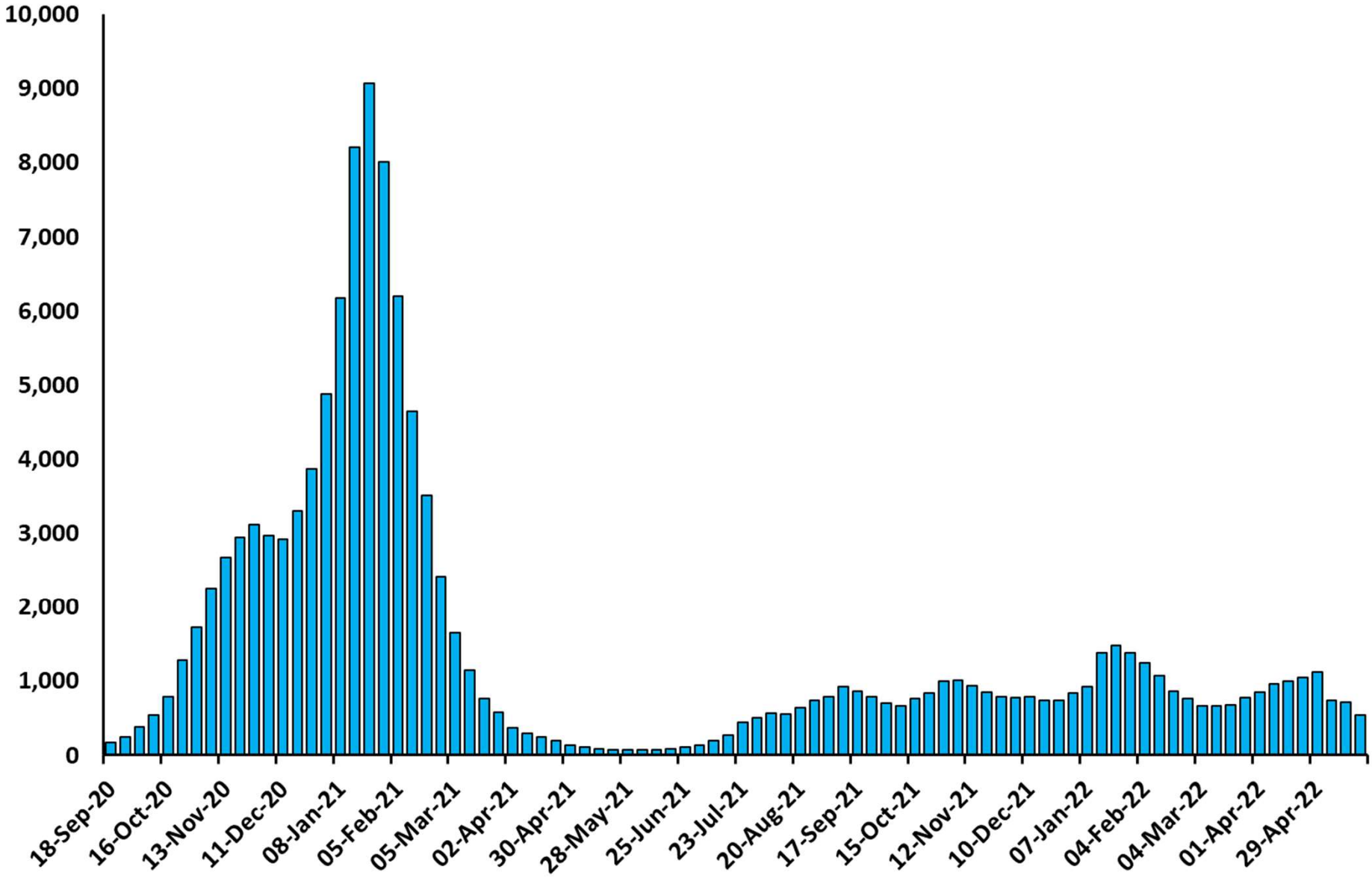
Number of deaths with Covid on the death certificate by week registered in England & Wales to 20 May 2022



