Communicating Epidemiology in Practice

Dr Kev Smith FFPH

Regional Director Public Health Commissioning

NHS England, North East and Yorkshire

@smithkjj

Trigger warnings

- We will be discussing COVID
- There will be a small amount of maths
- We will mention Euro 2020
- There is one image of Boris Johnson

My purpose

- Work through the last three years
- Reviewing how we used epidemiology to inform planning
- Consider how data becomes information
- Balance uncertainty with need for planning assumptions
- The challenge of emerging data and academic methods

Early days

- UK’s first cases
- Positive tests
- Testing numbers
- Rates or counts?
- Rate of change and doubling rates
- Riding the wave
- Changing the forecast

Delivered on: **23 March 2020 (Transcript of the speech, exactly as it was delivered)**

Good Evening,

The coronavirus is the biggest threat this country has faced for decades – and this country is not alone.

All over the world we are seeing the devastating impact of this invisible killer.

And so tonight I want to update you on the latest steps we are taking to fight the disease and what you can do to help.

And I want to begin by reminding you why the UK has been taking the approach that we have.

Without a huge national effort to halt the growth of this virus, there will come a moment when no health service in the world could possibly cope; because there won't be enough ventilators, enough intensive care beds, enough doctors and nurses.

That is why people will only be allowed to leave their home for the following very limited purposes:

- shopping for basic necessities, as infrequently as possible
- one form of exercise a day - for example a run, walk, or cycle - alone or with members of your household;
- any medical need, to provide care or to help a vulnerable person; and
- travelling to and from work, but only where this is absolutely necessary and cannot be done from home.

That's all - these are the only reasons you should leave your home.

You should not be meeting friends. If your friends ask you to meet, you should say No.

You should not be meeting family members who do not live in your home.

You should not be going shopping except for essentials like food and medicine - and you should do this as little as you can. And use food delivery services where you can.

If you don't follow the rules the police will have the powers to enforce them, including through fines and dispersing gatherings.

Data published online

- Includes staff
- Only symptomatic patients

Summary for NHS calls 23/3/2020

Lines to take

Activity in England is increasing with higher increases in London and Midlands.

Current estimate is that NEY will see an increase over the next seven days putting pressure on critical care services.

This increased activity could equate to a doubling of demand in 2-3 weeks.

It is not possible to predict where activity will hit first, some areas might experience a surge in activity ahead of these timescales.

Critical care capacity needs to be maximised now to ensure available capacity.

UTLA Positives to 9am (Not restricted)

	20/03/2020	21/03/2020	22/03/2020
Sheffield	48	61	82
Cumbria	52	57	79
Newcastle	21	28	34
Leeds	17	20	29
North Yorkshire	14	16	20
North Tyneside	12	17	18
East Riding	15	15	15
Bradford	9	10	11
County Durham	7	11	11
Kirklees	6	8	11
Stockton on Tees	9	10	11
Sunderland	5	11	11

Sheffield have had a number of Health Care settings affected and more case finding here may be elevating the numbers.

Summary for NHS calls 24/3/2020

Lines to take

Activity in England is increasing with very high levels in London. Large increases were seen in the Midlands and the North West over the previous 24 hours (to 9am 23/3/2020)

Current estimate is that NEY will see an increase over the next seven days putting pressure on critical care services.

This increased activity could equate to a doubling of demand in 2-3 weeks. With a further doubling subsequently.

It is not possible to predict where activity will hit first, some areas might experience a surge in activity ahead of these timescales.

Critical care capacity needs to be maximised now to ensure available capacity.

UTLA Cumulative positives to 9am (Not restricted)

	20/03/2020	21/03/2020	22/03/2020	23/03/2020
Cumbria	52	57	79	110
Sheffield	48	61	82	106
Newcastle	21	28	34	42
Leeds	17	20	29	35
North Yorkshire	14	16	20	24
North Tyneside	12	17	18	18
East Riding	15	15	15	16
Kirklees	6	8	11	16
County Durham	7	11	11	14
Sunderland	5	11	11	13
Bradford	9	10	11	13
Stockton on Tees	9	10	11	12
Wakefield	6	8	10	12
Rotherham	4	6	9	12

Numbers in Sheffield and Newcastle are likely to be inflated by testing of NHS staff.

Cumbria: Note from CCDC in PHE NW:

It has been all over Cumbria. In the last day in Allerdale and Copeland. South Cumbria remains the highest with 25 (last night). Cumbria is worrying and is out of step with other rural areas, may have suffered from the tourists early on

The Sheffield number of cases per 100,000 is second as I understand it to London with Slough I think third. Why is this ? Is it that a higher percentage of staff have been tested at STH?

I contacted STH on Monday (23rd) of last week when the daily numbers started to rise. We had suspected that the higher numbers seen in Sheffield were due to a known cluster relating to a ski trip (9 families affected in Sheffield) but the numbers were increasing faster than issues we were aware of. I was advised by the trust that they had, in line with PHE guidance, used available capacity for testing symptomatic staff members. At that time there had been 81 staff that tested positive (up to 23rd March) and further tests had been done.

I contacted the team again on 27th March as we had seen a large rise on 26th. Up to 27th March 216 positive tests had been identified for staff. Testing continues. The positive results are not about a high percentage of staff tested, but a large number of positive tests. Most have mild to moderate symptoms. It is worth noting that the positivity rate in clinical staff self-identifying with symptoms is less than 20%. There are a lot of other bugs out there at the moment.

UK's coronavirus hotspots: Sheffield, Birmingham and Slough have the most cases of the killer infection per 100,000 people than everywhere in England except London

- **London has the highest infection rate with 64 cases per 100,000 people**
- **Its followed by Sheffield, in South Yorkshire, with 52 cases per 100,000**
- **Slough, a town just 20 miles from London, has 49 cases per 100,000**
- **The figures have been collated to represent the ratio of infected to healthy**

Sheffield and Slough are coronavirus hotspots in the UK, not far behind London which continues to speed ahead. London has 64 cases per 100,000 people, followed by Sheffield, in South Yorkshire, with 52 cases. Birmingham is third with 50 cases per 100,000, followed by Slough, a town in Berkshire, with 49 cases per 100,000

WHERE ARE THE UK CORONAVIRUS HOTSPOTS?

By cases per 100,000 people

1. London: 64
2. Sheffield: 59
3. Birmingham: 50
4. Slough: 49
5. Derby: 46
6. Newcastle: 40
7. Liverpool: 36
8. Milton Keynes: 35
9. Barnsley: 32
10. Sunderland: 31

By total cases

1. Birmingham: 578
2. Hampshire: 498
3. Sheffield: 428
4. Southwark (London): 368
5. Lambeth (London): 366
6. Brent (London): 359
7. Surrey: 358
8. Cumbria: 340
9. Hertfordshire: 339
10. Wandsworth (London): 314

Summary for NHS calls 12/4/2020

Lines to take

COVID-19 related hospital activity in England is very high in London but hospital activity growth is slowing nationally.

NEY is now seeing an increase in admissions which may continue for the next two weeks putting pressure on critical care services over the next 3-4 weeks.

This increased activity is leading to significant demand across bed types. Current planning assumptions should provide sufficient capacity. However, it is not possible to predict where high activity due to continued spread may cause local areas of greater impact.

UTLA Cumulative positives to 9am (Not restricted)

I have added a column to show the increase in the last 7 days as a percentage of the total and a column to see doubling rate based on current count

	5/4	6/4	7/4	8/4	9/4	10/4	11/4	12/4	Gain	DD
Hartlepool	29	33	36	49	55	64	64	69	58%	5.5
Middlesbrough	126	151	169	196	213	235	237	258	51%	6.5
Redcar and Cleveland	84	100	112	119	128	139	140	149	44%	7+
Stockton-on-Tees	108	117	123	143	152	173	177	189	43%	7+
Darlington	45	52	55	77	95	109	120	130	65%	4.5
County Durham	260	292	303	410	450	482	519	566	54%	6.5
Northumberland	188	211	211	272	298	331	344	363	48%	7+
Gateshead	168	180	188	230	240	247	253	264	36%	7+
Newcastle upon Tyne	348	359	367	432	464	493	518	536	35%	7+
North Tyneside	160	180	183	242	262	276	284	294	46%	7+
South Tyneside	84	98	101	118	120	123	123	125	33%	7+
Sunderland	236	278	285	343	349	354	356	365	35%	7+
Hull	31	38	38	58	74	85	97	112	72%	4
East Riding of Yorkshire	88	96	97	123	150	174	187	204	57%	4.5
North East Lincolnshire	43	49	49	50	58	61	64	64	33%	7+
North Lincolnshire	51	62	62	66	71	77	91	95	46%	7+
North Yorkshire	243	269	285	328	352	390	410	436	44%	7+
York	71	75	75	87	101	111	119	125	43%	7+
Barnsley	200	216	216	238	248	267	297	309	35%	7+
Doncaster	137	144	144	168	170	183	192	198	31%	4.5
Rotherham	202	221	223	240	262	279	321	338	40%	7+
Sheffield	833	882	883	940	1020	1095	1137	1201	31%	7+
Bradford	185	204	222	258	278	331	359	377	51%	6.5
Calderdale	89	94	94	110	119	122	135	140	36%	7+
Kirklees	185	198	203	235	255	278	295	318	42%	7+
Leeds	296	325	340	389	437	504	544	628	53%	6.5
Wakefield	153	162	177	200	229	245	274	300	49%	7+

All UTLAs listed, **BOLD** = Highest five in NEY (now not including Cumbria- 1165). High levels may be an artefact of high testing of clinical staff. Note- graph below excludes Cumbria LA.

Summary for NHS calls 16/4/2020

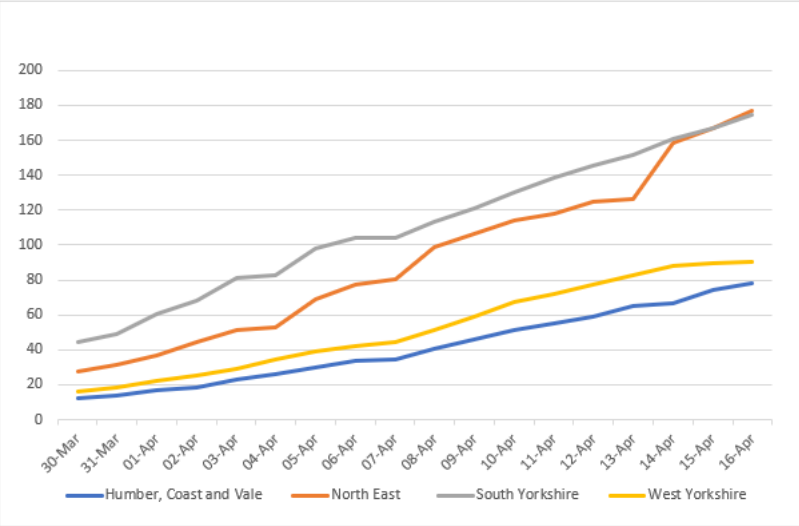
Lines to take

COVID-19 related hospital activity in England is slowing nationally.

NEY is now seeing a plateauing of admissions. It is likely this will put sustained pressure on critical care services over the next 2 weeks.

Care home outbreaks have risen over the last 2 weeks although there is some evidence that this growth is slowing.

The graph per 100,000 (2018 populations) shows South Yorkshire and North East have a similar rate.



UTLA Cumulative positives to 9am (Not restricted)

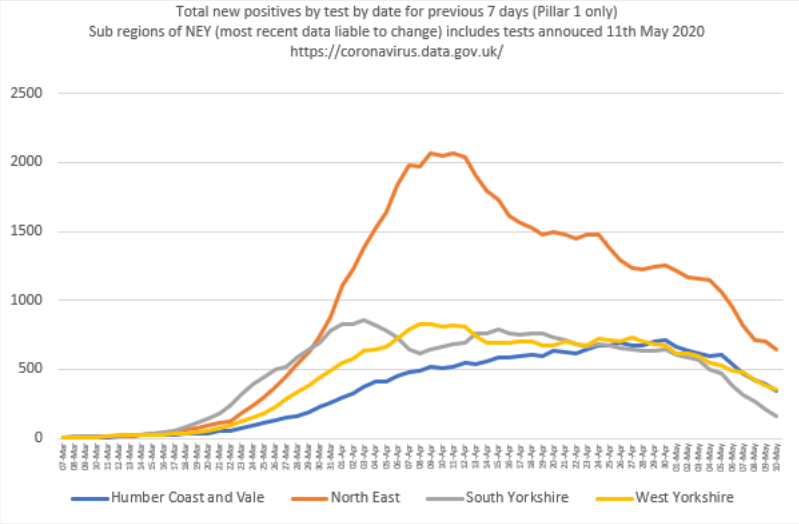
On 16th April, all West Yorkshire data was updated. Numbers have changed in the table.

	9/4	10/4	11/4	12/4	13/4	14/4	15/4	16/4	Gain	DD
Hartlepool	55	64	64	69	69	74	75	79	30%	7+
Middlesbrough	213	235	237	258	274	291	302	325	34%	7+
Redcar and Cleveland	128	139	140	149	157	173	184	195	34%	7+
Stockton-on-Tees	152	173	177	189	192	210	230	217	30%	7+
Darlington	95	109	120	130	130	143	151	157	39%	7+
County Durham	450	482	519	566	573	**690**	728	770	42%	7+
Northumberland	298	331	344	363	366	**420**	450	502	41%	7+
Gateshead	240	247	253	264	265	**445**	466	492	51%	7+
Newcastle upon Tyne	464	493	518	536	545	**592**	611	638	27%	7+
North Tyneside	262	276	284	294	297	**312**	321	339	23%	7+
South Tyneside	120	123	123	125	126	**217**	233	251	52%	4.5
Sunderland	349	354	356	365	365	**647**	690	729	52%	3.5
Hull	74	85	97	112	135	135	150	175	58%	5.5
East Riding of Yorkshire	150	174	187	204	220	223	248	272	45%	7+
North East Lincolnshire	58	61	64	64	75	79	84	86	33%	7+
North Lincolnshire	71	77	91	95	125	124	136	142	50%	7
North Yorkshire	352	390	410	436	456	486	532	542	35%	7+
York	101	111	119	125	127	129	149	153	34%	7+
Barnsley	248	267	297	309	335	372	379	415	40%	7+
Doncaster	170	183	192	198	202	208	210	212	20%	7+
Rotherham	262	279	321	338	351	364	383	407	36%	7+
Sheffield	1020	1095	1137	1201	1237	1316	1365	1412	28%	7+
Bradford	278	331	359	377	408	457	460	460	40%	7+
Calderdale	119	122	135	140	150	156	163	168	29%	7+
Kirklees	255	312	324	339	345	361	376	381	33%	7+
Leeds	437	504	544	628	677	734	743	743	41%	7+
Wakefield	282	295	309	317	335	342	344	344	18%	7+

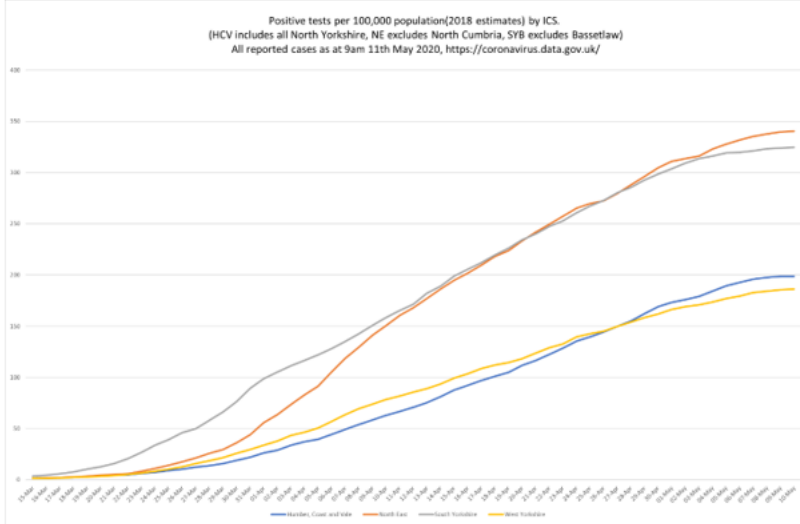
Gain is percentage of total positives gained in past 7 days

All UTLAs listed, **BOLD** = Highest five in NEY (now not including Cumbria- 1345). High levels may be an artefact of high testing of clinical staff. Note- graph below excludes Cumbria LA.

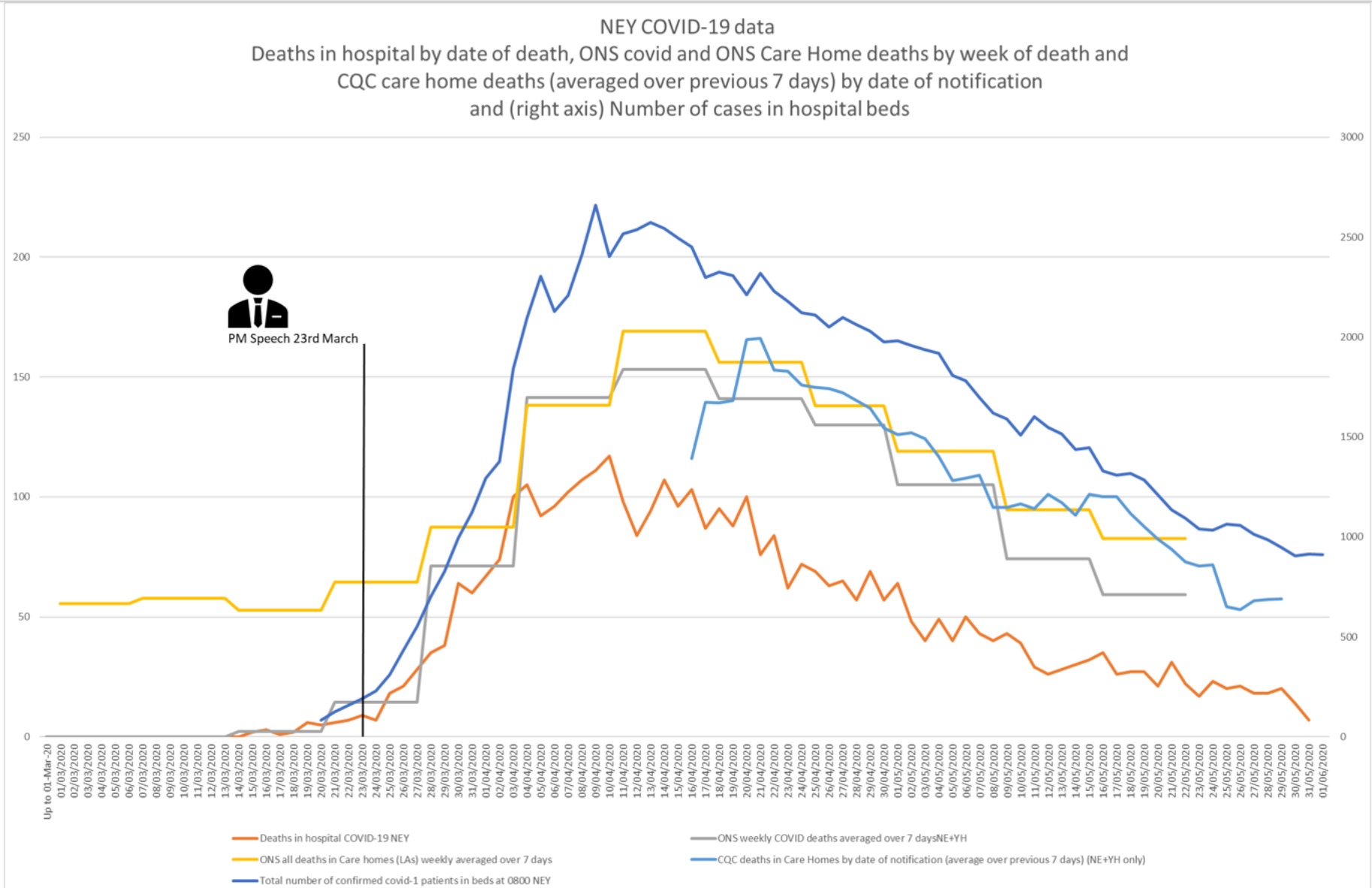
The graph for numbers of positive tests (as previous seven days by specimen date) shows NE has had the most positives

