



Friday Report: Issue 67

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COVID-19 Actuaries Response Group – Learn. Share. Educate. Influence.

COVID-19 remains an important health topic for scientific papers and articles. The COVID-19 Actuaries Response Group continues to cover Covid-related topics, producing an update on the last Friday of every month with a summary of key papers, articles and data.

Vaccines

JCVI Interim Update on UK Autumn Boosters [\(link\)](#)

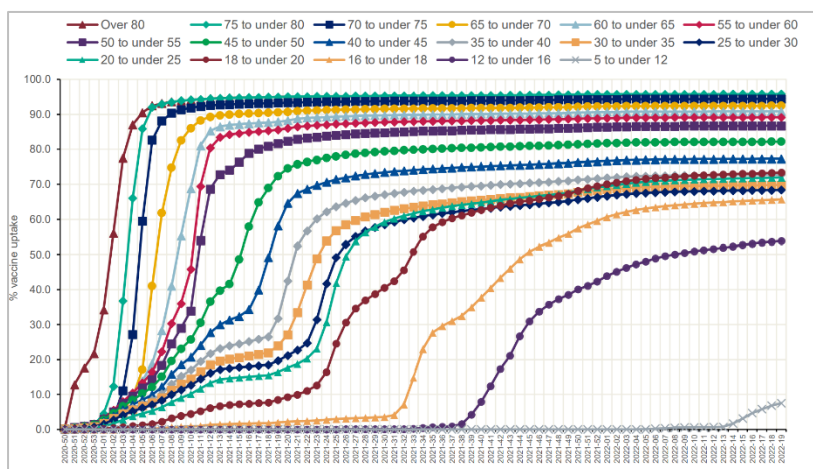
The Joint Committee on Vaccination and Immunisation (JCVI) has provided interim advice to the government regarding COVID-19 booster doses. The advice aims to aid operational planning. JCVI recommends that a COVID-19 vaccine should be offered to those groups most at risk of hospitalisation or death, as well as to health and care staff. These groups are:

- residents in a care home for older adults and staff;
- frontline health and social care workers;
- all those 65 years of age and over;
- adults aged 16 to 64 years who are in a clinical risk group.

There are around 10.5m people aged 65 and over in England and around 2.5m frontline health and care staff. Around 1.8m people under the age of 65 are classed as clinically extremely vulnerable [\(link\)](#). In all, around 35% of adults could be eligible for an Autumn Booster.

Current Progress

Vaccination of the 5 to 11 age group continues to be very slow, with the latest update recording just 8% of the cohort having received a jab.



In contrast, at the other end of the age spectrum the latest data from UKHSA shows that over 80% of the eligible population have now had their Spring booster.

Variants

Frequency of Sequences of Omicron Sub-lineages BA.2.12.1, BA.4 and BA.5

In previous Friday Reports we noted the proportions of sequenced samples of the newer Omicron sub-lineages. [CoVariants](#) provides easily accessible visualisations of sequence frequencies. It is important to be aware that sequenced samples may not be representative of total cases, and that the data depends on countries submitting samples to GISAID.

The figures and number of countries reporting sequences for 18 to 25 April have increased compared with those reported in Friday Report 66, presumably because of reporting delays to GISAID.

BA.2.12.1 has been reported in more countries than BA.4 and BA.5. BA.4 is the dominant strain in South Africa. BA.2.12.1 is on its way to becoming the dominant strain in the USA.

Variant Pango Lineage	NextStrain clade	Proportions of sequenced samples 18 to 25 April	Proportions of sequenced samples 2 to 9 May
BA.4	22A	South Africa: 46% Botswana: 44% Austria: 3%	South Africa: 55% Austria: 8% Italy: 1%
BA.5	22B	South Africa: 15% Portugal: 5%	South Africa: 19% Austria: 5% Spain: 2%
BA.2.12.1	22C	USA: 21% Philippines: 17% Austria: 3% Chile: 3% Mexico: 2% Peru: 2% Hong Kong: 1% Israel: 1%	USA: 30% Mexico: 11% Israel: 3% Austria: 3% Hong Kong: 3% Japan: 2% Singapore: 2% Ireland: 2% Canada: 1%

Countries not specifically mentioned did not submit any cases from these sub-lineages in that week.