Data from https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

Long Covid

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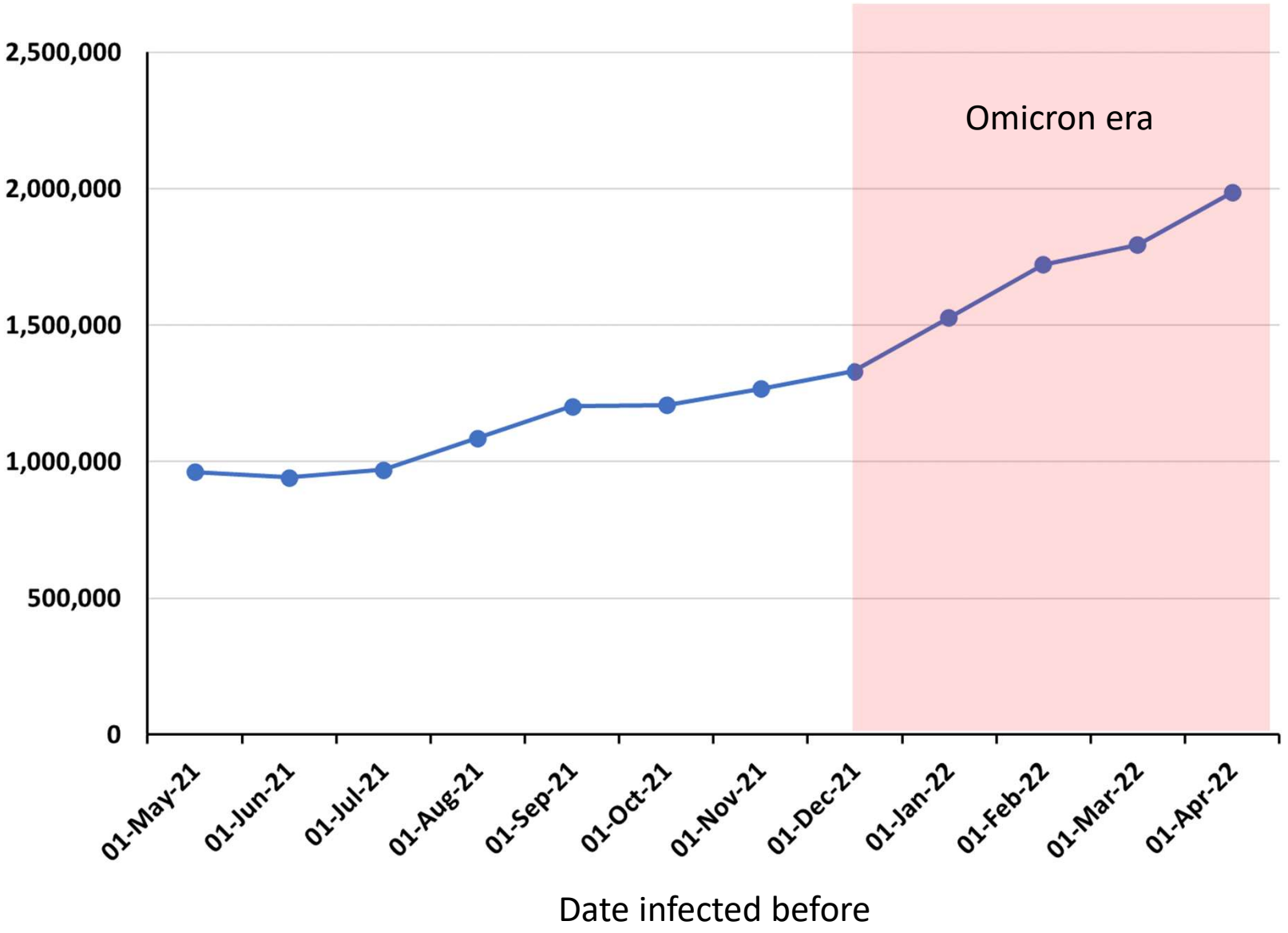