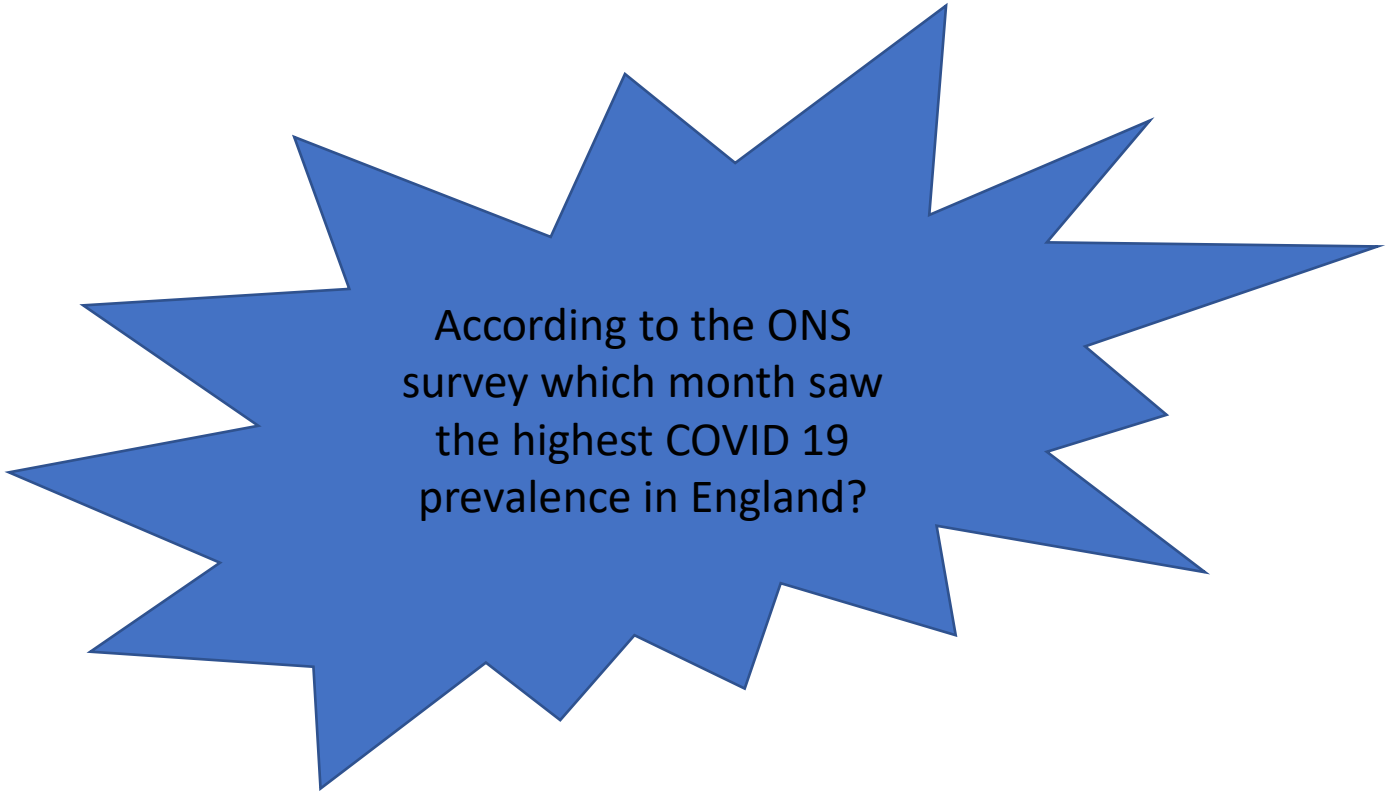


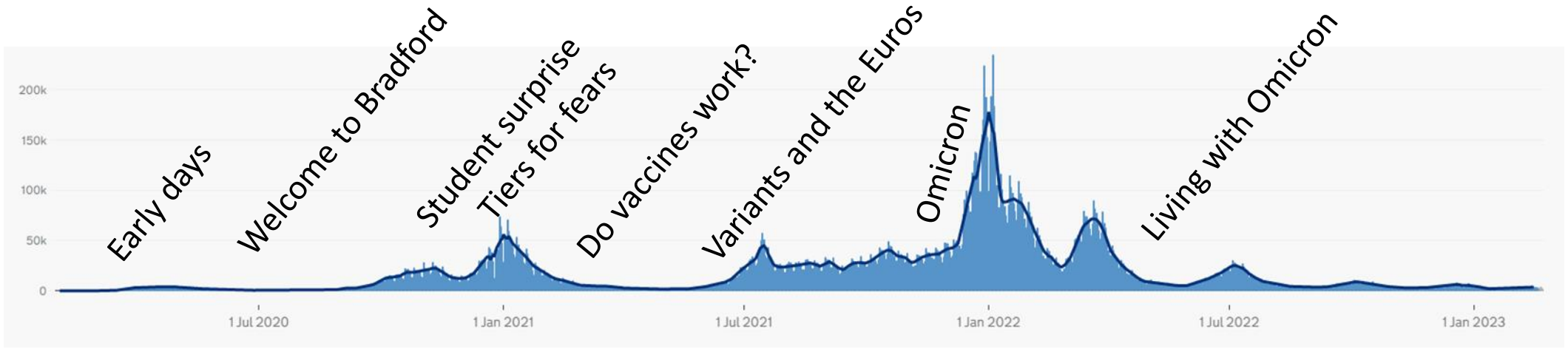
The graph per 100,000 (2018 populations) (cumulative) shows South Yorkshire and North East regions have a similar rate.

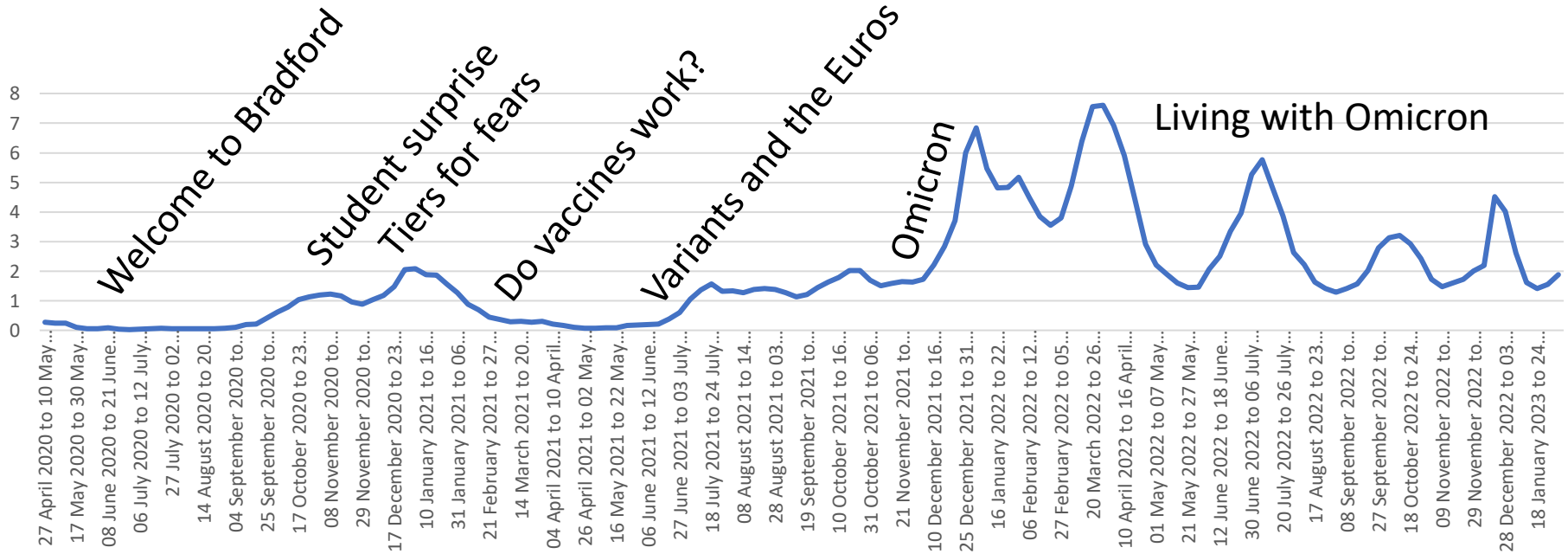


In the first wave: what day was peak occupancy?


NEY COVID-19 data
Deaths in hospital by date of death, ONS covid and ONS Care Home deaths by week of death and
CQC care home deaths (averaged over previous 7 days) by date of notification
and (right axis) Number of cases in hospital beds
PM Speech 23rd March
Deaths in hospital COVID-19 NEY
ONS weekly COVID deaths averaged over 7 daysNE+YH
ONS all deaths in Care homes (LAs) weekly averaged over 7 days
CQC deaths in Care Homes by date of notification (average over previous 7 days) (NE+YH only)
Total number of confirmed covid-1 patients in beds at 0800 NEY


According to the ONS survey which month saw the highest COVID 19 prevalence in England?


Early days
Welcome to Bradford
Student surprise
Tiers for fears
Do vaccines work?
Variants and the Euros
Omicron
Living with Omicron
200k
150k
100k
50k
0
1 Jul 2020
1 Jan 2021
1 Jul 2021
1 Jan 2022
1 Jul 2022
1 Jan 2023


Welcome to Bradford
Student surprise
Tiers for fears
Do vaccines work?
Variants and the Euros
Omicron
Living with Omicron
8
7
6
5
4
3
2
1
0
27 April 2020 to 10 May...
17 May 2020 to 30 May...
08 June 2020 to 21 June...
06 July 2020 to 12 July...
27 July 2020 to 02...
14 August 2020 to 20...
04 September 2020 to...
25 September 2020 to...
17 October 2020 to 23...
08 November 2020 to...
29 November 2020 to...
17 December 2020 to 23...
10 January 2021 to 16...
31 January 2021 to 06...
21 February 2021 to 27...
14 March 2021 to 20...
04 April 2021 to 10 April...
26 April 2021 to 02 May...
16 May 2021 to 22 May...
06 June 2021 to 12 June...
27 June 2021 to 03 July...
18 July 2021 to 24 July...
08 August 2021 to 14...
28 August 2021 to 03...
19 September 2021 to...
10 October 2021 to 16...
31 October 2021 to 06...
21 November 2021 to...
10 December 2021 to 16...
25 December 2021 to 31...
16 January 2022 to 22...
06 February 2022 to 12...
27 February 2022 to 05...
20 March 2022 to 26...
10 April 2022 to 16 April...
01 May 2022 to 07 May...
21 May 2022 to 27 May...
12 June 2022 to 18 June...
30 June 2022 to 06 July...
20 July 2022 to 26 July...
17 August 2022 to 23...
08 September 2022 to...
27 September 2022 to...
18 October 2022 to 24...
09 November 2022 to...
29 November 2022 to...
28 December 2022 to 03...
18 January 2023 to 24...

Welcome to Bradford

- JBC rates
- Adding Pillar 2
- Presenting to Secretary of State
- Testing and uptake

How many pillars were there?

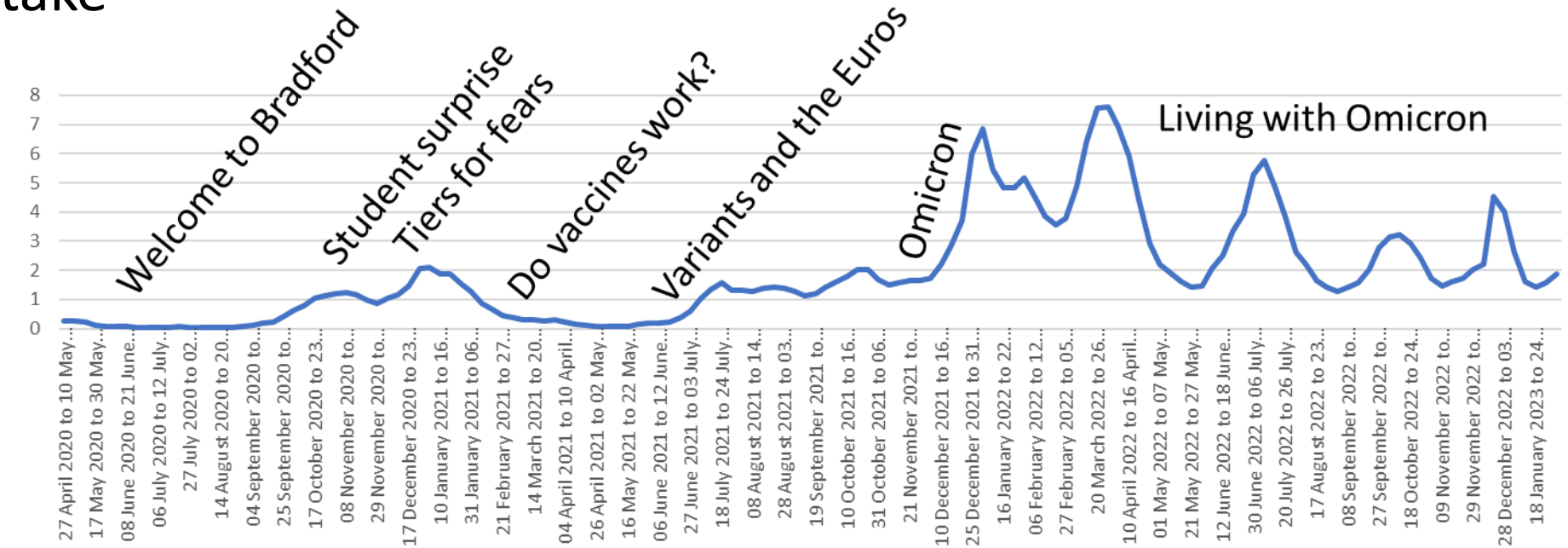
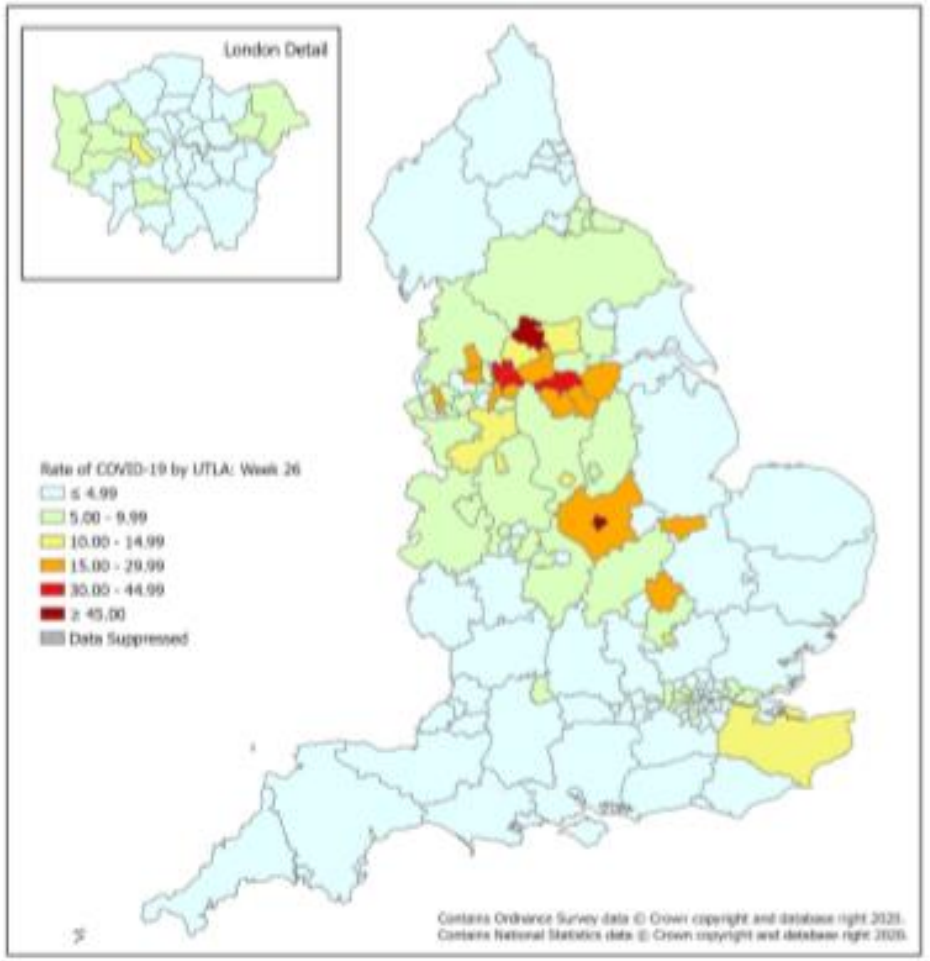


Figure 9: Weekly rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged maps of London area)



Pillar 2 data was only available at regional level up to end of June

When added it changed the rates dramatically in some areas

It was now appropriate to create rates in line with JBC plans

Positive tests by sample date

Includes samples up to	05-Jul		Between 22-Jun and 05-Jul			Between 29-Jun and 05-Jul			7 day rate per 100,000 for 7 days prior						
	Total positve tests to date (P1&P2)	Rate per 100,000	Actual increase latest 14 days	Increase past 14 days per 100,000	% gain in latest 14 days	Actual increase latest 7 days	Increase latest 7 days per 100,000	% gain in latest 7 days	29-Jun	30-Jun	01-Jul	02-Jul	03-Jul	04-Jul	05-Jul
Barnsley	1897	773.7	144	58.7	7.6%	46	18.8	2.4%	35.1	32.6	28.5	27.3	24.9	21.6	18.8
Bradford	4213	784.3	441	82.1	10.5%	177	33.0	4.2%	50.1	44.5	43.0	40.2	37.4	32.8	33.0
Calderdale	666	317.0	59	28.1	8.9%	21	10.0	3.2%	19.5	17.1	16.7	15.7	11.9	10.9	10.0
County Durham	3310	628.1	39	7.4	1.2%	11	2.1	0.3%	4.7	3.4	3.2	2.5	1.9	2.3	2.1
Cumbria	2671	535.4	48	9.6	1.8%	27	5.4	1.0%	4.6	5.8	6.4	6.8	5.8	5.0	5.4
Darlington	601	564.0	2	1.9	0.3%	1	0.9	0.2%	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Doncaster	1974	635.7	103	33.2	5.2%	37	11.9	1.9%	16.7	13.2	12.9	12.6	11.9	11.6	11.9
East Riding of Yorkshire	1638	482.3	27	8.0	1.6%	11	3.2	0.7%	3.5	2.9	3.5	4.4	3.8	3.2	3.2
Gateshead	1273	628.6	4	2.0	0.3%	3	1.5	0.2%	1.0	1.0	1.0	1.5	1.5	1.5	1.5
Hartlepool	591	633.8	8	8.6	1.4%	2	2.1	0.3%	3.2	1.1	1.1	2.1	2.1	2.1	2.1
Hull	1537	589.7	22	8.4	1.4%	8	3.1	0.5%	5.0	4.6	4.6	3.5	3.5	3.5	3.1
Kirklees	2037	464.3	263	59.9	12.9%	142	32.4	7.0%	28.9	28.9	32.6	31.2	33.5	34.4	32.4
Leeds	3613	457.8	145	18.4	4.0%	47	6.0	1.3%	10.9	10.1	9.2	8.9	8.1	6.6	6.0
Middlesbrough	952	677.4	13	9.2	1.4%	4	2.8	0.4%	3.6	2.8	2.1	2.8	3.6	2.8	2.8
Newcastle upon Tyne	1520	506.3	17	5.7	1.1%	6	2.0	0.4%	3.3	3.3	2.7	2.0	2.3	2.0	2.0
North East Lincolnshire	207	129.5	7	4.4	3.4%	4	2.5	1.9%	1.9	0.6	0.0	0.0	0.6	1.3	2.5
North Lincolnshire	721	419.2	14	8.1	1.9%	7	4.1	1.0%	5.2	4.1	3.5	2.3	2.3	2.9	4.1
North Tyneside	912	442.8	8	3.9	0.9%	2	1.0	0.2%	2.9	1.5	1.5	1.5	1.0	1.0	1.0
North Yorkshire	2520	410.1	54	8.8	2.1%	19	3.1	0.8%	4.7	4.1	3.7	3.3	3.4	3.3	3.1
Northumberland	1572	490.8	19	5.9	1.2%	10	3.1	0.6%	3.1	3.1	2.8	3.1	2.8	3.4	3.1
Redcar and Cleveland	699	511.3	8	5.9	1.1%	1	0.7	0.1%	3.7	2.9	2.9	2.9	2.9	0.7	0.7
Rotherham	1881	710.7	133	50.3	7.1%	59	22.3	3.1%	31.0	31.0	29.8	30.2	27.6	22.3	22.3
Sheffield	3967	681.0	241	41.4	6.1%	93	16.0	2.3%	26.3	28.3	26.6	25.1	22.0	17.3	16.0
South Tyneside	942	626.9	3	2.0	0.3%	1	0.7	0.1%	1.3	1.3	0.7	0.7	1.3	1.3	0.7
Stockton-on-Tees	959	486.3	27	13.7	2.8%	9	4.6	0.9%	8.6	8.6	8.6	8.1	8.1	6.1	4.6
Sunderland	1763	635.5	7	2.5	0.4%	2	0.7	0.1%	1.4	1.1	1.1	0.7	1.1	1.1	0.7
Wakefield	1645	476.8	80	23.2	4.9%	40	11.6	2.4%	10.1	9.6	9.6	9.6	9.3	11.3	11.6
York	902	429.7	11	5.2	1.2%	7	3.3	0.8%	2.9	2.9	3.3	3.3	3.3	3.3	3.3