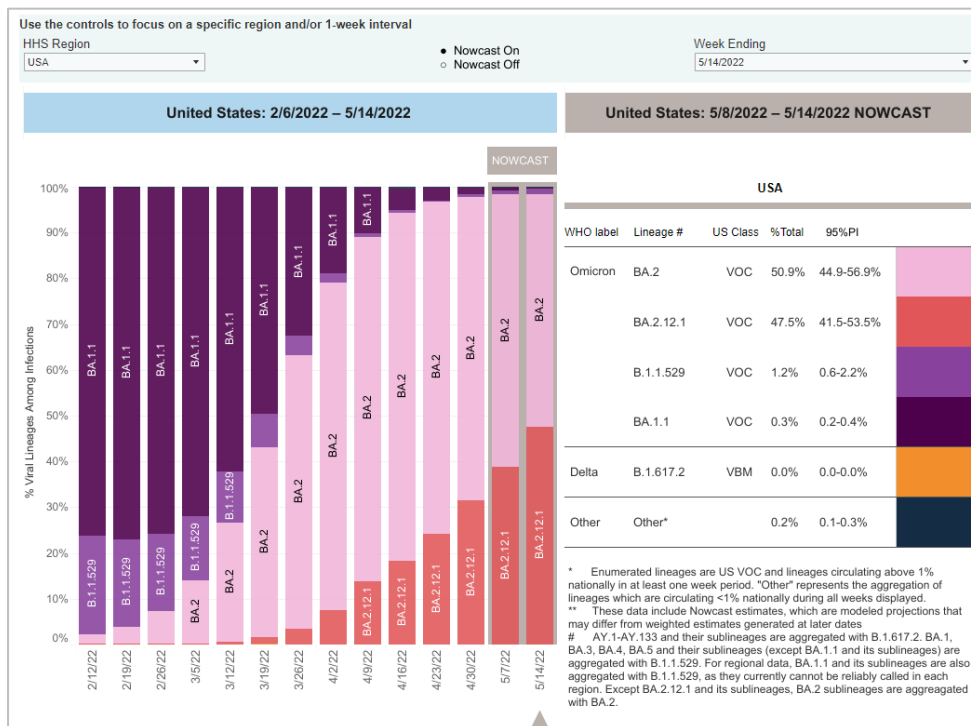
An update from the European Centre for Disease Prevention and Control ([link](#)) reclassifies BA.4 and BA.5 from variants of interest to variants of concern. It notes that BA.5 accounted for 37% of cases tested in Portugal as at 8 May and, based on growth advantage over BA.2, estimated that it would become the dominant variant there by 22 May. They also noted that there was no evidence of increased severity of BA.5 compared with BA.2.

The latest variant report from UKHSA ([link](#)) shows that cases of BA.4 and BA.5 remain at very low levels, but are more than doubling each week. In total they remain at less than 1% of the variants identified in the last week, with BA.2 still accounting for over 90% of the total. Nevertheless, UKHSA has now followed the ECDC and is also categorising them as variants of concern.

Omicron stealing Delta's clothes ([link](#))

Part of the explanation as to why the original Omicron variant was less virulent than prior variants was that it lacked certain mutations that facilitated the formation of cell syncytia in lung tissue, which led to cell injury and allowed the virus to evade the immune response. L452R is the only mutation in the receptor-binding domain (RBD) found in Delta but not in the Omicron BA.1 and BA.2 subvariants.

However, the Omicron BA2.12.1 subvariant, already dominant in New York and becoming dominant across the whole of the USA, has a L452Q mutation with predicted similar impact to the L452R mutation. This is prompting concern as the BA2.12.1 subvariant is also predicted to have an infectivity rate that is 25% higher than BA.2. Consequently the CDC is calling for the New York public health authorities to renew booster drives and for citizens to start wearing masks again.



Medical

Paxlovid not effective for prophylaxis

Oral anti-viral treatments, such as Paxlovid and Molnupiravir, opened the prospect of moving beyond hospitals to allow the treatment of symptomatic people in the community. There was also widespread excitement at the possibility of being able to use oral anti-viral treatments as a prophylactic treatment for those in close contact with infected people.