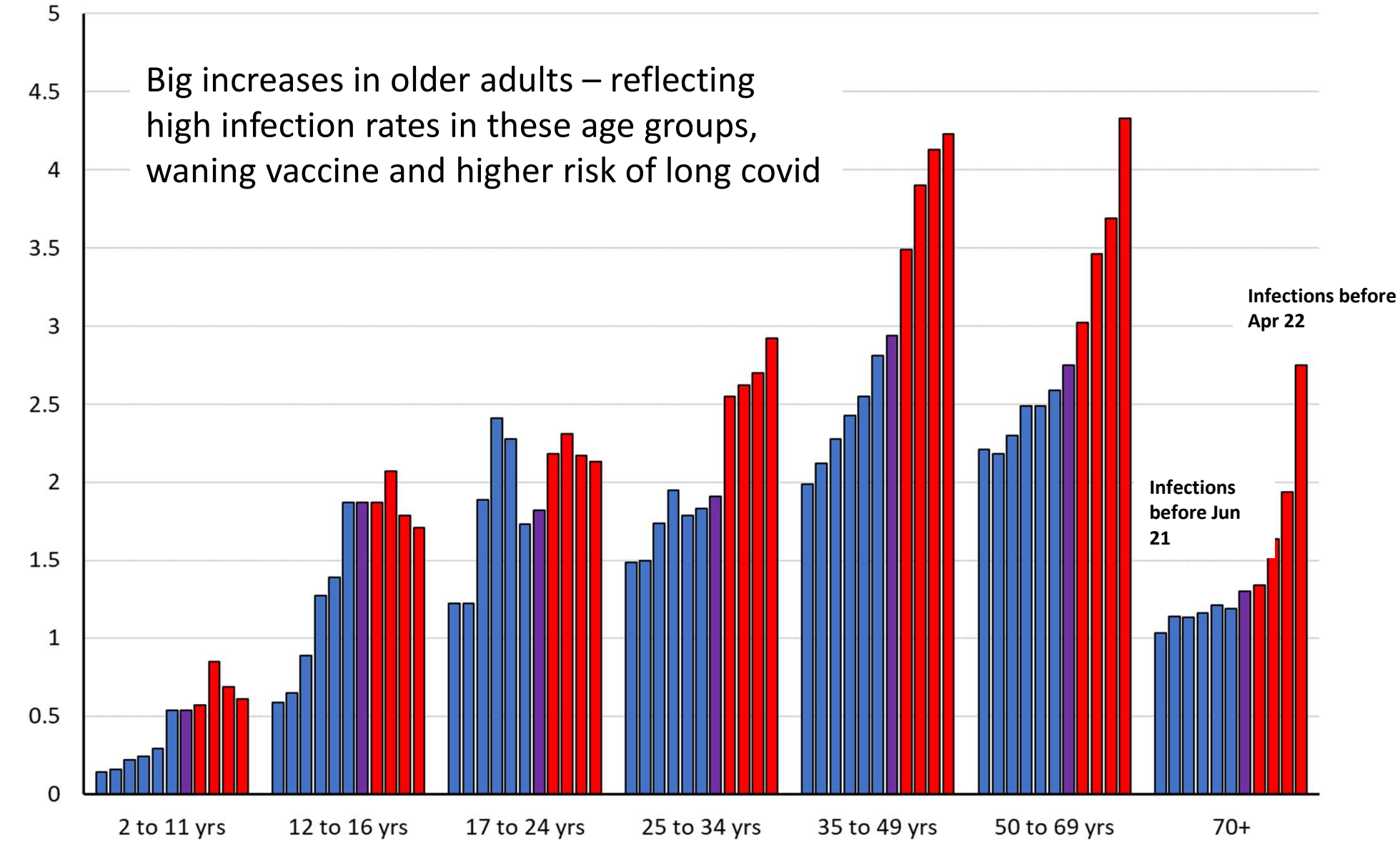
Number of People Living with Self-Reported Long Covid (at least 4 weeks) for people infected up to 1 Apr 2022