This table has been reset to match national methods. The Grey box is the level included in the daily Situational Analysis report
Test results are updated every day and so rates are liable to change

In a testing period, just 0.4% have Covid

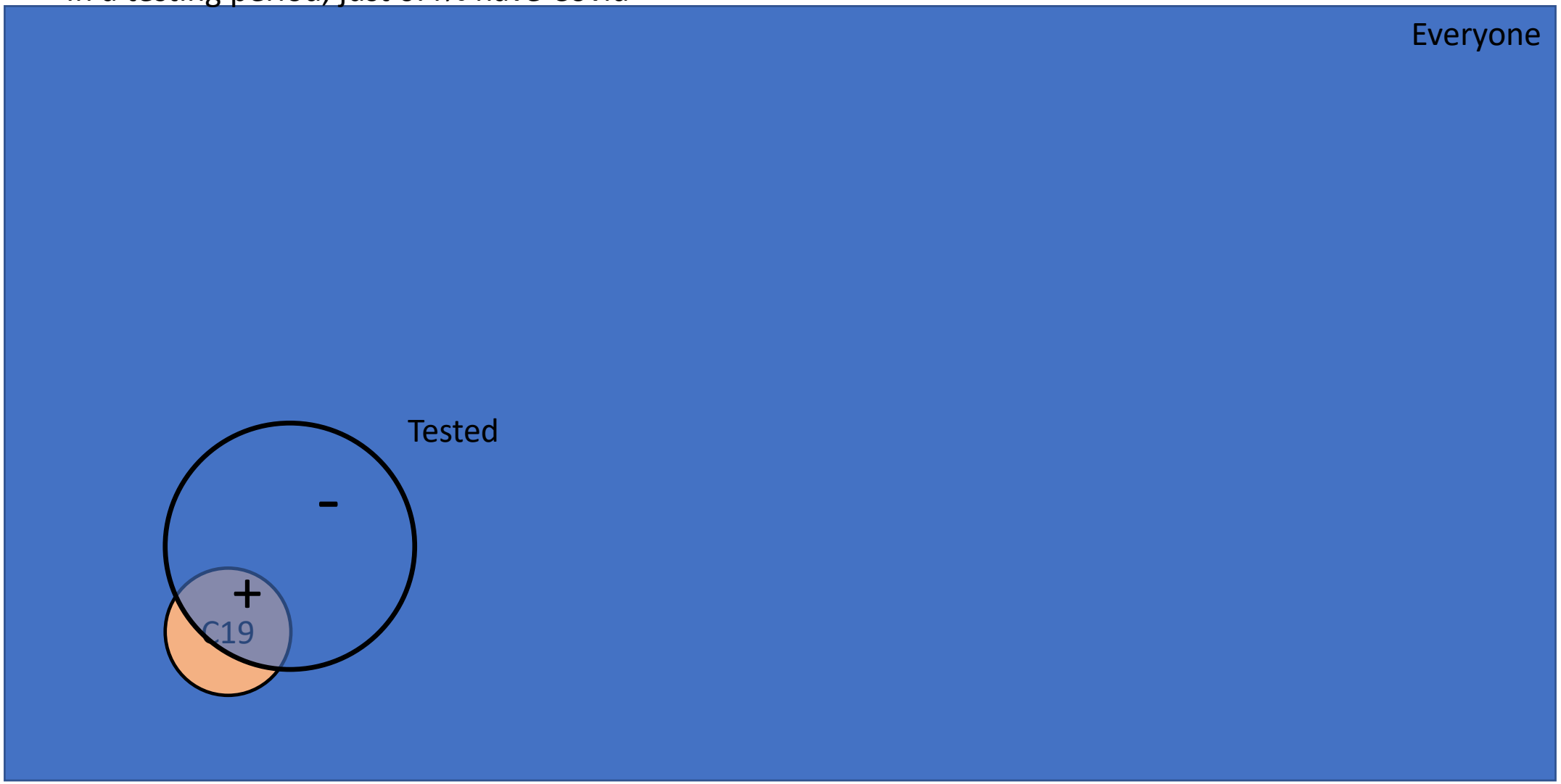
In a testing period, just 0.4% have Covid

Of those tested, 5% were positive

In a testing period, 2% have Covid

Of those tested, 15% were positive

In a testing period, just 0.4% have Covid



Of those tested, 15% were positive

In a testing period, just 0.4% have Covid

Of those tested, 60% were positive

Public Health England

Protecting and improving the nation's health

Testing at Kober

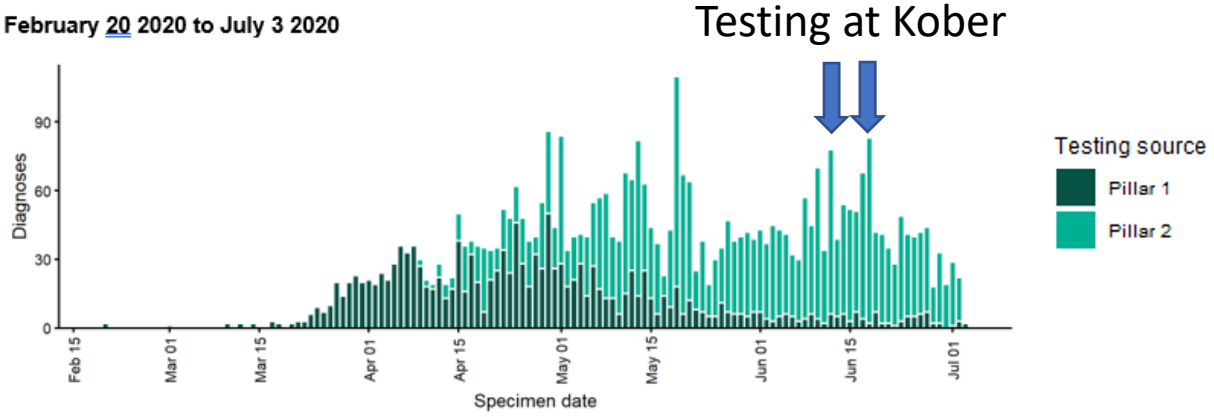
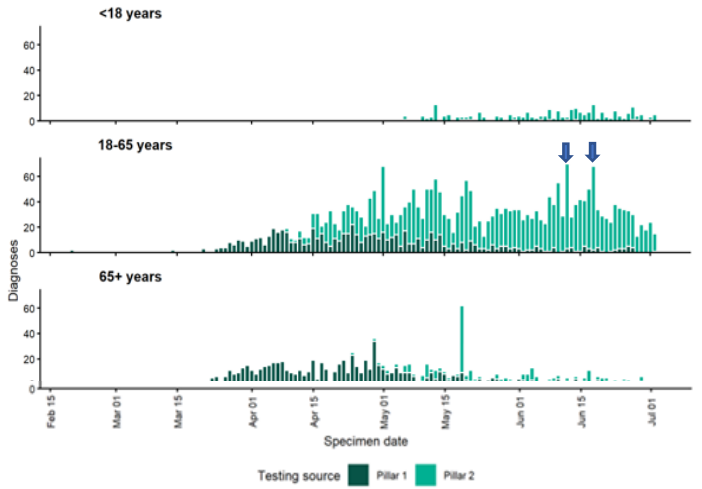


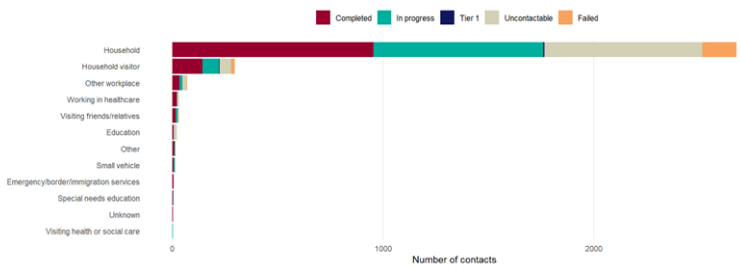
Figure 5. Epidemic curve of daily confirmed COVID-19 cases over time in Bradford by age group (February 20 2020 to July 3 2020)

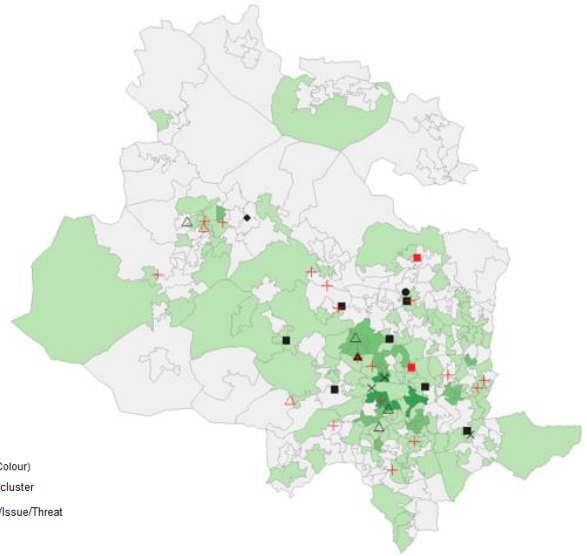


illar 1 and 2 testing overlayed with new

Past 14 days (June 20 20

Figure 7: Contacts by exposure/activity setting and current contact tracing outcome, since 28 May 2020 (NHS Test and Trace), Bradford

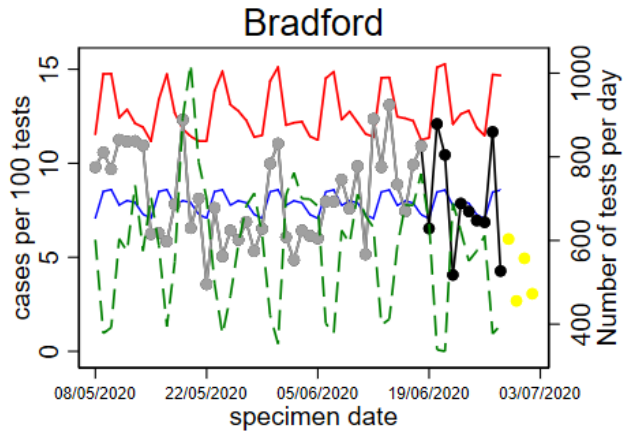




No. cases
0 cases
1-4 cases
5-9 cases
10-14 cases
15-29 cases

Context (Shape)
Care Home
Food Outlet/Restaurant
Hospital
Nursery
School
Unknown
Workplace

Situation type (Colour)
Outbreak/cluster
Exposure/Issue/Threat



red - 99% threshold
blue - expected number of cases/ 100 tests
grey - observed number of cases/ 100 tests
black - observed number of cases/ 100 tests in 10 days
yellow - reporting delay so ignored
green - total number of tests

How many pillars were there?

Scaling up our testing programmes

The government is working with the best minds in science, industry and logistics across the world to scale up our testing capacity. Our strategy has 5 pillars.

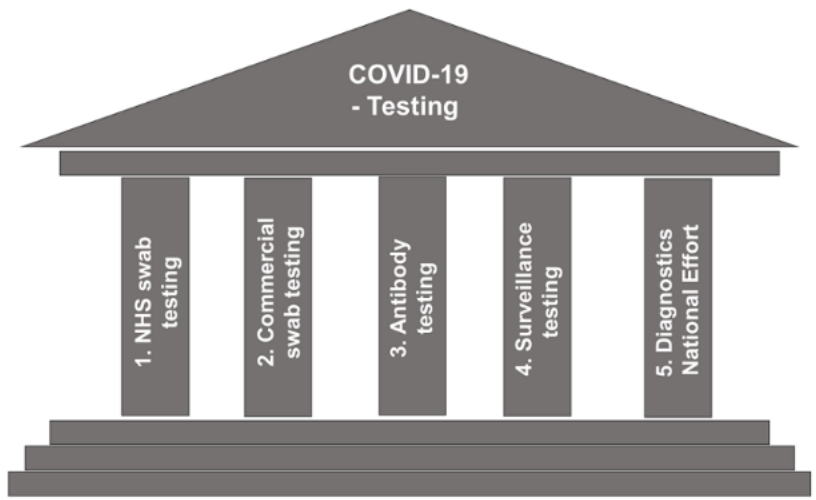
Pillar 1: Scaling up NHS swab testing for those with a medical need and, where possible, the most critical key workers

Pillar 2: Mass swab testing for critical key workers in the NHS, social care and other sectors

Pillar 3: Mass antibody testing to help determine if people have immunity to coronavirus

Pillar 4: Surveillance testing to learn more about the disease and help develop new tests and treatments

Pillar 5: Spearheading a Diagnostics National Effort to build a mass-testing capacity at a completely new scale



Policy paper

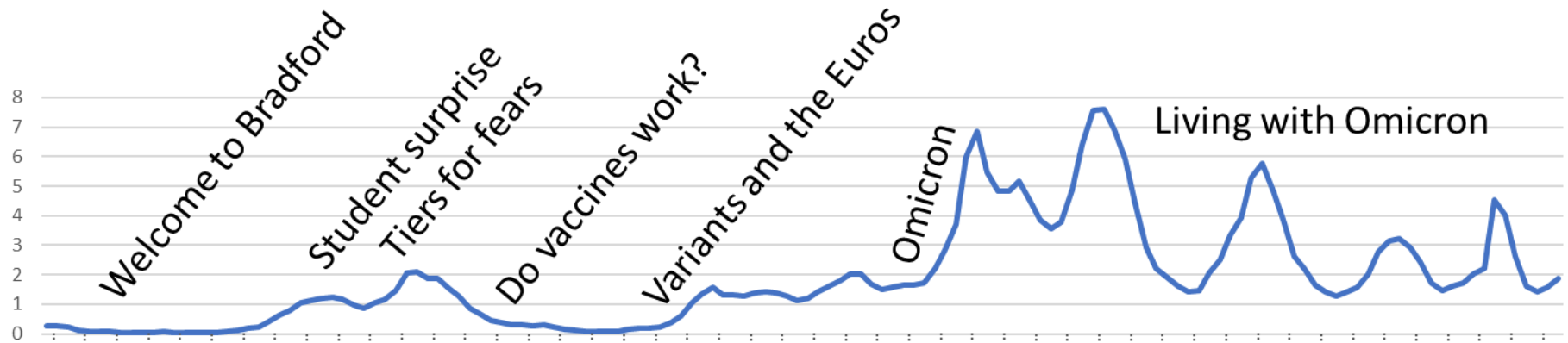
Coronavirus (COVID-19): scaling up our testing programmes

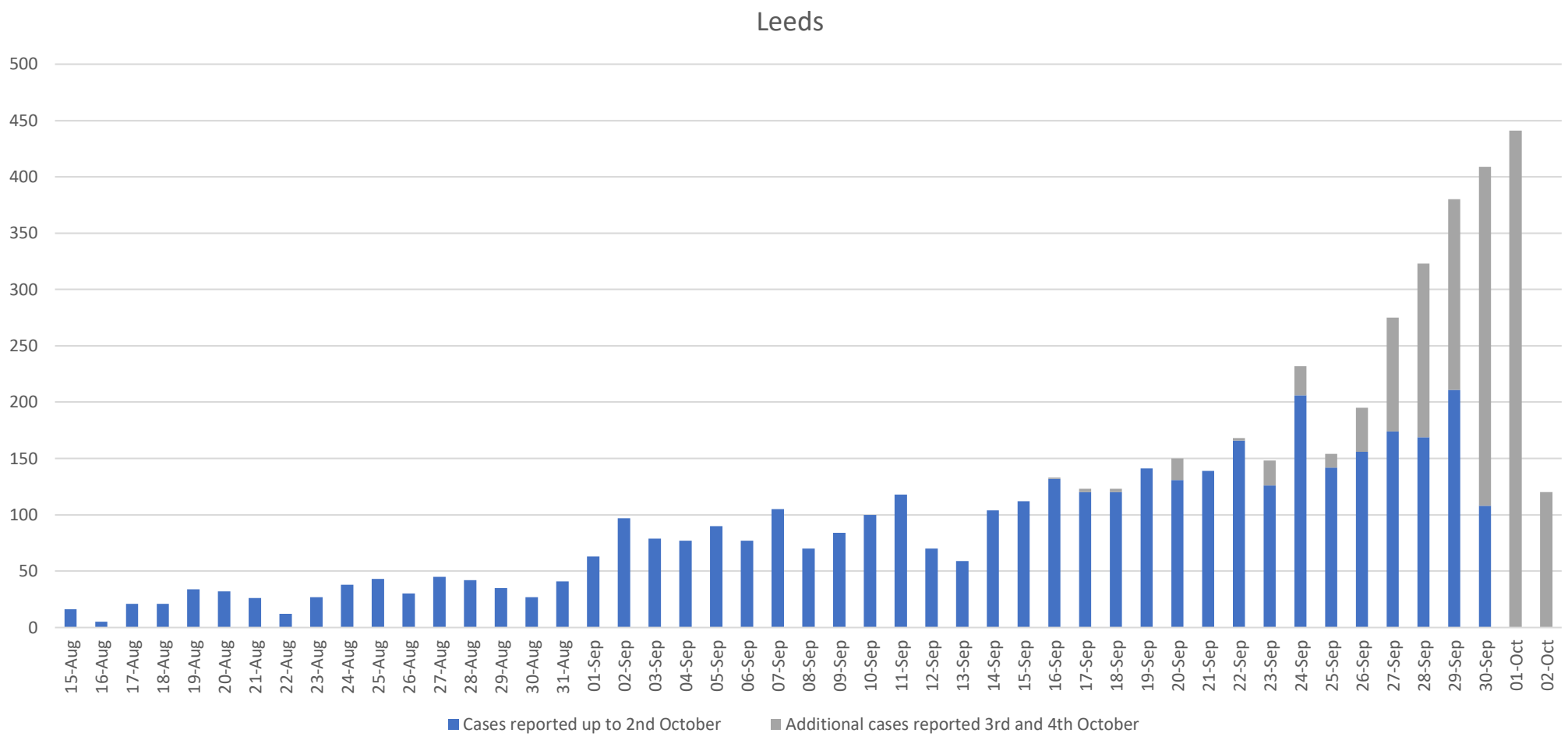
Updated 6 April 2020

Student surprise

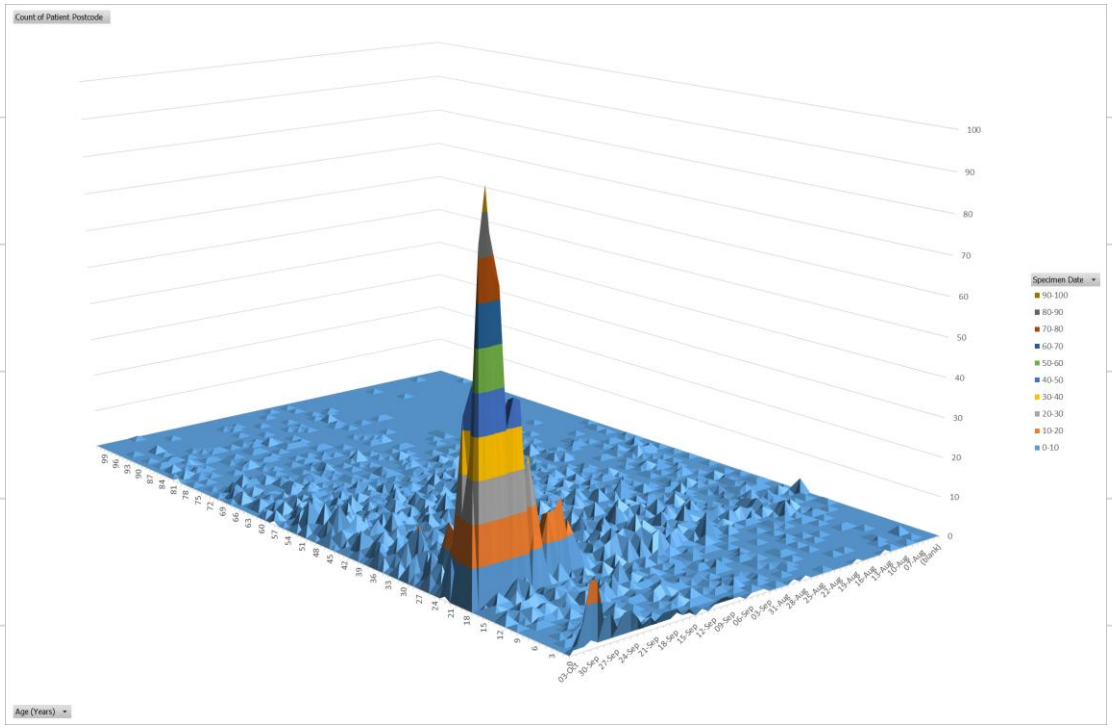
How many tiers were there?