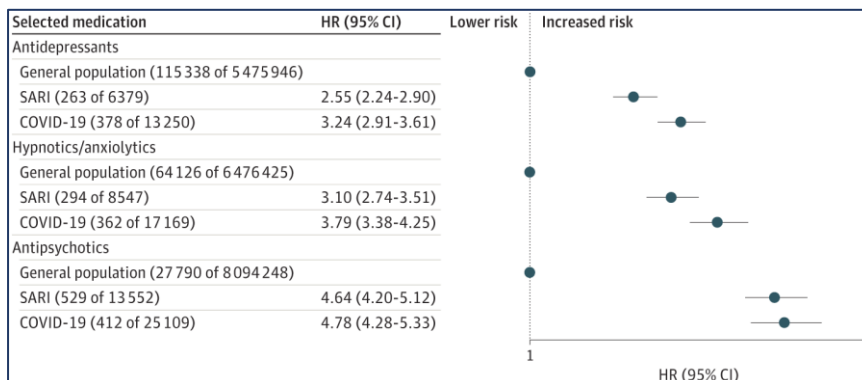
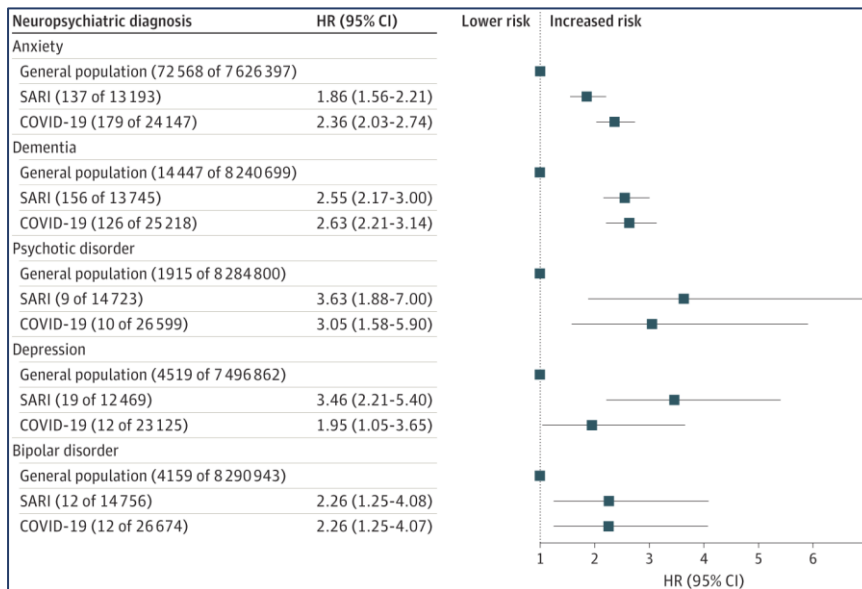
However, Pfizer reported at the end of April ([link](#)) that their Phase 2/3 EPIC-PEP trial found that observed risk reductions in the risk of infections were not statistically significant. This has been generally reported as disappointing, although some commentators have noted a positive aspect: these results mean that Paxlovid and perhaps Molnupiravir will be reserved for treating those with symptoms, rather than distributed more widely to little benefit.

Such comments have great validity to the extent that widespread and inappropriate usage could increase the likelihood of resistance developing to such treatments, and so far Pfizer is resisting any use of Paxlovid in combination trials ([link](#)). However, it must be noted that only a tiny fraction (1-2%) of the available courses in the UK have currently been utilised and stockpiles have been built up at enormous expense relative to the benefit currently being achieved.

Long COVID

Risk of Neuropsychiatric Disorders After Hospitalisation for COVID-19 ([link](#))

A cohort study of 8 million adults in England found that the risk of new onset of neuropsychiatric illnesses was significantly increased (generally 2 to 3 times) in adults surviving hospitalisation for severe COVID-19 or non-COVID severe respiratory infections. The risks were similar for COVID-19 and other severe respiratory infections. Neuropsychiatric disorders include anxiety disorder, dementia, depression psychotic disorder and bipolar disorder.



The authors conclude that their findings may inform post-discharge support for people surviving COVID-19 as well as other severe acute respiratory infections.

Study Shows Vaccines Reduce Long COVID (link)

A US study published in Oxford Academic pair-matched over 25,000 vaccinated and unvaccinated people with a confirmed COVID diagnosis, over the period September 2020 to December 2021.

As well as a significant (c80%) reduction in mortality risk over 28 and 90 day periods, there was also a marked reduction in ongoing and new conditions reported, with the relative risk widening over the longer period.

The authors conclude that prior vaccination against COVID-19 is associated with significantly lower risk of post-acute COVID-19 symptoms or new onset of 10 health conditions which could be referred to as Long COVID.