(Source: ONS Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK Reports)



https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/6may2022

Percentage of population living with "Long Covid" (symptoms lasting at least 4 weeks) by age over time (ONS survey). Red bars indicate Omicron era.



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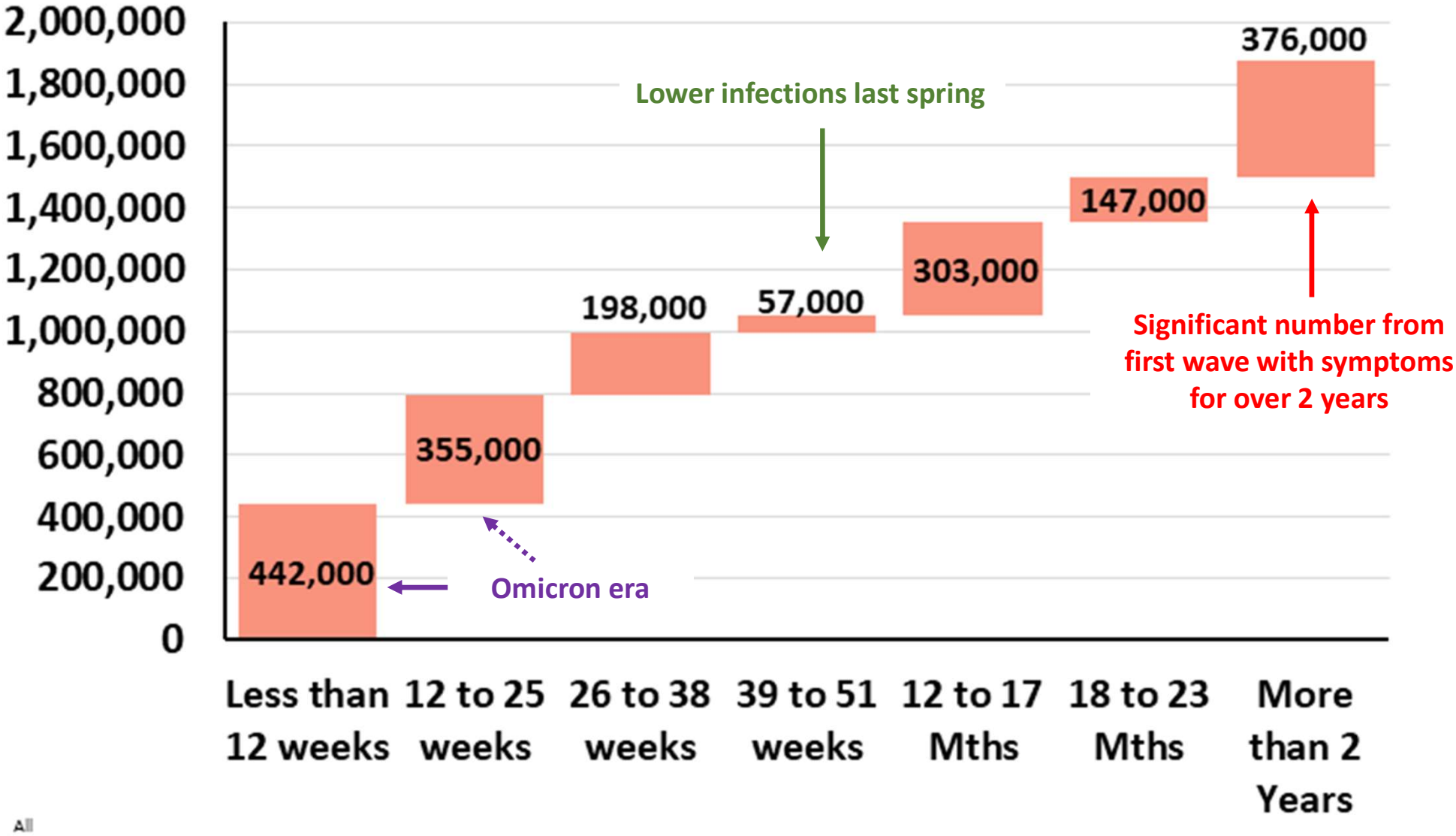
Length of Time People Spent Living with Self-Reported Long Covid for people infected up to 1 Apr 2022

(Source: ONS Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK Reports)