- The release of unreported cases over the weekend has resulted in unanticipated rises in several parts of YH
- The majority of these are in university areas with the largest being in Bradford, Leeds, Sheffield and York
- How much of the rise is due to university students?



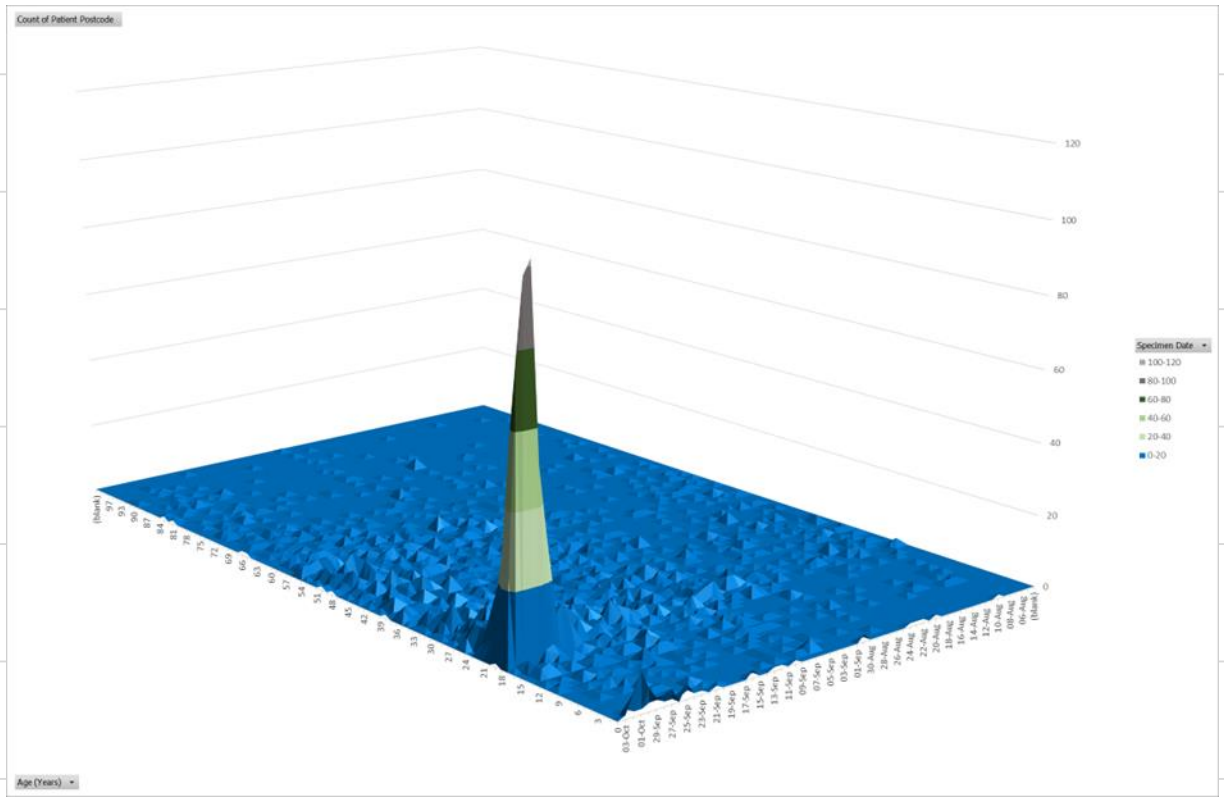

Leeds
500
450
400
350
300
250
200
150
100
50
0
15-Aug
16-Aug
17-Aug
18-Aug
19-Aug
20-Aug
21-Aug
22-Aug
23-Aug
24-Aug
25-Aug
26-Aug
27-Aug
28-Aug
29-Aug
30-Aug
31-Aug
01-Sep
02-Sep
03-Sep
04-Sep
05-Sep
06-Sep
07-Sep
08-Sep
09-Sep
10-Sep
11-Sep
12-Sep
13-Sep
14-Sep
15-Sep
16-Sep
17-Sep
18-Sep
19-Sep
20-Sep
21-Sep
22-Sep
23-Sep
24-Sep
25-Sep
26-Sep
27-Sep
28-Sep
29-Sep
30-Sep
01-Oct
02-Oct
Cases reported up to 2nd October
Additional cases reported 3rd and 4th October

Single day Rate per 100,000 positive cases by age band by sample date since 5th August 2020
Data extracted 3pm 5th October 2020, recent days subject to increase
Leeds



0-14 15-19 20-24 25-29 30-39 40-49 50-59 60-69 70-79 80+

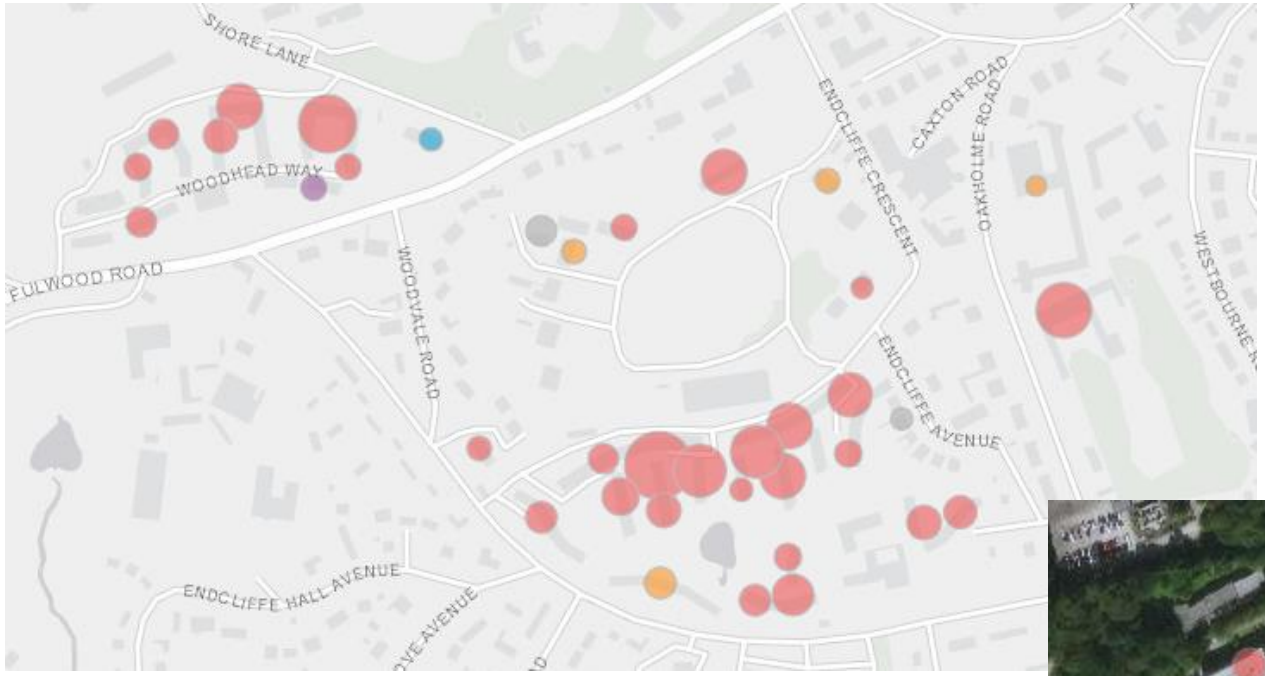
Single day Rate per 100,000 positive cases by age band by sample date since 5th August 2020
Data extracted 3pm 5th October 2020, recent days subject to increase
Sheffield

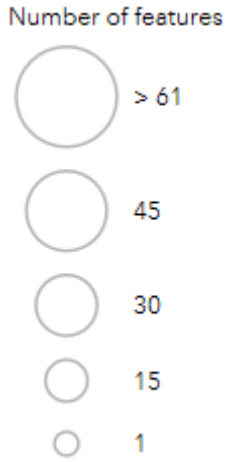


0-14 15-19 20-24 25-29 30-39 40-49 50-59 60-69 70-79 80+

Cases since 27th September 2020- all ages

Cases since 27th September 2020- all ages



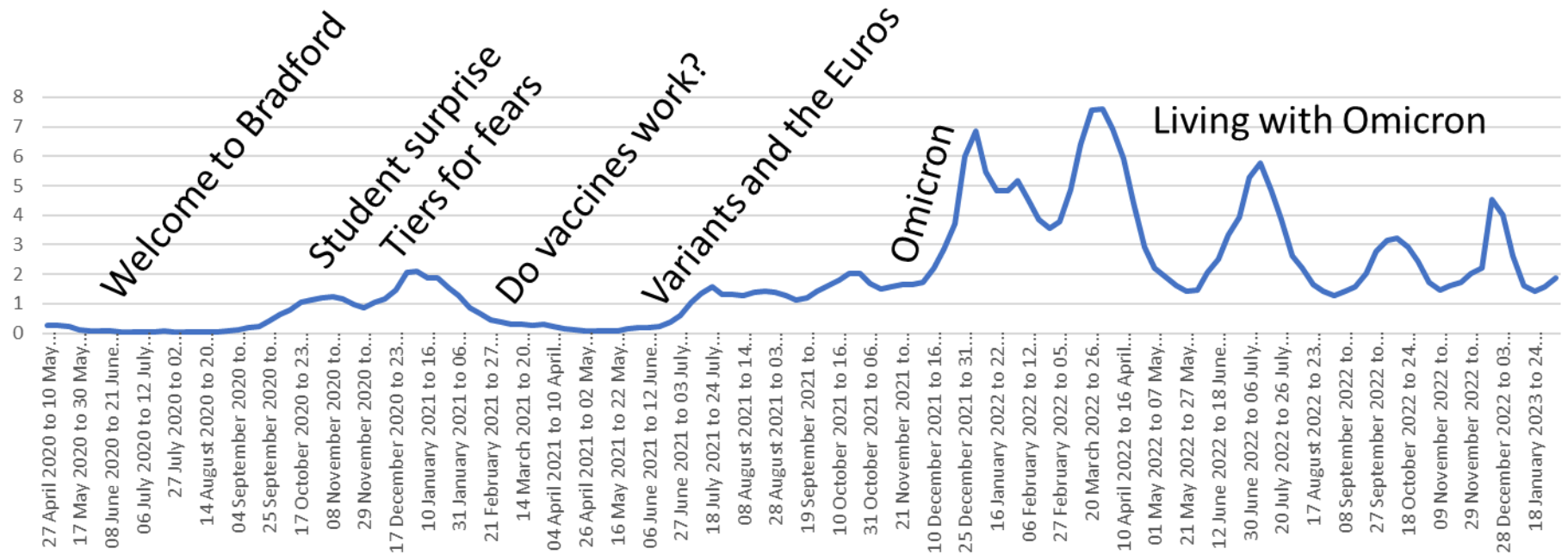


Special Consideration

- Tier 2 measures may not be justified in responding to a University outbreak- providing the outbreak is not causing onward transmission to the wider community
- The use of “household” restrictions may not be appropriate in towns where the predominant residence of cases is halls rather than private housing
- Some thought should be given to a “Bubble” approach to students- with contact beyond a bubble of 6 being restricted
- In person teaching should be suspended

Tiers for fears?

- Non-national restrictions were used through the autumn of 2020 to try to control local spread.
- This was done at JBC geography rather than LAs



Press release

Prime Minister announces new local COVID Alert Levels

Details on new local COVID Alert Levels set out by the Prime Minister.

From: Prime Minister's Office, 10 Downing Street and The Rt Hon Boris Johnson MP
Published 12 October 2020

Addressing MPs before hosting a Downing Street press conference, he confirmed the levels will be set at medium, high, and very high.

He set out how this new approach will be simpler and standardised, and thanked local leaders who have engaged with the government over the weekend.

The "medium" alert level – which will cover most of the country – will consist of the current national measures, which came into force on 25 September.

This includes the Rule of Six, and the closure of hospitality at 10pm.

The "high" alert level will reflect many current local interventions, but there will now be consistency across the country.

This primarily aims to reduce household to household transmission by preventing all mixing between households or support bubbles indoors. The Rule of Six will apply in outdoor spaces, including private gardens.

Most areas which are already subject to local restrictions will automatically move into the "high" alert level.

The "very high" alert level will apply where transmission rates are causing the greatest concern, based on an assessment of all the available data and the local situation.

This includes incidence and test positivity, including amongst older and more at-risk age groups, as well as the growth rate, hospital admissions and other factors.

In these areas, the government will set a baseline of prohibiting social mixing indoors and in private gardens, with the Rule of Six allowed in open public spaces like parks and beaches.

Promotional material

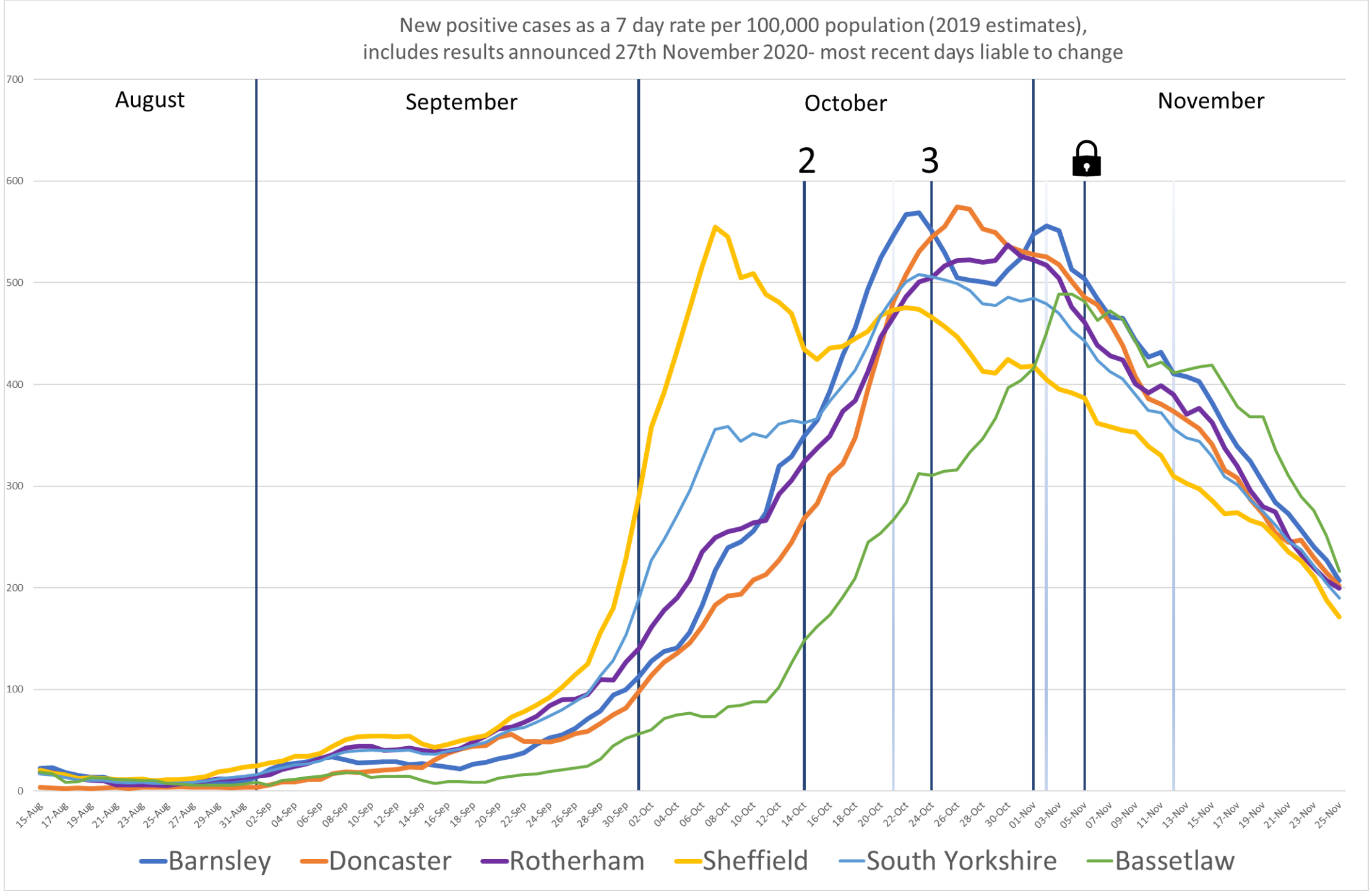
Tier posters: Medium, High, Very High and Stay At Home

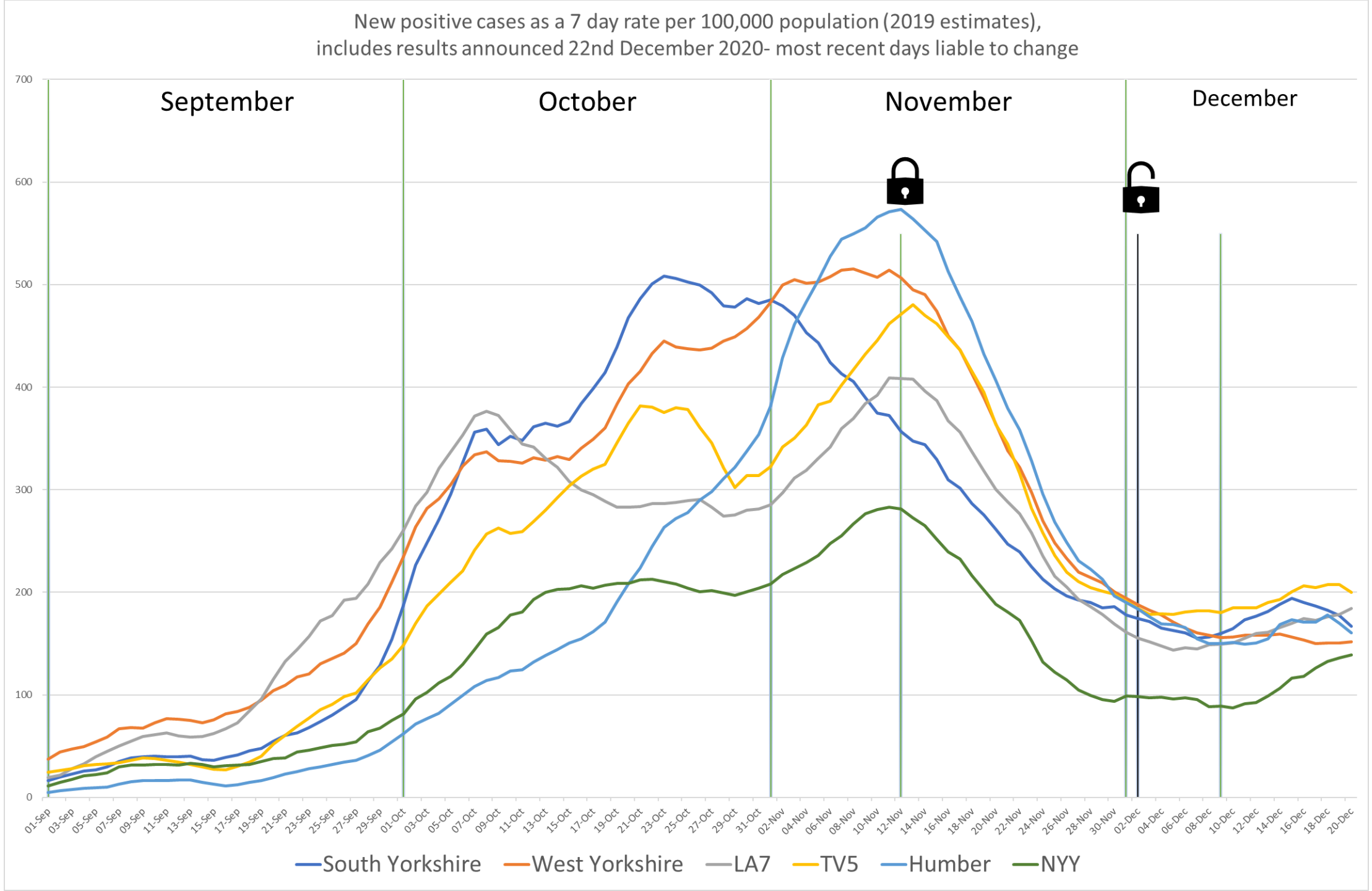
A series of posters displaying information about tiers 1 to 4 in England.