1 Table 3. Post-Acute Sequelae of Sars-Cov-2 (PASC) Mortality and Morbidity Risk a 90 days: vaccine vs. no-vaccine.

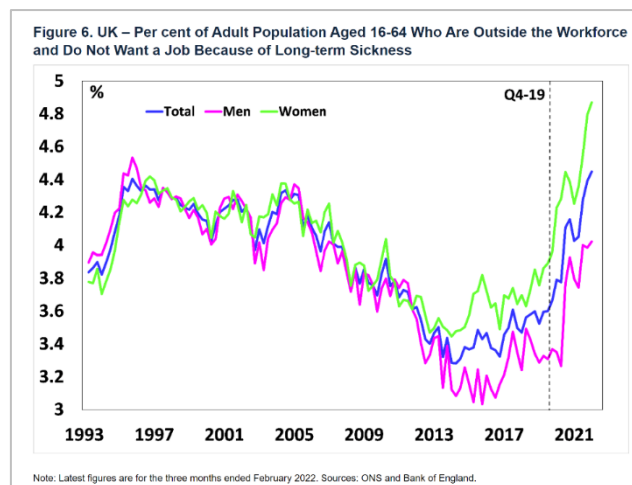
Outcomes	Total (n)	90 day risk (Rates per 1,000)		Relative Risk (95% CIs)	Attributable Risk (95% CIs)
		Vaccine + COVID n (incident rate)	No-Vaccine + COVID		
Mortality	50450	60 (2.38)	293 (11.62)	0.21 (0.16, 0.27)	-9.24 (-10.69, -7.78)
New Conditions since COVID					
Hypertension	25634	83 (6.42)	249 (19.59)	0.33 (0.26, 0.42)	-13.17 (-15.95, -10.40)
Diabetes mellitus	38616	52 (2.69)	187 (9.69)	0.28 (0.20, 0.38)	-7.00 (-8.56, -5.44)
Thyroid Disease	43391	33 (1.53)	152 (6.95)	0.22 (0.15, 0.32)	-5.41 (-6.63, -4.19)
Heart Disease	33506	117 (7.19)	349 (20.26)	0.35 (0.29, 0.44)	-13.07 (-15.55, -10.60)
Malignant Neoplasms	42599	45 (2.12)	193 (9.04)	0.23 (0.17, 0.32)	-6.92 (-8.34, -5.51)
Thrombosis	43312	62 (2.89)	233 (10.67)	0.27 (0.20, 0.36)	-7.79 (-9.32, -6.25)
Rheumatoid Arthritis	49275	10 (0.41)	24 (0.97)	0.42 (0.20, 0.87)	-0.57 (-1.03, -0.10)
Mental Disorders	31993	100 (6.45)	421 (25.53)	0.25 (0.20, 0.31)	-19.08 (-21.80, -16.37)
New Symptoms since COVID					
Respiratory Symptoms	50450	1251 (49.59)	2344 (92.92)	0.54 (0.50, 0.57)	-43.33 (-47.80, -38.86)
Headache	50450	247 (9.79)	635 (25.17)	0.39 (0.34, 0.45)	-15.38 (-17.66, -13.10)
Fatigue	50450	605 (23.98)	1268 (50.27)	0.48 (0.43, 0.52)	-26.28 (-29.58, -22.99)
Body Ache	50450	124 (4.92)	361 (14.31)	0.34 (0.28, 0.42)	-9.40 (-11.10, -7.70)
Diarrhea or constipation	50450	480 (19.03)	1083 (42.93)	0.44 (0.40, 0.49)	-23.90 (-26.92, -20.89)

Long COVID Affecting Workforces

In a [speech](#) by Michael Saunders of the Bank of England Monetary Policy Committee, the sharp increase in those of working age who are now outside the workforce and do not want a job due to long-term sickness was highlighted.

Whilst there does appear to have been an increasing trend from historic low levels prior to the pandemic, this has accelerated rapidly in recent months. Some of this is attributed directly to Long COVID, with the rise in waiting lists also considered to be a factor.

Whilst we have tended to focus on more direct health related impacts of the pandemic, the speech is a reminder that it has had many adverse impacts that are likely to continue well into the future.