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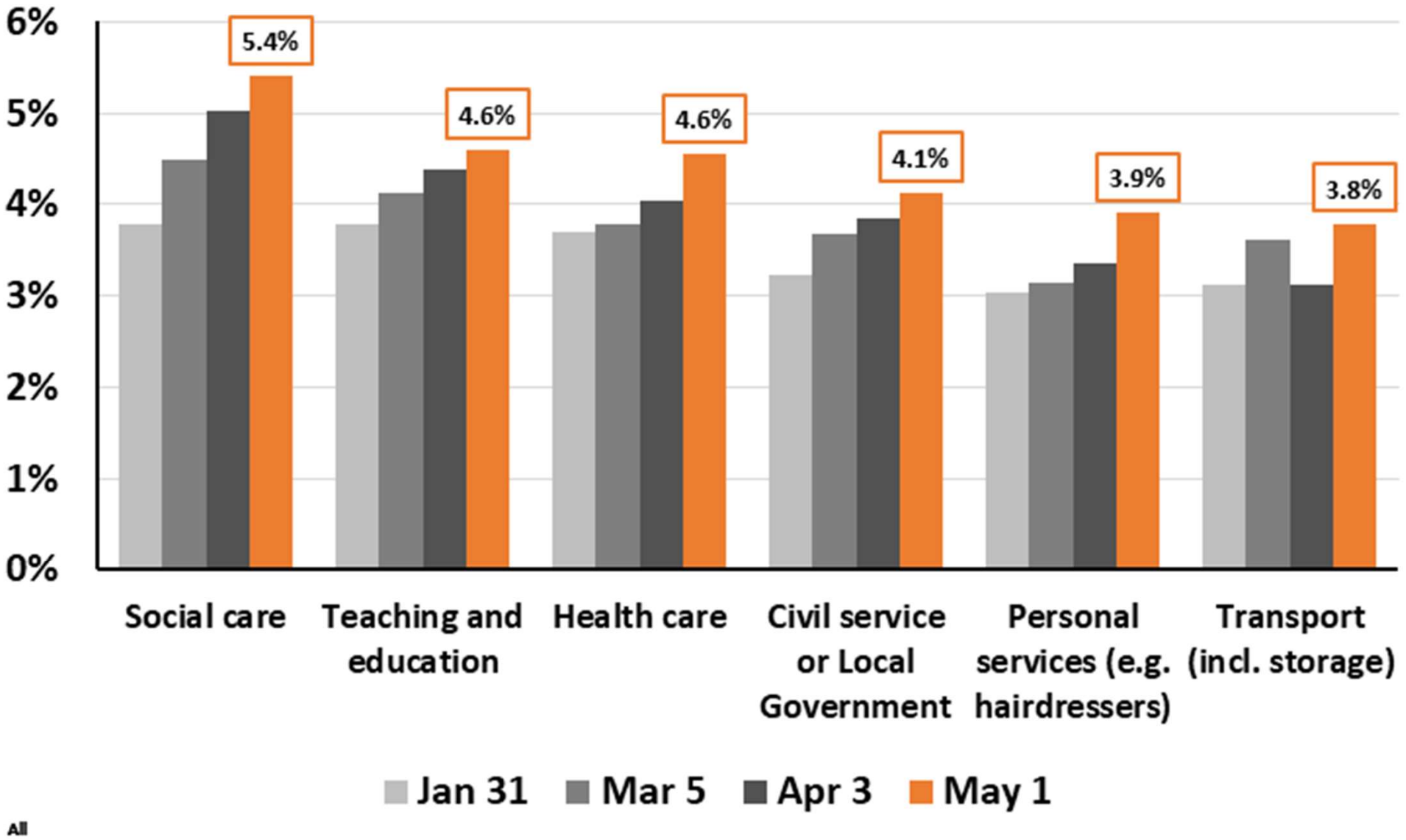
Percent of People in 'Top 6' Job Sectors Living with Self-Reported Long Covid in the UK: Recent Trend

(Source: ONS Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK Reports)



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Long Covid affecting education provision: from Times Education Supplement

The education secretary has asked officials to draw up new guidance on long Covid for schools as cases continue to rise among teachers and support staff, *Tes* understands.

Nadhim Zahawi's request comes as Department for Education research suggests that more than a third of secondary schools are reporting workforce challenges due to long Covid.

It also comes as teaching unions unveil a new joint protocol, seen by *Tes,* which calls for staff who have been medically diagnosed with long Covid to be given up to 12 months of full-paid leave.