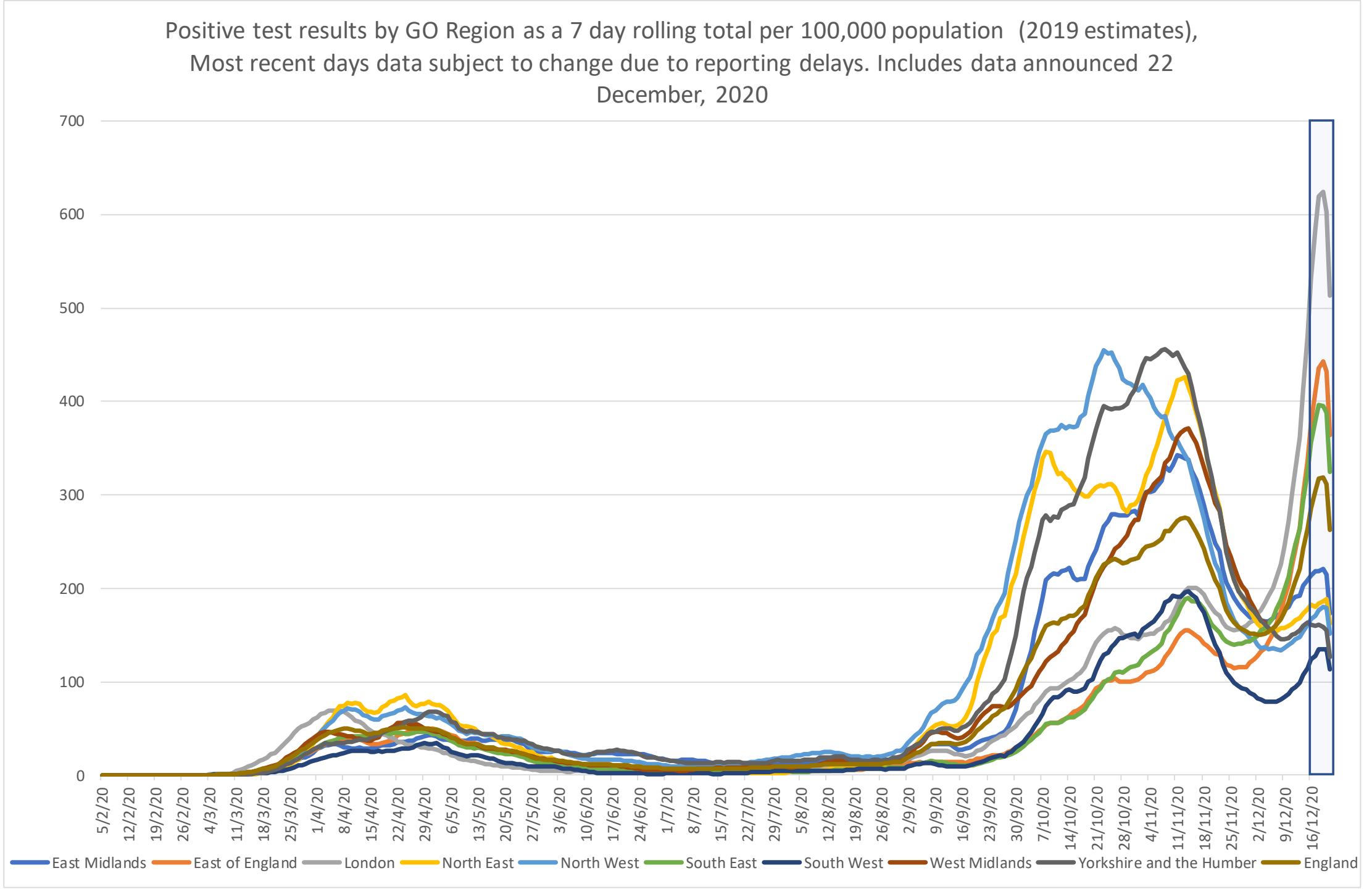
From: Cabinet Office
Published 23 November 2020
Last updated 15 December 2020 — See all updates

How many tiers were there?


What day in January 2021 did schools open?

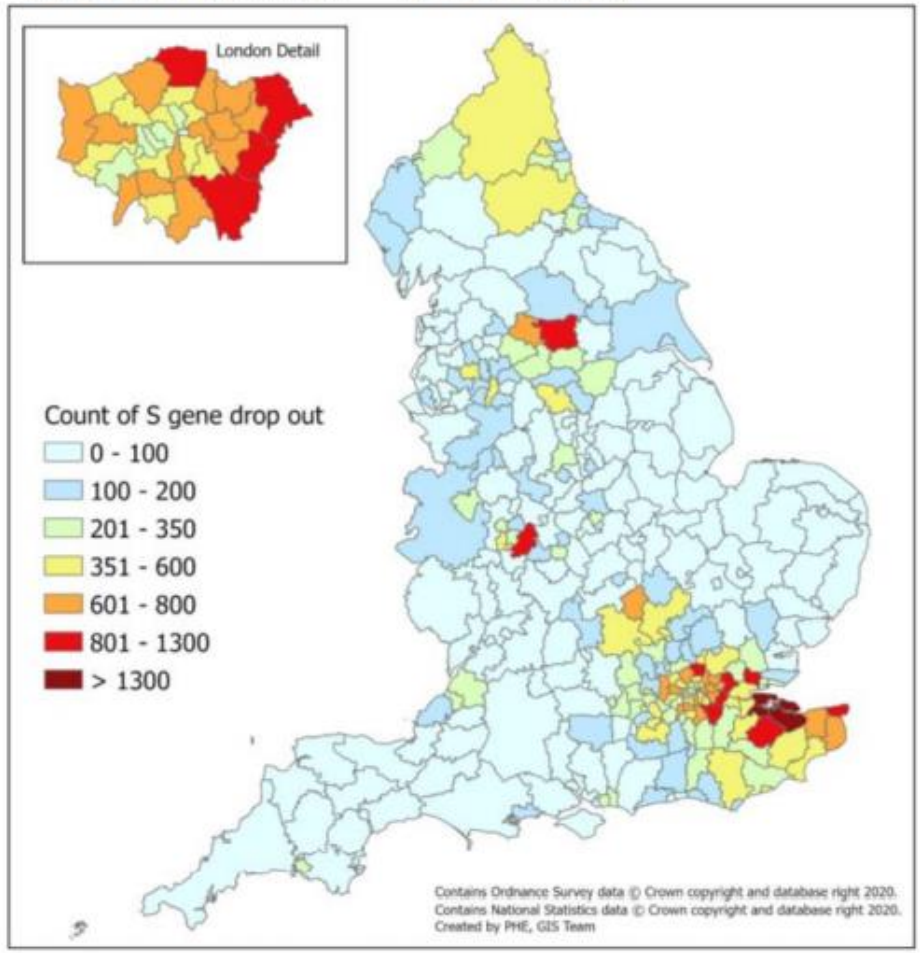

New positive cases as a 7 day rate per 100,000 population (2019 estimates),
includes results announced 27th November 2020- most recent days liable to change
August
September
October
November
2
3
700
600
500
400
300
200
100
0
15-Aug
17-Aug
19-Aug
21-Aug
23-Aug
25-Aug
27-Aug
29-Aug
31-Aug
02-Sep
04-Sep
06-Sep
08-Sep
10-Sep
12-Sep
14-Sep
16-Sep
18-Sep
20-Sep
22-Sep
24-Sep
26-Sep
28-Sep
30-Sep
02-Oct
04-Oct
06-Oct
08-Oct
10-Oct
12-Oct
14-Oct
16-Oct
18-Oct
20-Oct
22-Oct
24-Oct
26-Oct
28-Oct
30-Oct
01-Nov
03-Nov
05-Nov
07-Nov
09-Nov
11-Nov
13-Nov
15-Nov
17-Nov
19-Nov
21-Nov
23-Nov
25-Nov
Barnsley
Doncaster
Rotherham
Sheffield
South Yorkshire
Bassetlaw


New positive cases as a 7 day rate per 100,000 population (2019 estimates),
includes results announced 22nd December 2020- most recent days liable to change
September
October
November
December
700
600
500
400
300
200
100
0
South Yorkshire
West Yorkshire
LA7
TV5
Humber
NYY

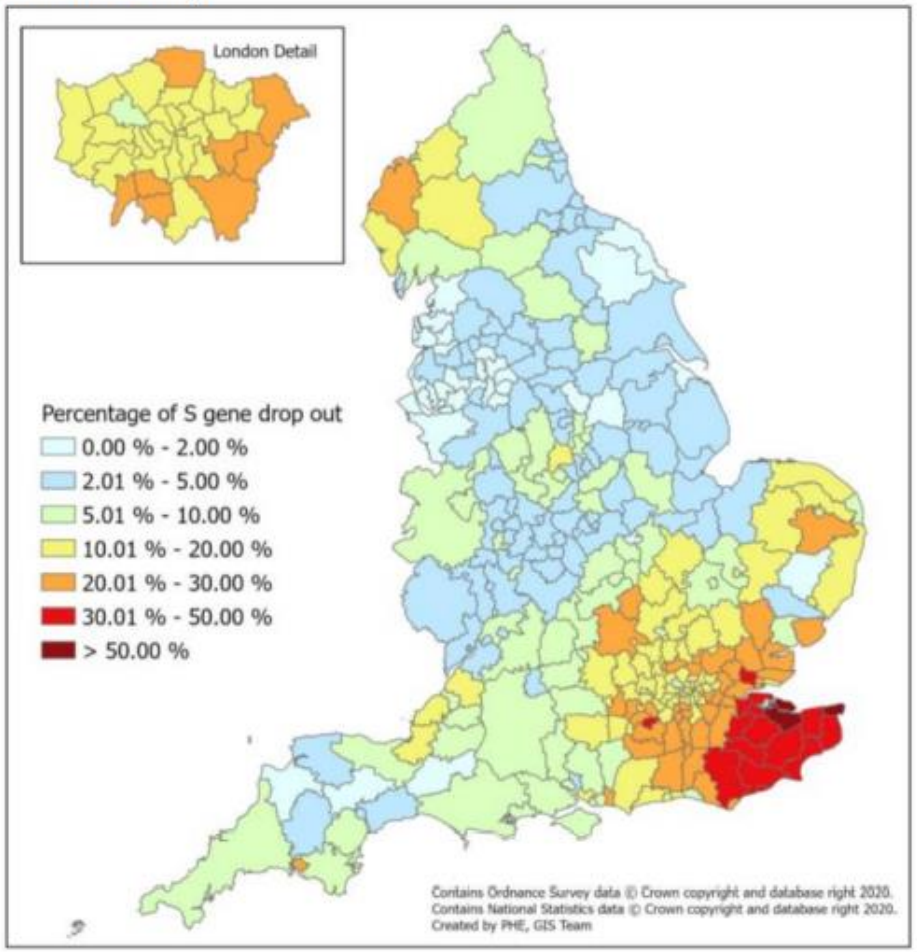

Positive test results by GO Region as a 7 day rolling total per 100,000 population (2019 estimates), Most recent days data subject to change due to reporting delays. Includes data announced 22 December, 2020
700
600
500
400
300
200
100
0
5/2/20
12/2/20
19/2/20
26/2/20
4/3/20
11/3/20
18/3/20
25/3/20
1/4/20
8/4/20
15/4/20
22/4/20
29/4/20
6/5/20
13/5/20
20/5/20
27/5/20
3/6/20
10/6/20
17/6/20
24/6/20
1/7/20
8/7/20
15/7/20
22/7/20
29/7/20
5/8/20
12/8/20
19/8/20
26/8/20
2/9/20
9/9/20
16/9/20
23/9/20
30/9/20
7/10/20
14/10/20
21/10/20
28/10/20
4/11/20
11/11/20
18/11/20
25/11/20
2/12/20
9/12/20
16/12/20
East Midlands
East of England
London
North East
North West
South East
South West
West Midlands
Yorkshire and the Humber
England

Geographical distribution of S-gene target failure cases (n=67098 from 3 lighthouse laboratories)

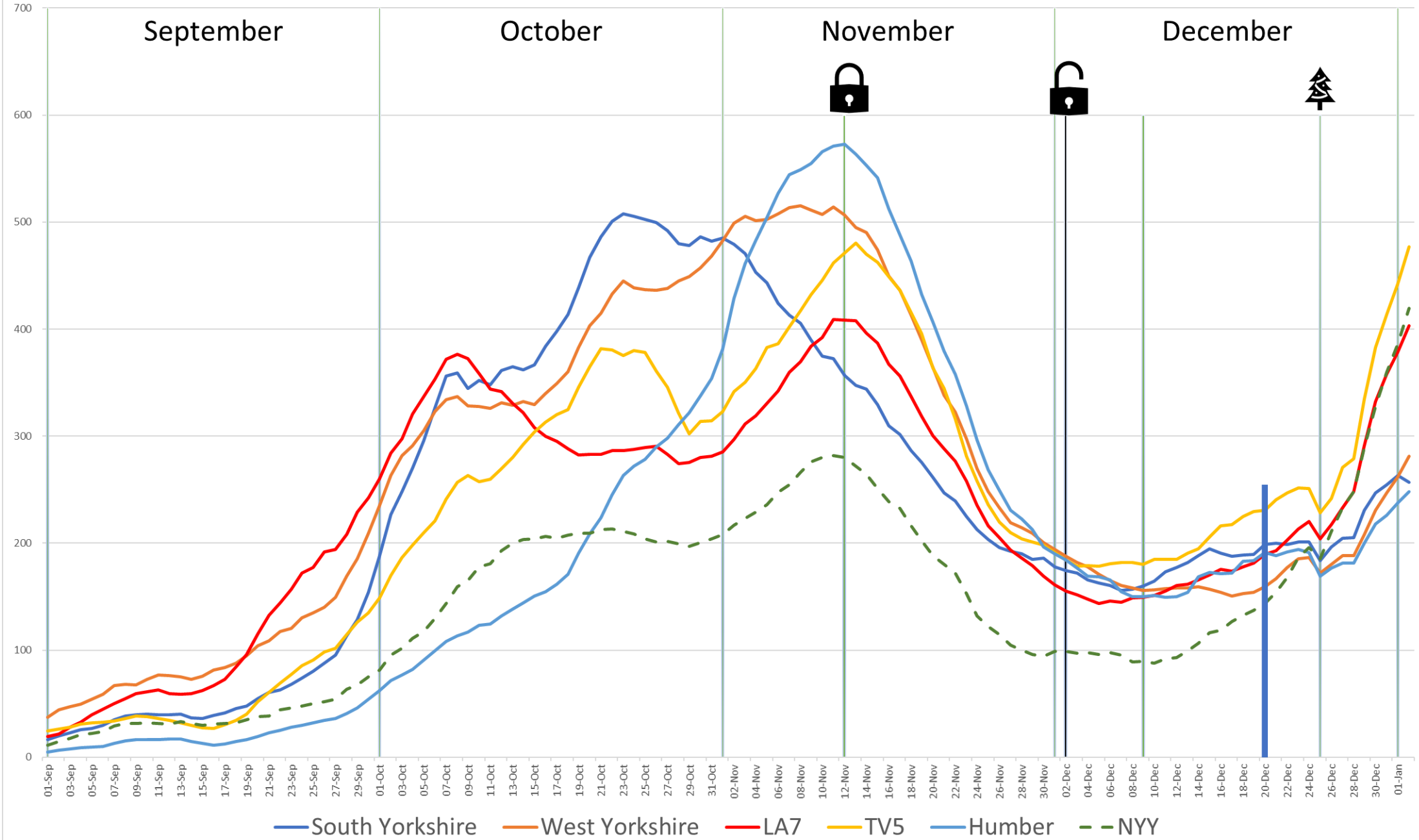
Number of confirmed cases of S gene target failure reported by MK, AP and GG Light house labs (1 September – 13 December)



Proportion (%) of S-gene target failure cases in comparison to all COVID-confirmed cases from MK AP and GG Lighthouse labs (1 September – 13 December)



New positive cases as a 7 day rate per 100,000 population (2019 estimates),
includes results announced 5th January 2021- most recent days liable to change



newsround

Coronavirus: Schools around the UK to close

6 January 2021 · Comments

What's happening with schools in England?

Prime Minister Boris Johnson has announced a new lockdown for England, which includes all schools shutting from Tuesday 5 January until February half-term at least.

Schools will stay open for children of key workers and vulnerable young people.

Most primary schools in England reopened on Monday 4 January, with others staying closed in certain areas. Some teachers, headteachers and parents weren't happy with the decision and wanted all schools shutting.

Education Secretary Gavin Williamson said older students would have a staggered return to school, with all secondary and college pupils returning full-time on the 18 January.

To those who questioned why some schools opened on 4 January, Mr Johnson said it was because "we've been doing everything in our power to keep schools open. We know how important each day in education is to children's life chances".

What day in January 2021 did schools open?

21 December

Williamson says that mass testing means schools can safely reopen in the new year. There is a "broad consensus from those working in education and with young people that we must keep schools open", he adds.

28 December

Politico reports that at a meeting with ministers days earlier, members of the Scientific Advisory Group for Emergencies (Sage) had warned that secondary schools needed to remain closed in January to prevent Covid infections from spiralling out of control.

30 December

Williamson tells the House of Commons that due to the "rapidly changing situation", secondary schools across most of England would remain closed for an extra two weeks for most pupils. But the education secretary also says primary schools in much of London must reopen as usual.

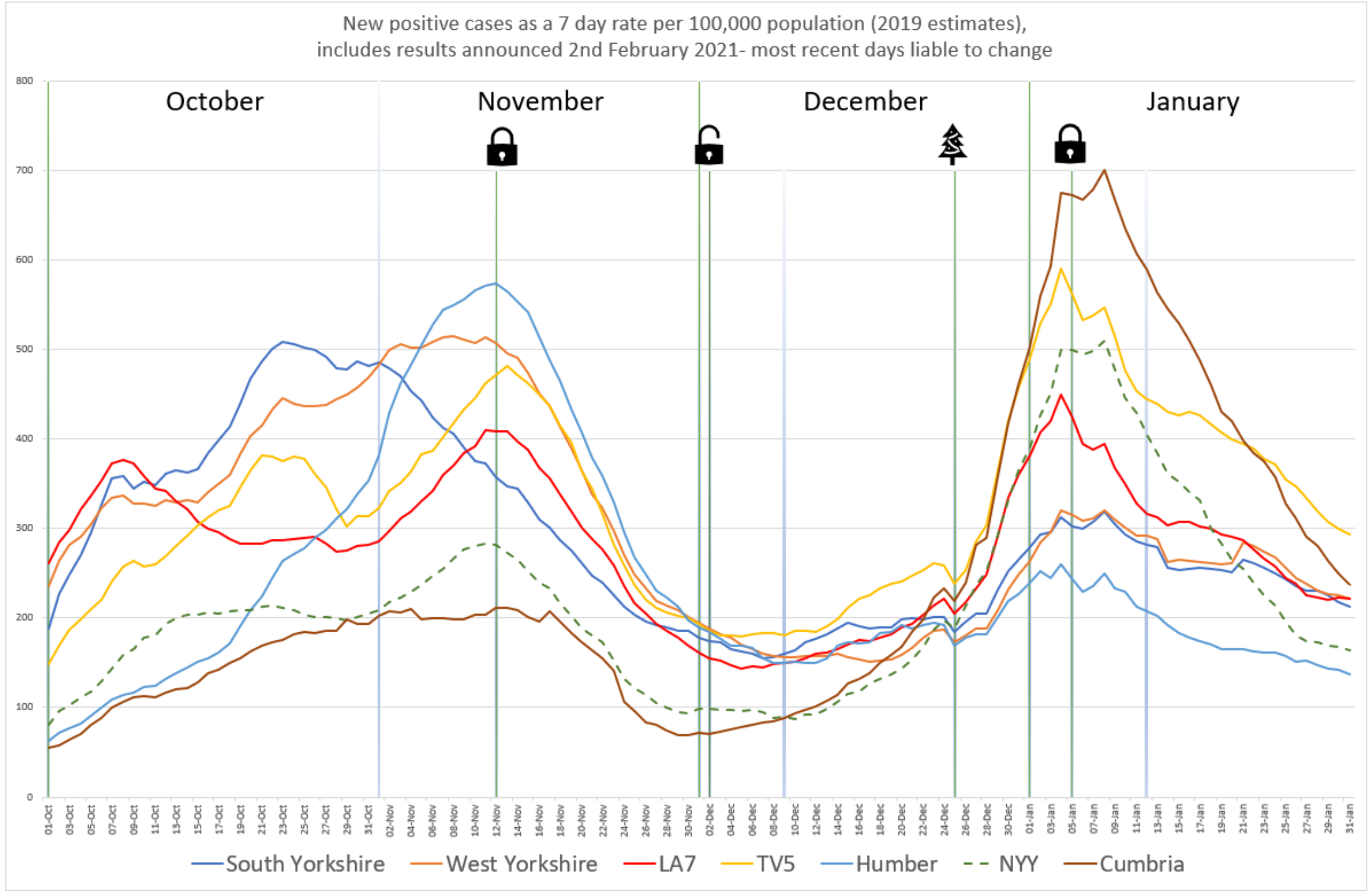
1 January

Williamson announces that London primary schools will also remain closed.