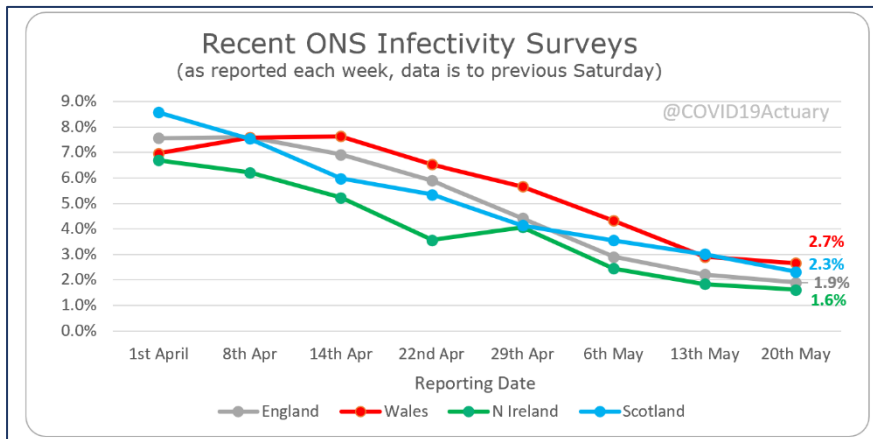


Data

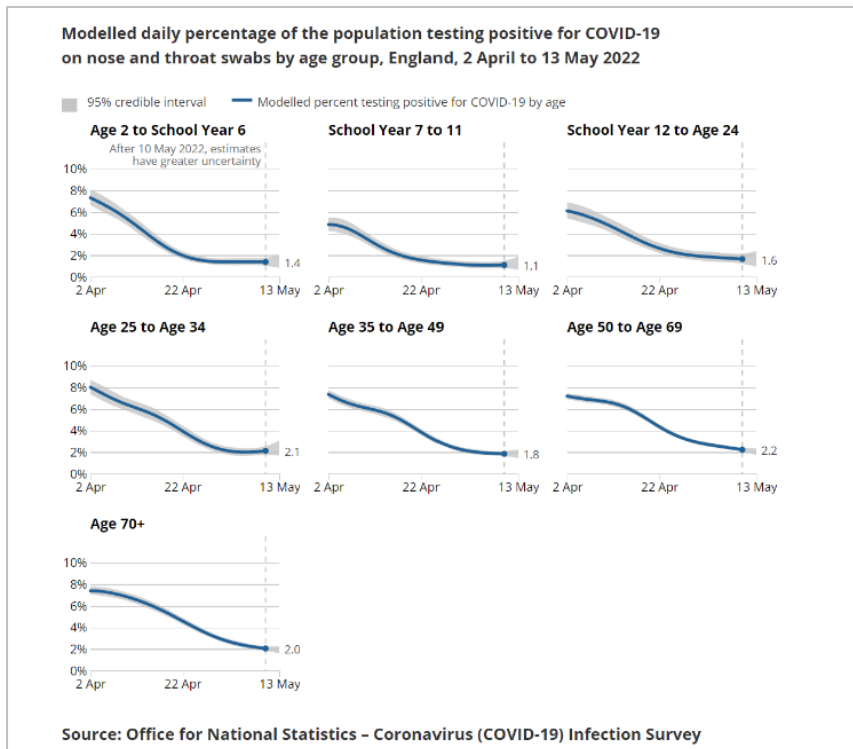
ONS Infection Study ([link](#))

The latest infection survey data shows that after several weeks of rapid decline, there are now signs that the fall is slowing.

In the latest week, England fell by 14%, Wales by 9% and Northern Ireland by 12%. Scotland however, showed a 23% fall.



Analysing by age we are still in the relatively unusual position whereby the oldest age groups have the highest prevalence, including those who are not being called forward for a spring booster.



And Finally ...

Elizabeth Line misses opening of Elizabeth Line [\(link\)](#)

In the week that London's Elizabeth Line was formally opened, prior to its introduction next Tuesday, we recall the day in 2016 when a certain Elizabeth Line from New York woke up to find her name inexplicably trending on Twitter.



Elizabeth Line
@lizline



What an amazing honor. Just wish the Queen would give it a rest with the photobombs.



Asked this week if she had been invited over for the opening ceremony Elizabeth said that she was disappointed not to be able to attend. It does appear that TfL found an acceptable stand-in at the last moment though.

And keeping with the royal theme, we give our best wishes to Her Majesty for the forthcoming Platinum Jubilee celebrations, and hope that everyone enjoys the forthcoming long Bank Holiday weekend that marks the occasion.

Finally, we are changing the publication schedule of Friday Reports to the last Friday of the month for the summer period, with the next edition due on 24 June.

20 May 2022