Mr Zahawi and unions are acting against a backdrop of rising concern from scientists that the continued rise in teachers suffering from long Covid is "eroding" the workforce and will have "devastating consequences".

What can be done?

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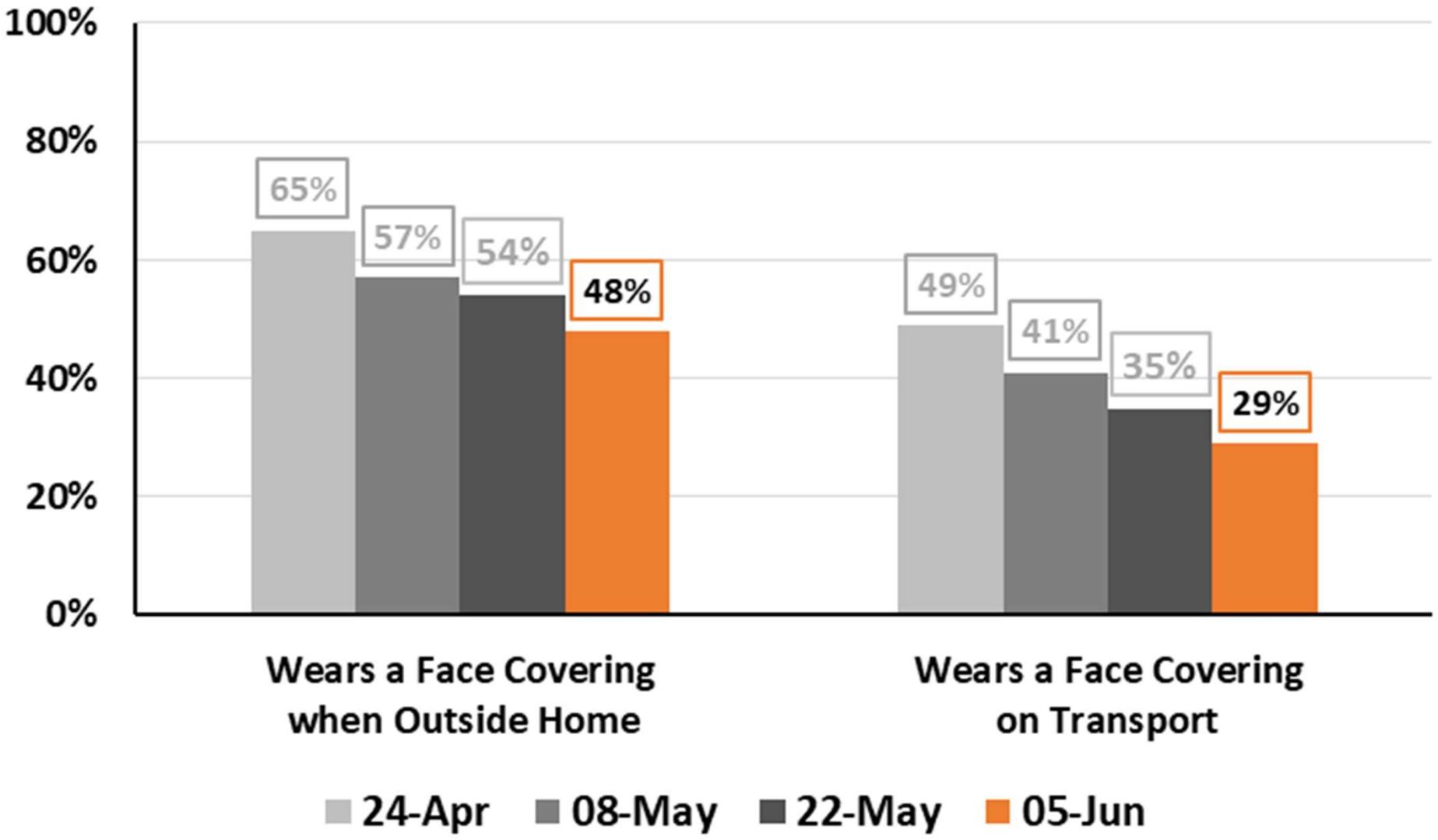
Percent of People who Wear Face Coverings when Outside Home and On Transport -- Recent Trends