4 January

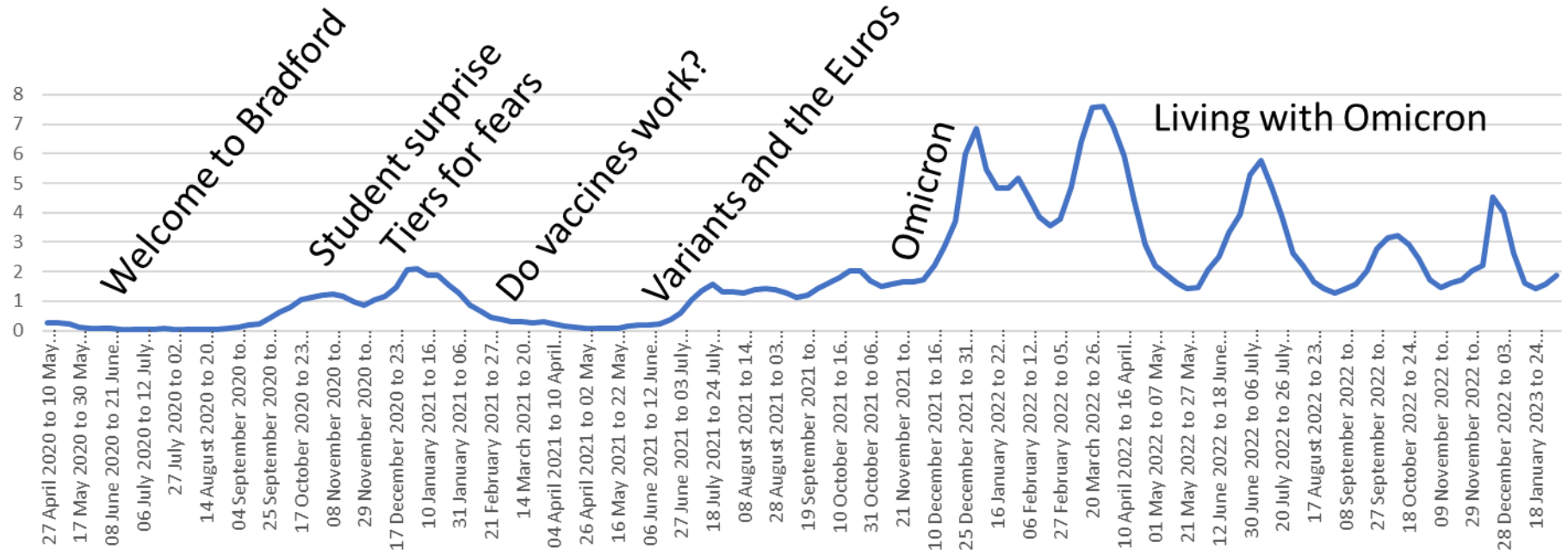
Civil servants at the Department for Education are told there are no plans to close schools or cancel exams, according to PoliticsHome reporter John Johnston. Hours later, Johnson announces that he is shutting all schools for seven weeks and cancelling exams this summer as part of the latest national lockdown.

How many months after schools "opened" were all restrictions due to be lifted

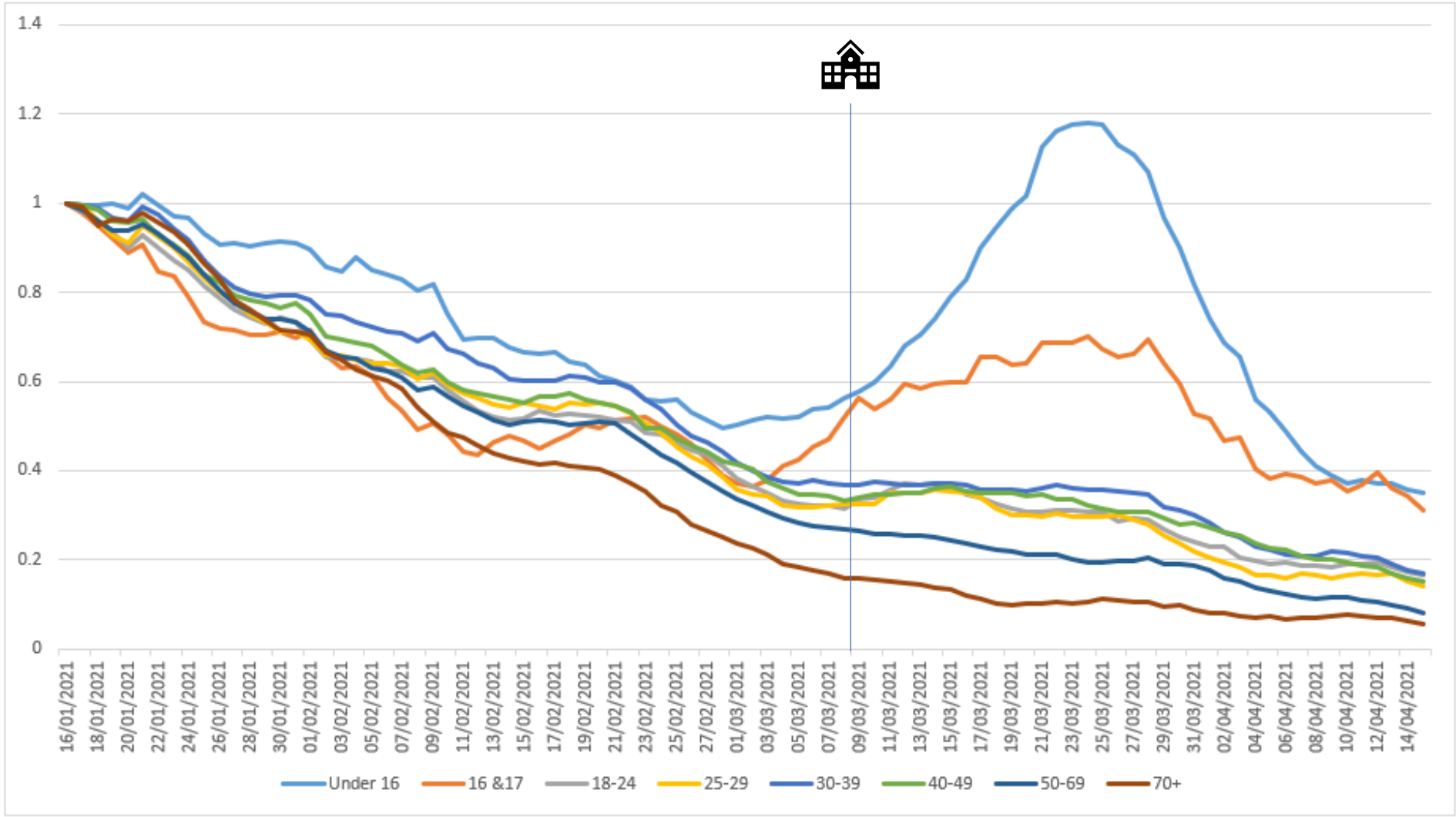

New positive cases as a 7 day rate per 100,000 population (2019 estimates),
includes results announced 2nd February 2021- most recent days liable to change
October
November
December
January
800
700
600
500
400
300
200
100
0
South Yorkshire
West Yorkshire
LA7
TV5
Humber
NYY
Cumbria

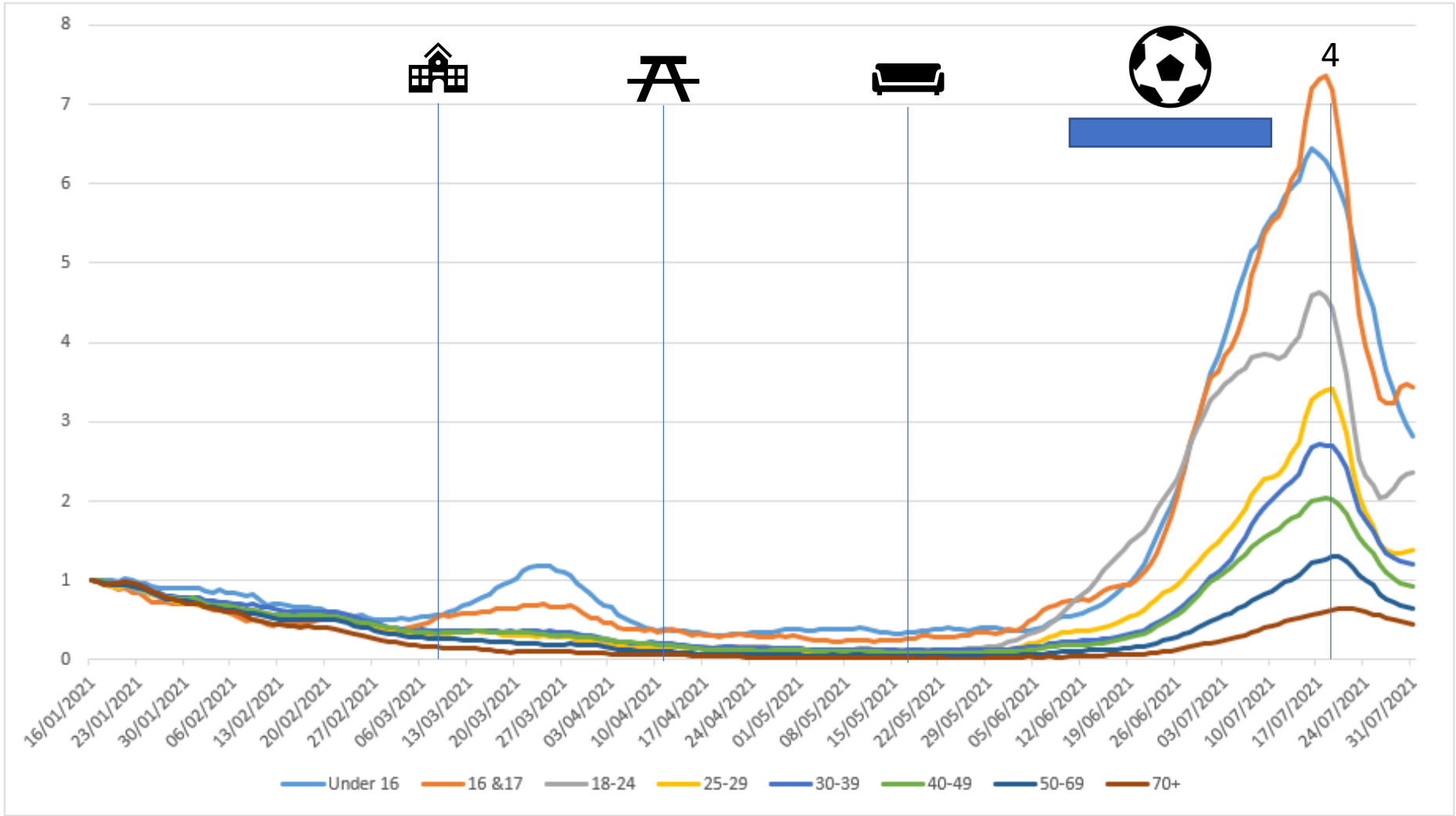
Do vaccines work?

- Measuring impact when restrictions rise and incidence is falling
- What happens when restrictions are reduced?
- What about when incidence rises



Number of cases by age band as a 7 day average as a proportion of the average for 7 days up to 16th January 2021
(All)





[COVID-19 Response - Spring 2021 (Summary) - GOV.UK (www.gov.uk)]

How many months after schools "opened" were all restrictions due to be lifted

Guidance

COVID-19 Response - Spring 2021 (Summary)

Published 22 February 2021

Step 4 - not before 21 June

What is being delayed until 19 July?

The Prime Minister's announcement yesterday means venues such as nightclubs will remain closed, and there will still be capacity limits in place at large events (apart from those taking place in Government test events).

The delay also means the limit on the number of people you can meet indoors remains at 6 or two households, and the limit on people you can have in your garden/meet outdoors is still 30.

Press release

Prime Minister confirms move to Step 4

Step 4 of the Roadmap to go ahead on Monday 19 July.

From: Prime Minister's Office, 10 Downing Street and The Rt Hon Boris Johnson MP
Published 12 July 2021

The four tests are:

- The vaccine deployment programme continues successfully
- Evidence shows vaccines are sufficiently effective in reducing hospitalisations and deaths in those vaccinated.
- Infection rates do not risk a surge in hospitalisations which would put unsustainable pressure on the NHS.
- Our assessment of the risks is not fundamentally changed by new Variants of Concern.

Cases will continue to rise as set out from the start of the Roadmap, but the vaccination programme has substantially weakened the link between infection and serious illness or death.

Hospitalisations and deaths will continue to rise over the coming weeks and months, but both are far lower than the previous wave. The current data does not suggest that unsustainable pressure will be put on the NHS but all data will be kept under constant review.

As of 12 July there are 28,421 new positive cases in England. 461 people were admitted to hospital with covid and there are 2,352 patients in hospital. The latest ONS estimates show that 1 in 160 people have covid in England.

The move to Step 4 was delayed by 4 weeks so more adults could be vaccinated. Nearly 7 million vaccines have already been administered during the delay.

By 19 July two thirds of adults will have received two doses and every adult will have been offered a first dose.

The delay to Step 4 has also moved the end of restrictions closer to the school summer holidays.

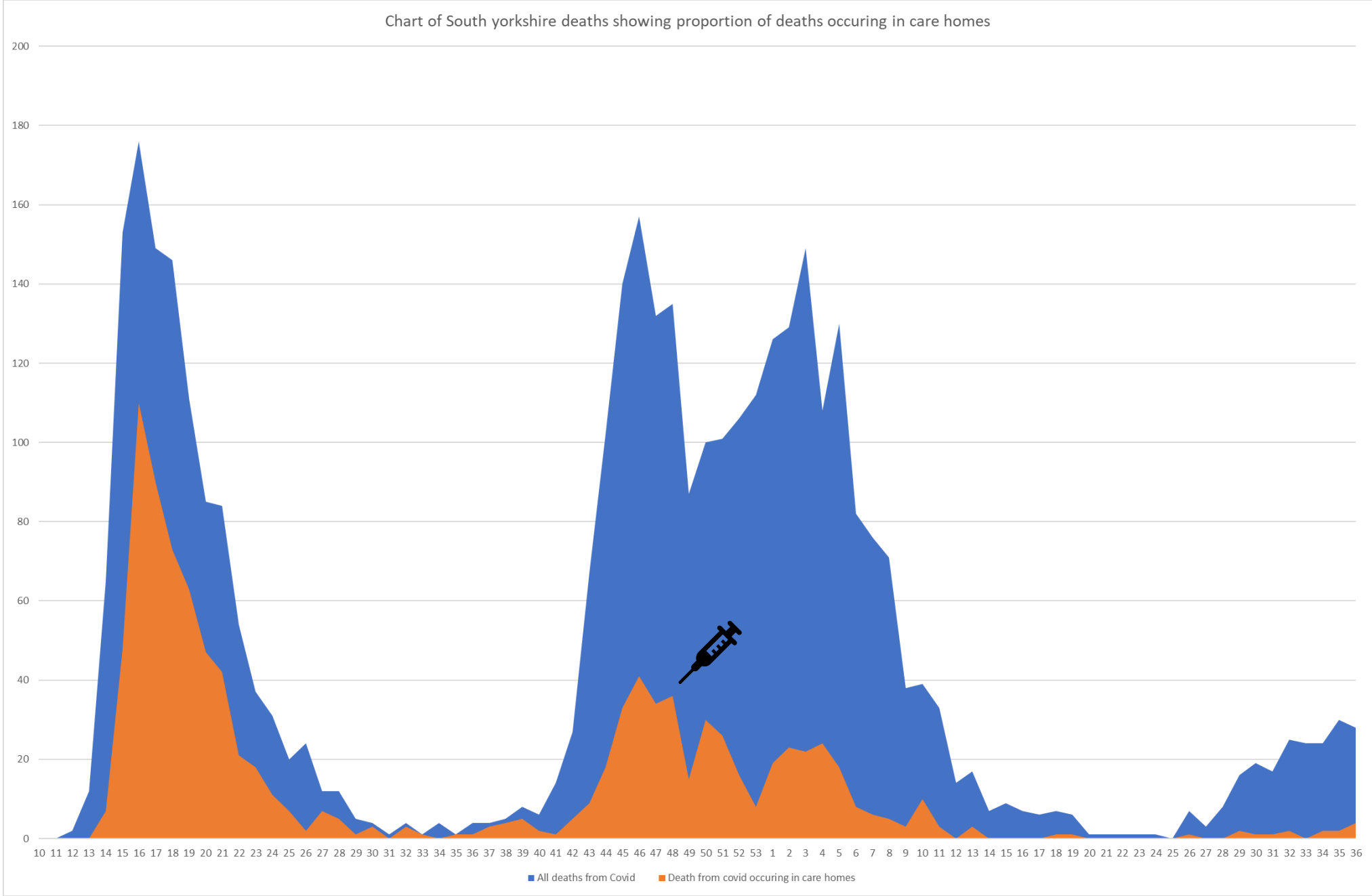
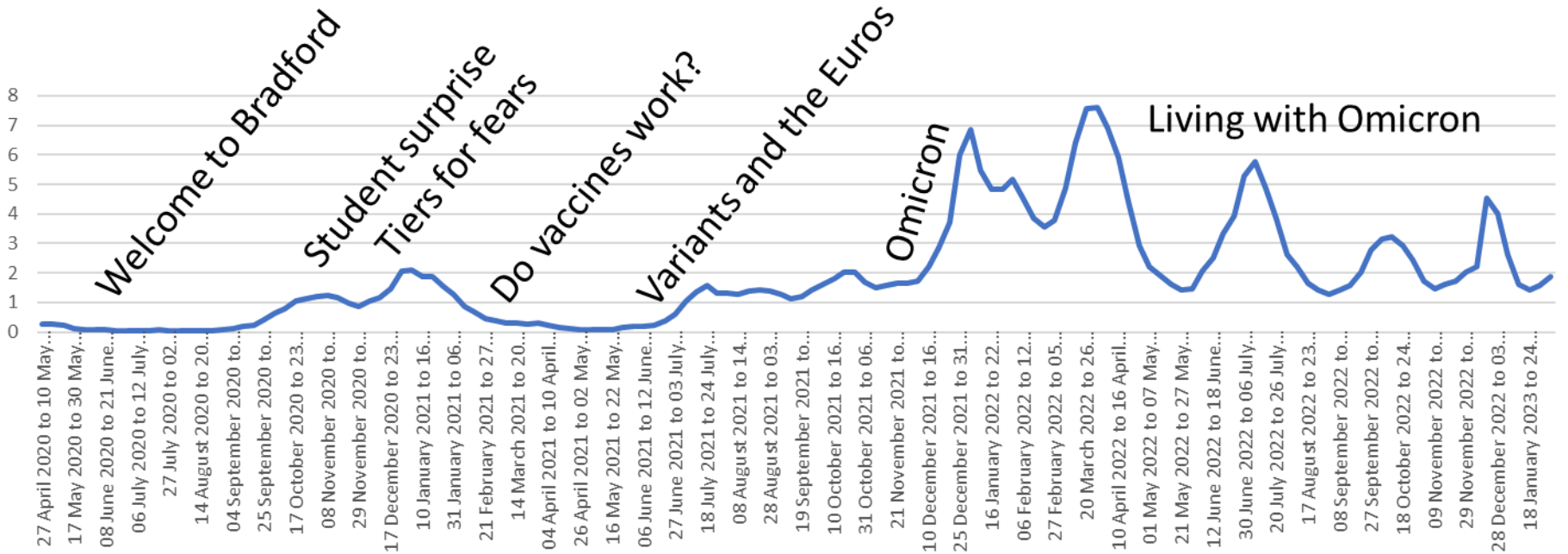