(Source: Coronavirus and the social impacts on Great Britain Survey)



https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/publicopinionsandsocialtrendsgreatbritaincoronaviruscovid19andotherillnesses

Thanks to Bob Hawkins for the chart

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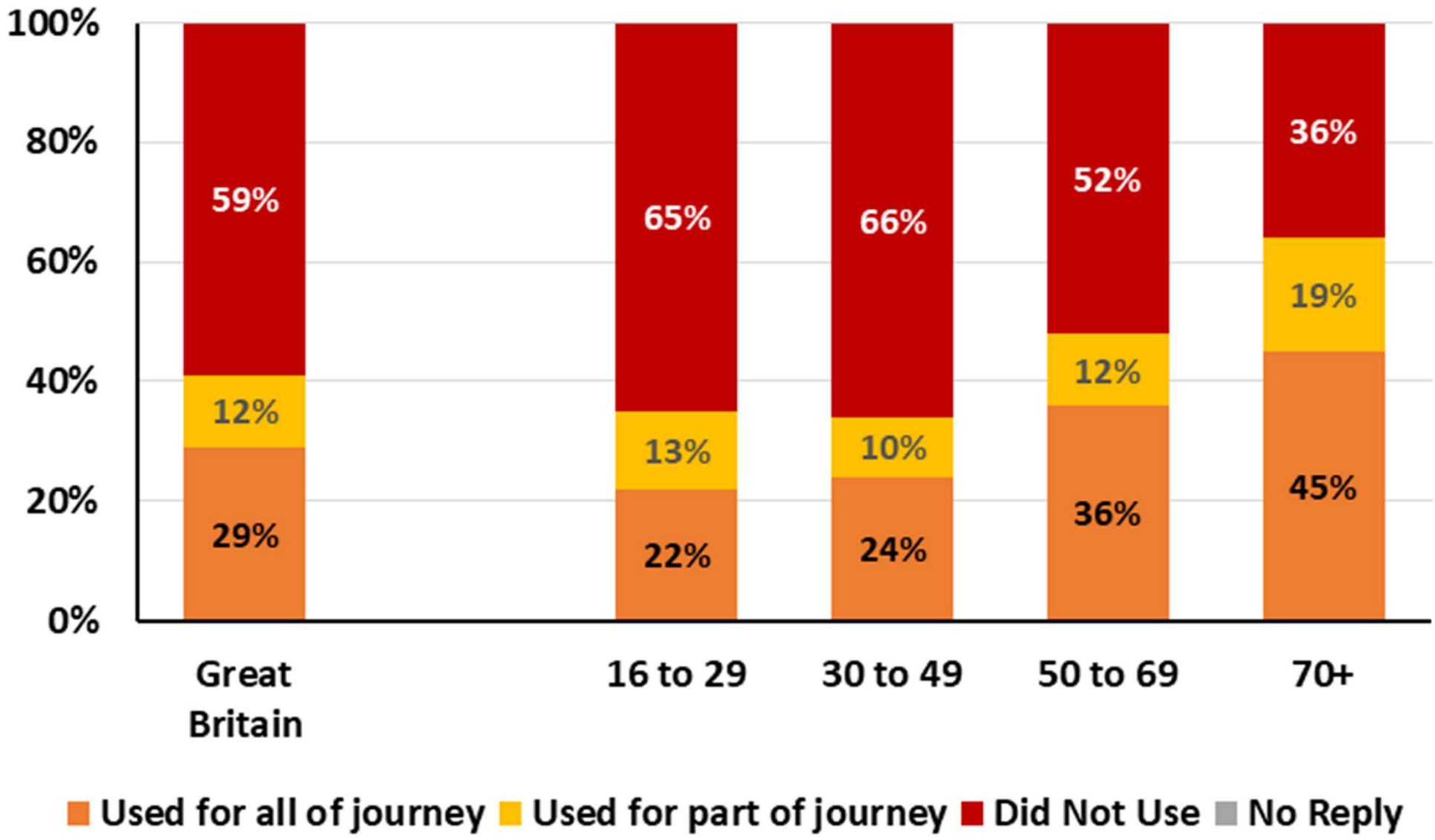
How Often Face Coverings Worn on Transport: Week Ending Jun 5

(Source: Coronavirus and the social impacts on Great Britain Survey)



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Cleaner indoor air!

Clin Infect Dis. 2022 May 30;74(10):1722-1728. doi: 10.1093/cid/ciab691.

Viral Load of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in Respiratory Aerosols Emitted by Patients With Coronavirus Disease 2019 (COVID-19) While Breathing, Talking, and Singing

Conclusions: Fine aerosols produced by talking and singing contain more SARS-CoV-2 copies than coarse aerosols and may play a significant role in SARS-CoV-2 transmission. Exposure to fine aerosols, especially indoors, should be mitigated. Isolating viable SARS-CoV-2 from respiratory aerosol samples remains challenging; whether this can be more easily accomplished for emerging SARS-CoV-2 variants is an urgent enquiry necessitating larger-scale studies.

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Cleaner indoor air!

RESEARCH ARTICLE | ENGINEERING |

Aerosol particle emission increases exponentially above moderate exercise intensity resulting in superemission during maximal exercise

Benedikt Mutsch, Marie Heiber, Felix Grätz, +5, and Henning Wackerhage Authors Info & Affiliations

Edited by Robert Langer, Massachusetts Institute of Technology, Cambridge, MA; received February 11, 2022; accepted March 31, 2022

May 23, 2022 | 119 (22) e2202521119 | https://doi.org/10.1073/pnas.2202521119

21,930

than untrained subjects. Overall, aerosol particle emission increased moderately up to an exercise intensity of ~2 W/kg and exponentially thereafter. Together, these data might partly explain superspreader events especially during high-intensity group exercise indoors and suggest that strong infection prevention measures are needed especially during exercise at an intensity that exceeds ~2 W/kg. Investigations of influencing factors like airway and whole-body hydration status during exercise on aerosol particle generation are needed.

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ONLINE FIRST FREE

June 7, 2022

Reducing SARS-CoV-2 in Shared Indoor Air

Deborah Dowell, MD, MPH[1]; William G. Lindsley, PhD[1]; John T. Brooks, MD[1]

» Author Affiliations | Article Information

JAMA. Published online June 7, 2022. doi:10.1001/jama.2022.9970

A growing list of options exists for structural interventions to prevent COVID-19 through dilution, filtration, and disinfection of shared indoor air. Air handling system upgrades, improvements, or setting changes can reduce viral particle concentrations by bringing in outdoor air to dilute potential contaminants. Using air filters with higher minimum efficiency reporting value (MERV) ratings in HVAC systems can more effectively filter respiratory particles from recirculated air. Portable and commercially available HEPA air cleaners can do the same for a single room without modifying the building's existing air handling system. These devices can be especially useful in areas used by people at greater risk of having or acquiring COVID-19. Air disinfection methods such as upper room and in-duct UV germicidal irradiation are options for health care facilities and other settings (eg, school nurses' offices, homeless shelter sleeping areas) where people with COVID-19 are likely to be present or where there is crowding and the health status of individuals is unknown.

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Cleaner indoor air!

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Reducing SARS-CoV-2 in Shared Indoor Air

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Improving air quality has the potential to reduce not only infections with SARS-CoV-2 but also infections with other respiratory viruses and bacteria, reactive airway disease (eg, asthma) triggered by antigens,[9] pulmonary and cardiovascular injury from inhalation of harmful respiratory particulates (eg, wildfires, smog), and toxicity from inhalation of volatile organic compounds. A once-in-decades opportunity now exists to make sustained improvements to public and private indoor air quality, reduce COVID-19 risk, and improve school, workplace, and consumer health and safety.

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Why aren't we prioritising clean air with multi million pound investments?

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Why aren't we prioritising clean air with multi million pound investments?

SUMMARY

- Vaccination has stalled
- All nations now flat or increasing.
- New variants are now dominant and a new wave has just started
- Long Covid is rising following Omicron BA.1 surge – and this in a highly vaccinated and highly previously infected population. We have not yet seen impact of the BA.2 wave.
- We need to prioritise clean indoor air and keep taking covid seriously!