Chart of South yorkshire deaths showing proportion of deaths occuring in care homes
200
180
160
140
120
100
80
60
40
20
0
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
All deaths from Covid
Death from covid occuring in care homes

Variants and the Euros

- Why things get names
- Counting cases
- The machines that spot variants



Number of S gene positive cases identified
Pillar 2, Lighthouse TF machines only

	02/05/2021	03/05/2021	04/05/2021	05/05/2021	06/05/2021	07/05/2021	08/05/2021	09/05/2021	10/05/2021	11/05/2021	12/05/2021	13/05/2021	14/05/2021	15/05/2021	16/05/2021	17/05/2021
Barnsley	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
Bradford	3	0	0	0	2	1	0	0	1	0	1	1	1	0	0	0
Calderdale	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	1
County Durham	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
Darlington	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
Doncaster	0	0	0	0	0	0	0	0	0	6	2	3	1	2	0	15 1
East Riding of Yorkshire	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Gateshead	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0
Hartlepool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kingston upon Hull City of	0	0	1	0	0	1	0	2	0	0	1	0	0	0	0	0
Kirklees	2	4	3	0	0	3	0	5	7	5	16	7	11	0	0	0
Leeds	0	2	0	1	2	2	0	0	0	0	1	0	1	0	1	0
Middlesbrough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newcastle upon Tyne	2	0	0	0	0	0	1	1	2	0	0	1	0	2	0	0
North East Lincolnshire	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
North Lincolnshire	1	2	1	0	0	0	1	0	0	3	3	1	1	0	0	0
North Tyneside	2	1	0	2	4	2	1	2	5	7	6	5	4	0	0	0
North Yorkshire	0	0	0	0	0	0	0	0	2	0	0	3	1	0	0	0
Northumberland	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0
Redcar and Cleveland	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0
Rotherham	0	0	0	1	0	0	1	1	0	0	2	3	0	0	0	5 0
Sheffield	2	0	1	4	4	5	4	1	5	7	5	5	3	1	0	22 1
South Tyneside	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Stockton-on-Tees	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
Sunderland	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Wakefield	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0
York	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0

1

0

3

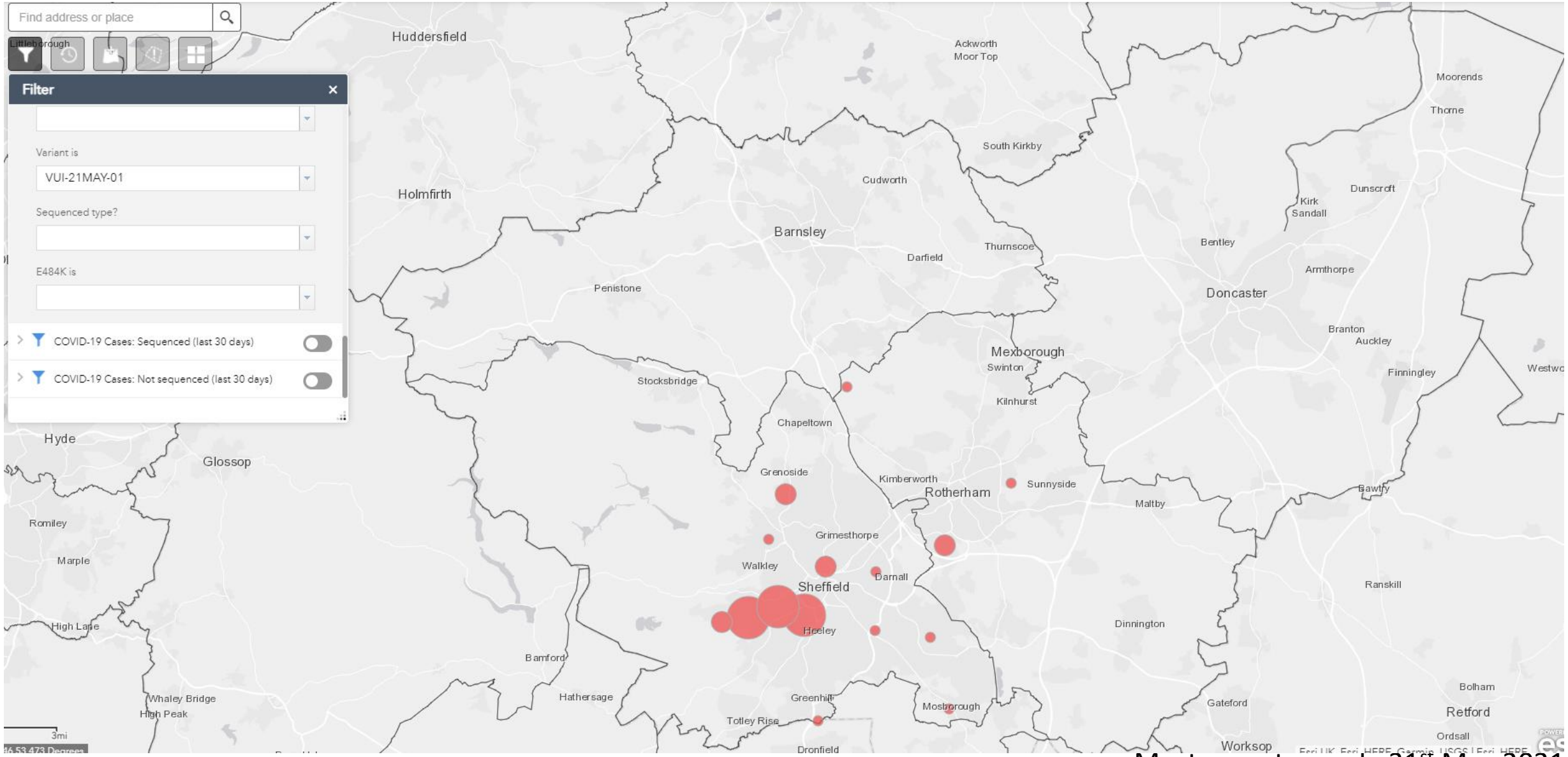
26

All sequencing results with a classification with sample date on or after 15th May 2021

Alpha Delta

Row Labels	Undetermined+E484K	VOC-20DEC-01	VOC-21APR-02	VUI-21MAY-01	Grand Total
Barnsley	3	38	9		50
Doncaster		86	31		117
Rotherham	4	22	17	4	47
Sheffield	49	70	34	25	178
Grand Total	**56**	**216**	**91**	**29**	**392**

VUI-21MAY-01 samples since 15th May



Most recent sample 31st May 2021

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Covid: What do we know about the 'Yorkshire variant'?

Public Health England labels it 'under investigation'

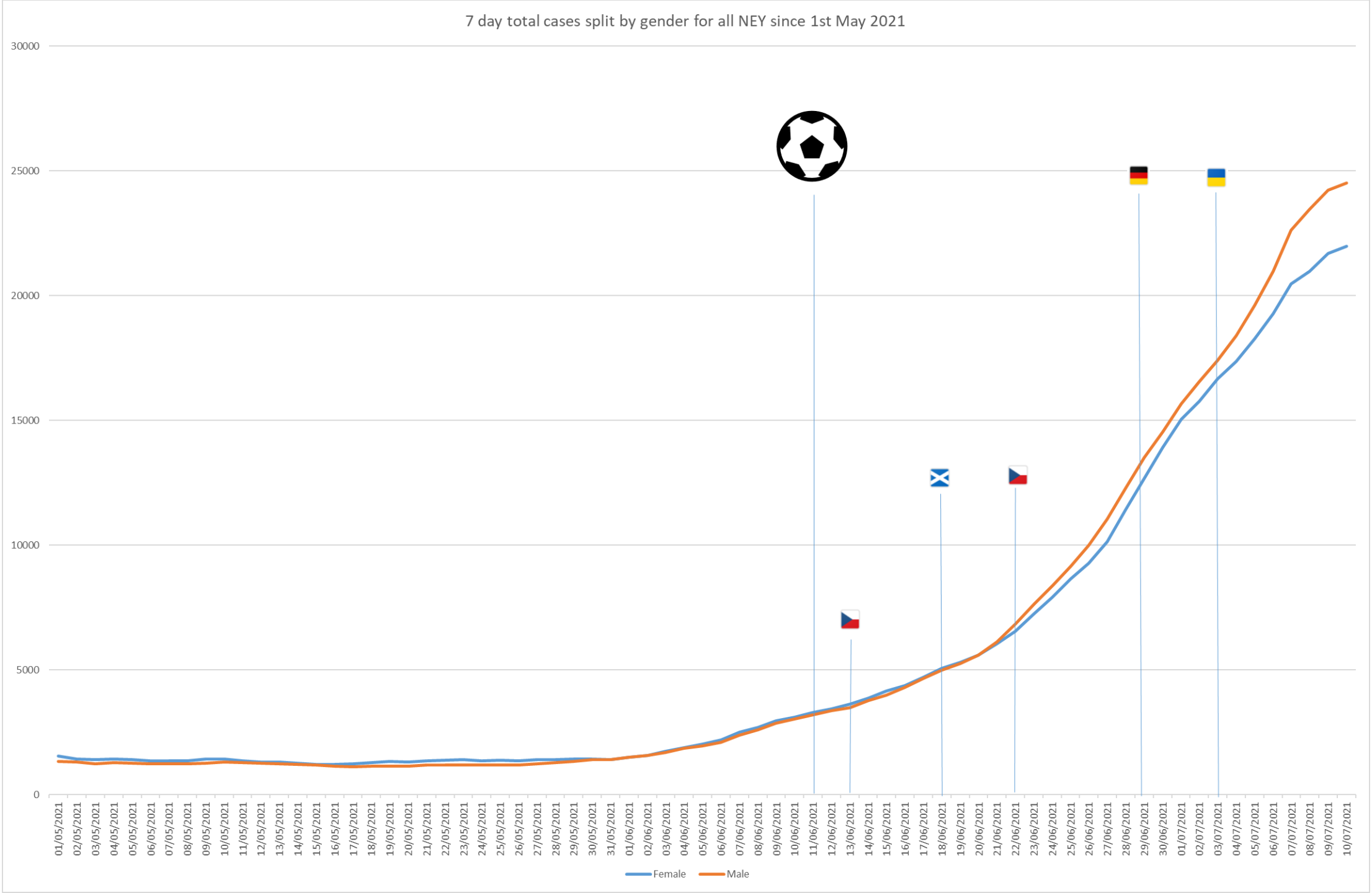
Andy Gregory • Saturday 22 May 2021 11:17 • 10 Comments

Scientists have been watching and sequencing the variant since the "strange combination of mutations" were first discovered several weeks ago, said Dr Kev Smith, from PHE.

"So far the people that we have identified are not particularly infectious, they're not really getting more sick than other cases of coronavirus and we're not seeing anything particularly worrying about it," he said.

Sheffield's director of public health, Greg Fell, said his team had been monitoring the variant "as we do with all outbreaks across the city", and had been working with PHE and Test and Trace officials.

"Where cases have been identified, additional follow-up of cases, testing of contacts and targeted case-finding will be used to limit the spread of variants," Mr Fell said in a statement.


7 day total cases split by gender for all NEY since 1st May 2021
30000
25000
20000
15000
10000
5000
0
01/05/2021
02/05/2021
03/05/2021
04/05/2021
05/05/2021
06/05/2021
07/05/2021
08/05/2021
09/05/2021
10/05/2021
11/05/2021
12/05/2021
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31/05/2021
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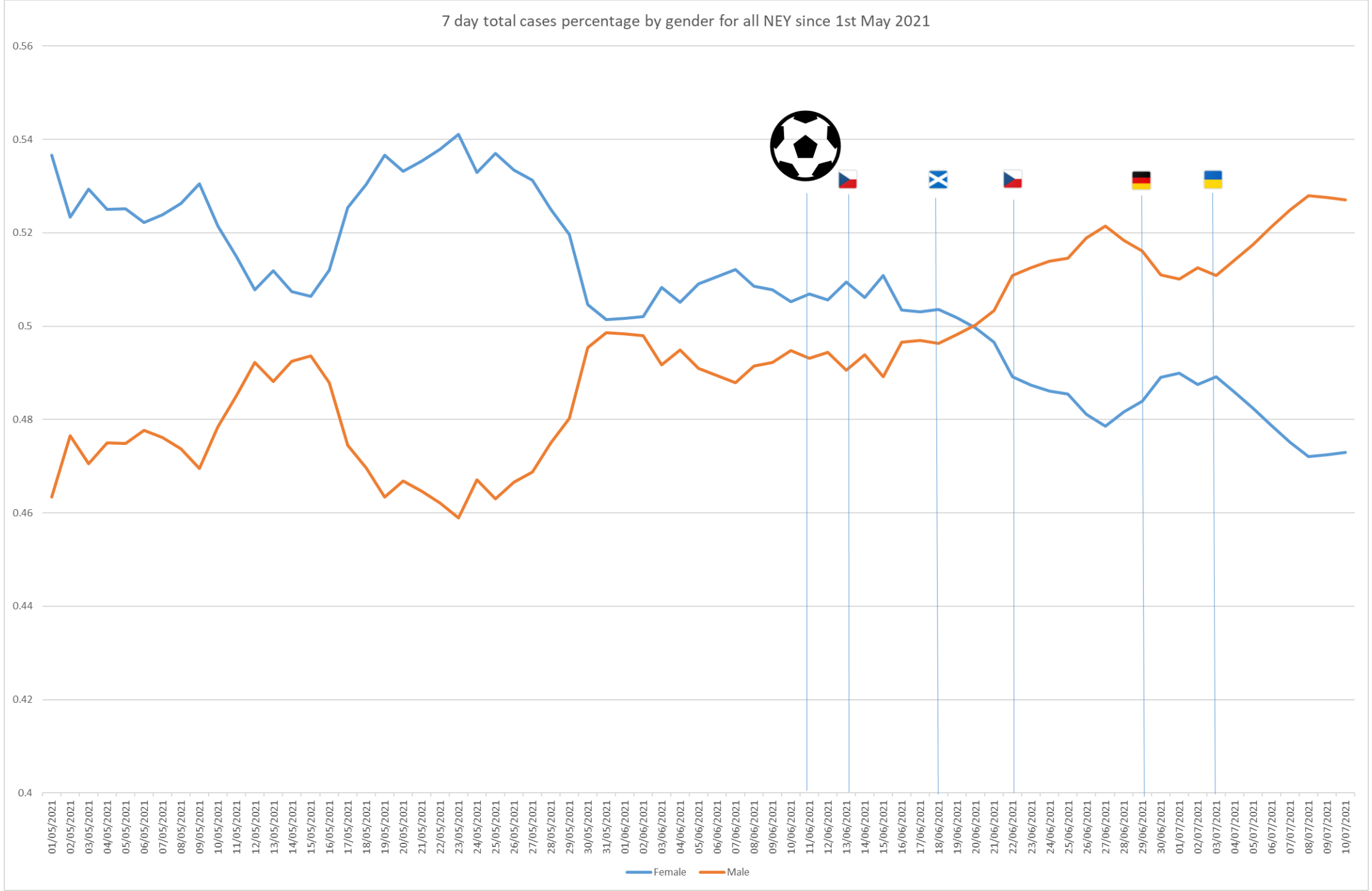
24/06/2021
25/06/2021
26/06/2021
27/06/2021
28/06/2021
29/06/2021
30/06/2021
01/07/2021
02/07/2021
03/07/2021
04/07/2021
05/07/2021
06/07/2021
07/07/2021
08/07/2021
09/07/2021
10/07/2021
Female
Male


7 day total cases percentage by gender for all NEY since 1st May 2021
0.56
0.54
0.52
0.5
0.48
0.46
0.44
0.42
0.4
01/05/2021
02/05/2021
03/05/2021
04/05/2021
05/05/2021
06/05/2021
07/05/2021
08/05/2021
09/05/2021
10/05/2021
11/05/2021
12/05/2021
13/05/2021
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31/05/2021
01/06/2021
02/06/2021
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28/06/2021
29/06/2021
30/06/2021
01/07/2021
02/07/2021
03/07/2021
04/07/2021
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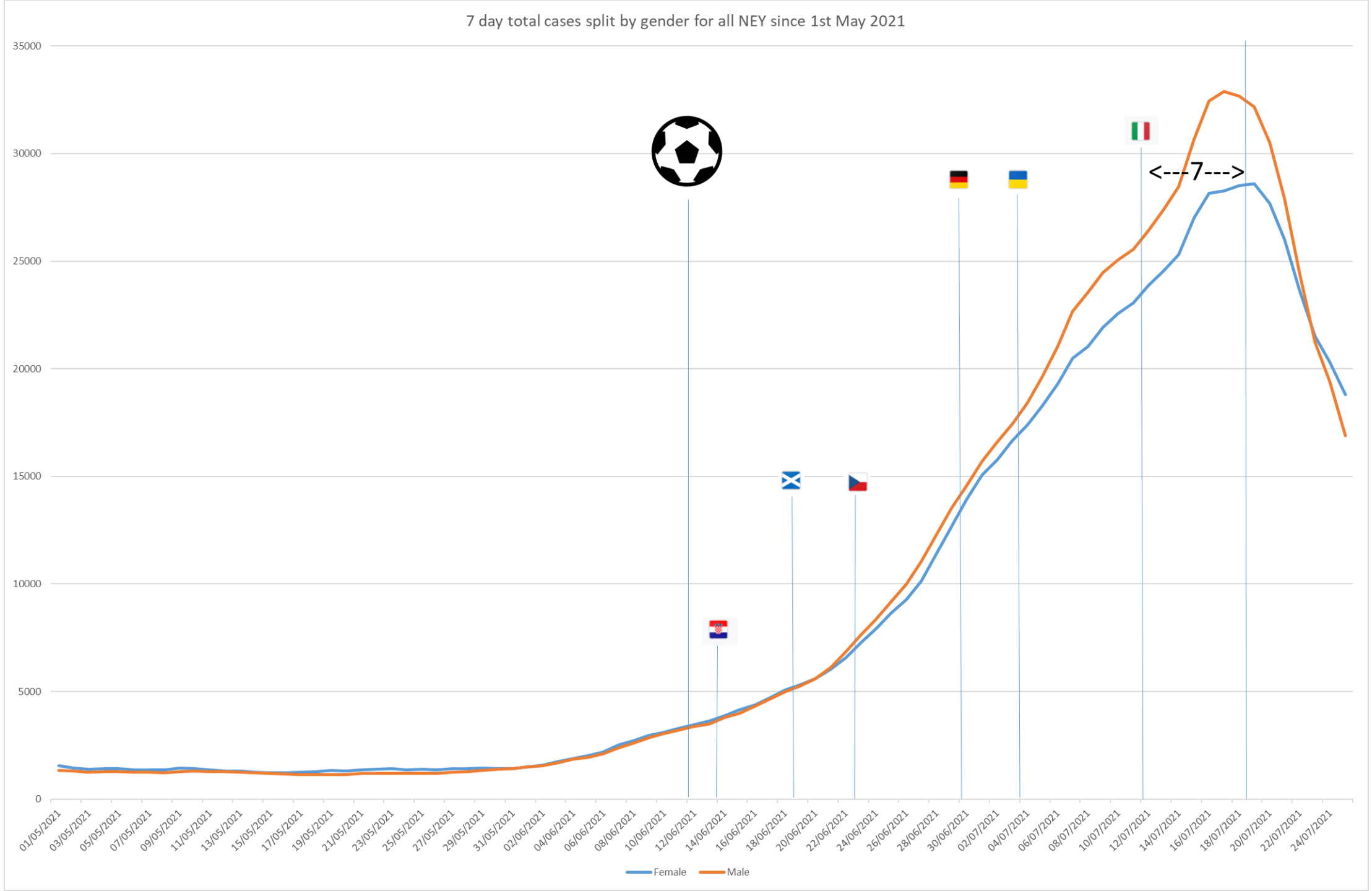
07/07/2021
08/07/2021
09/07/2021
10/07/2021
Female
Male


7 day total cases split by gender for all NEY since 1st May 2021
35000
30000
25000
20000
15000
10000
5000
0
<---7--->
01/05/2021
03/05/2021
05/05/2021
07/05/2021
09/05/2021
11/05/2021
13/05/2021
15/05/2021
17/05/2021
19/05/2021
21/05/2021
23/05/2021
25/05/2021
27/05/2021
29/05/2021
31/05/2021
02/06/2021
04/06/2021
06/06/2021
08/06/2021
10/06/2021
12/06/2021
14/06/2021
16/06/2021
18/06/2021
20/06/2021
22/06/2021
24/06/2021
26/06/2021
28/06/2021
30/06/2021
02/07/2021
04/07/2021
06/07/2021
08/07/2021
10/07/2021
12/07/2021
14/07/2021
16/07/2021
18/07/2021
20/07/2021
22/07/2021
24/07/2021
Female
Male

Variants revisited

- Autumn 2021 rises and falls
- Autumn boosters
- Triggers in the context of vaccines

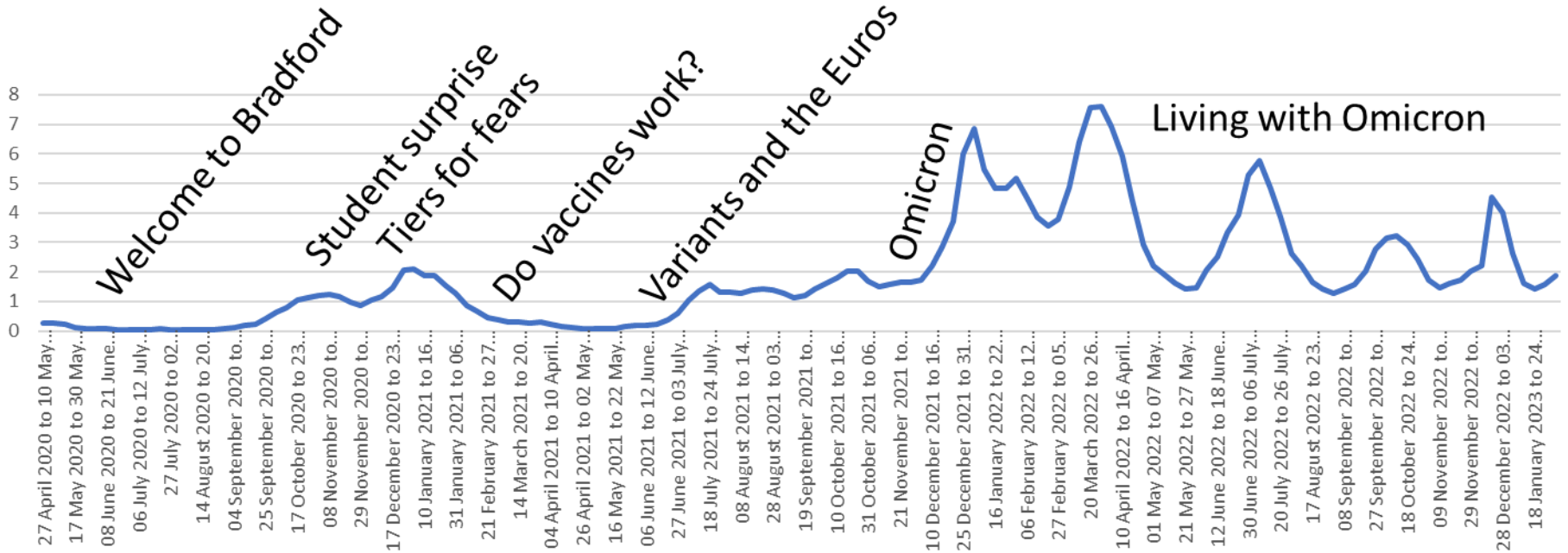
In their final advice, the JCVI recommends that individuals who were eligible and received vaccination in Phase 1 of the COVID-19 vaccination programme (priority groups 1-9) should be offered a third dose COVID-19 booster vaccine with a minimum 6-month interval after the 2nd dose. An mRNA vaccine is recommended (Pfizer-BioNTech or Moderna) irrespective of which vaccine was given as a primary dose.

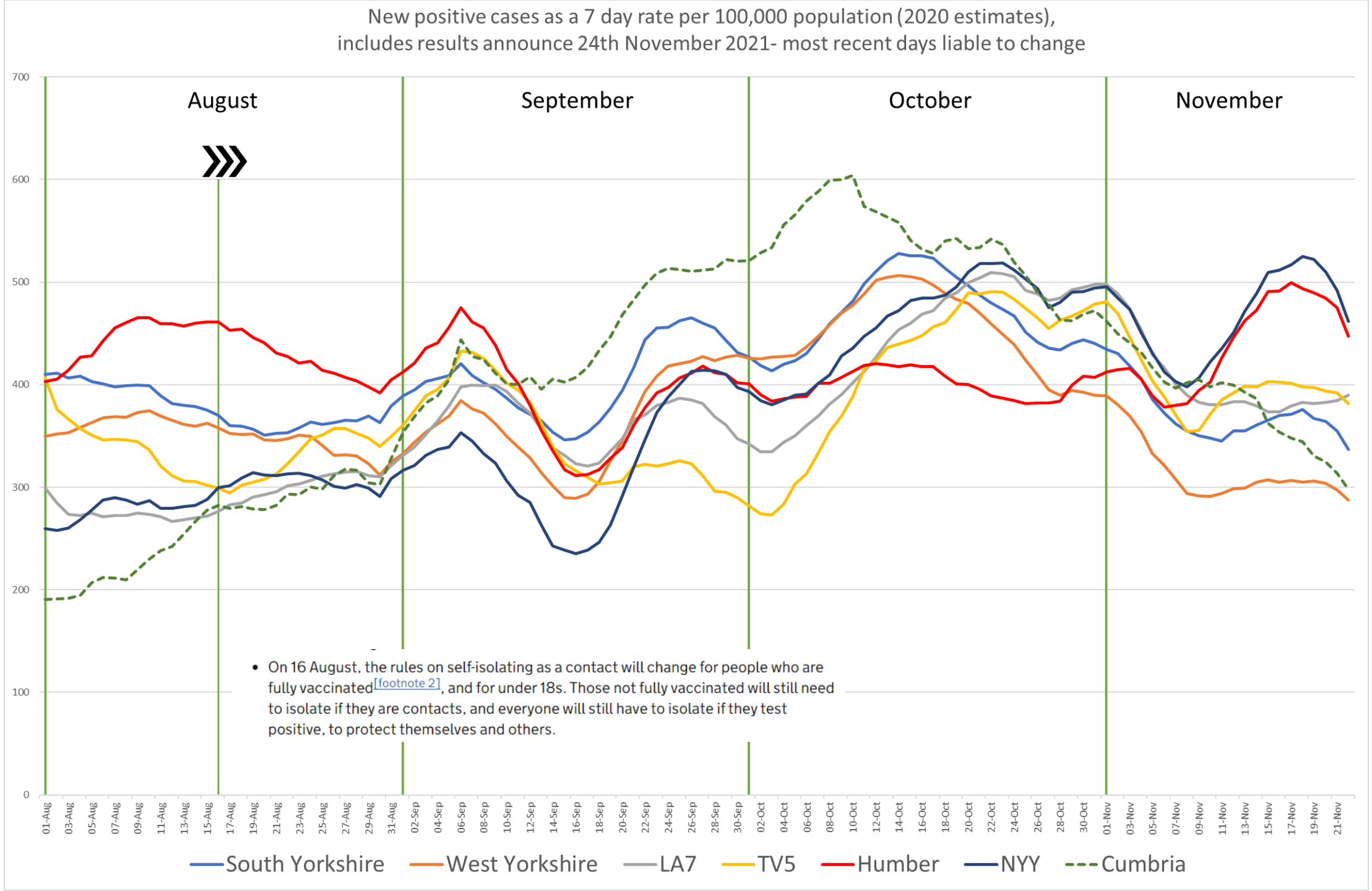
The single priority group lists:

- Those living in residential care homes for older adults
- All adults aged 50 years or over
- Frontline health and social care workers
- All those aged 16 to 49 years with underlying health conditions that put them at higher risk of severe COVID-19 (as set out in the Green Book), and adult carers
- Adult household contacts of immunosuppressed individuals

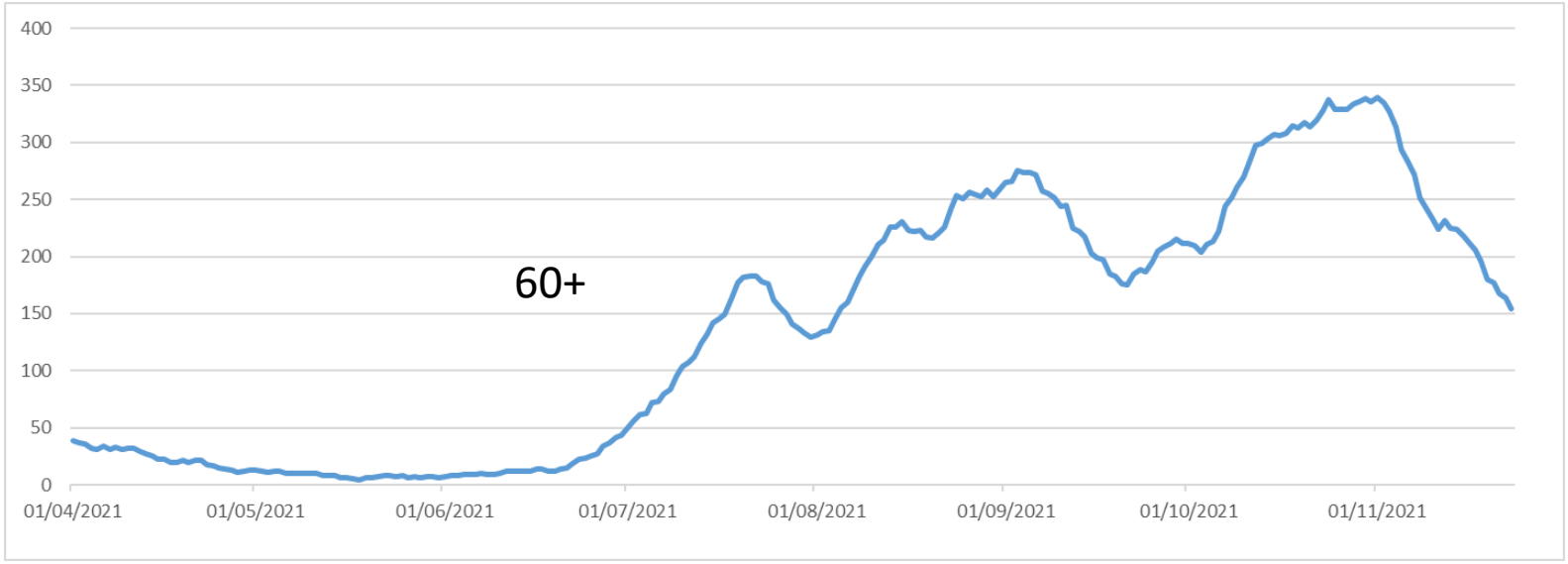
As most younger adults will only receive their second COVID-19 vaccine dose in late summer, the benefits of booster vaccination in this group will be considered at a later time, by the JCVI, when more information is available.

There may be opportunities to offer for the COVID-19 vaccine and flu vaccine to be co-administered, but this is only where timing and logistics allow.



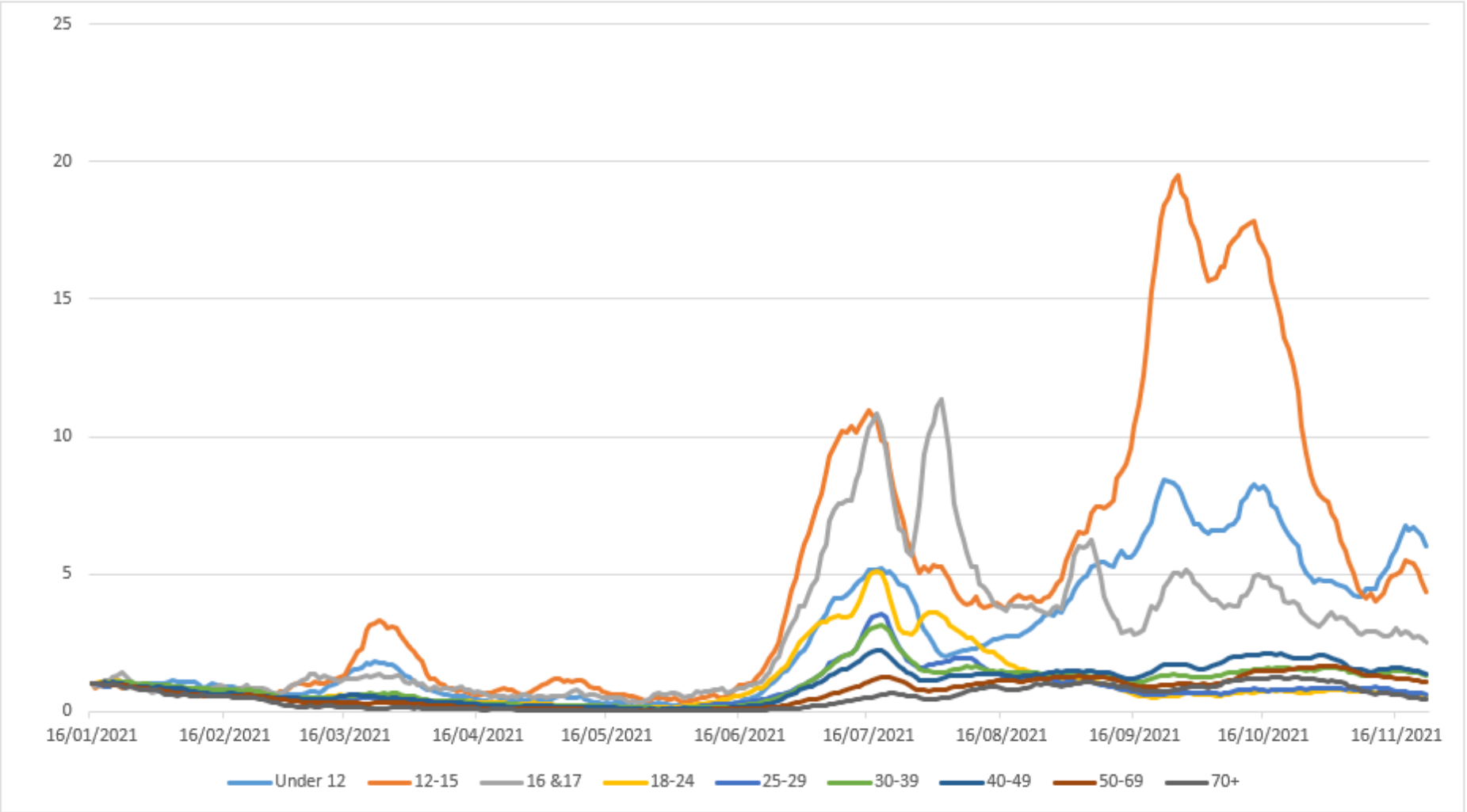

New positive cases as a 7 day rate per 100,000 population (2020 estimates),
includes results announce 24th November 2021- most recent days liable to change
August
September
October
November
700
600
500
400
300
200
100
0
On 16 August, the rules on self-isolating as a contact will change for people who are fully vaccinated[footnote 2], and for under 18s. Those not fully vaccinated will still need to isolate if they are contacts, and everyone will still have to isolate if they test positive, to protect themselves and others.
01-Aug
03-Aug
05-Aug
07-Aug
09-Aug
11-Aug
13-Aug
15-Aug
17-Aug
19-Aug
21-Aug
23-Aug
25-Aug
27-Aug
29-Aug
31-Aug
02-Sep
04-Sep
06-Sep
08-Sep
10-Sep
12-Sep
14-Sep
16-Sep
18-Sep
20-Sep
22-Sep
24-Sep
26-Sep
28-Sep
30-Sep
02-Oct
04-Oct
06-Oct
08-Oct
10-Oct
12-Oct
14-Oct
16-Oct
18-Oct
20-Oct
22-Oct
24-Oct
26-Oct
28-Oct
30-Oct
01-Nov
03-Nov
05-Nov
07-Nov
09-Nov
11-Nov
13-Nov
15-Nov
17-Nov
19-Nov
21-Nov
South Yorkshire
West Yorkshire
LA7
TV5
Humber
NYY
Cumbria

	Concern	Trigger	Current	
New cases in over 60s for 7 days as rate per 100,000	>50	>150	160-207	1
New cases all ages for 7 days as rate per 100,000	>100	>250	317-427	2
Positivity rate as a percentage of all PCR tests	>5%	>7.5%	10.5-12.2	3
Weekly admissions to secondary care with diagnosis	>20	>70	66	4
Number of Covid patients in secondary beds as % all beds	>2%	>5%	7.6%	5



Number of cases by age band as a 7 day average as a proportion of the average for 7 days up to 16th January 2021

South Yorkshire

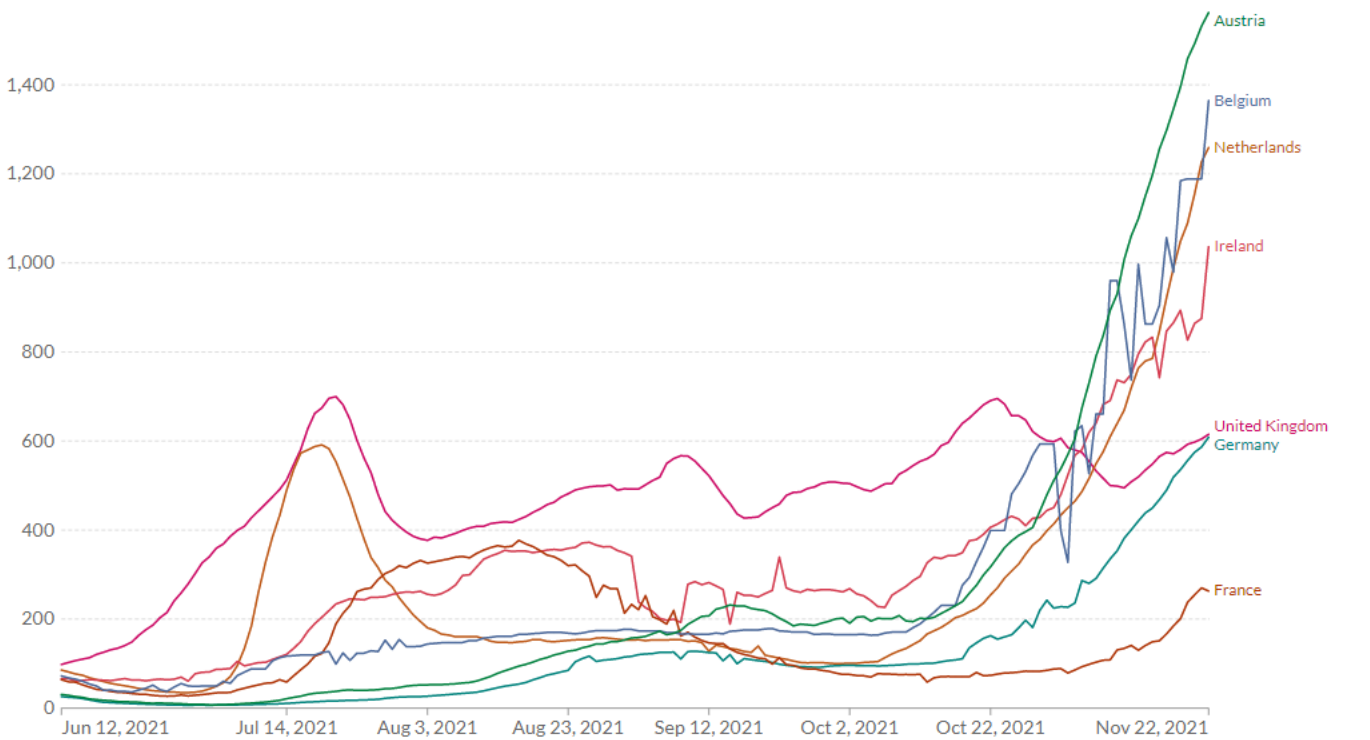


Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

Our World in Data

LINEAR LOG



Source: Johns Hopkins University CSSE COVID-19 Data

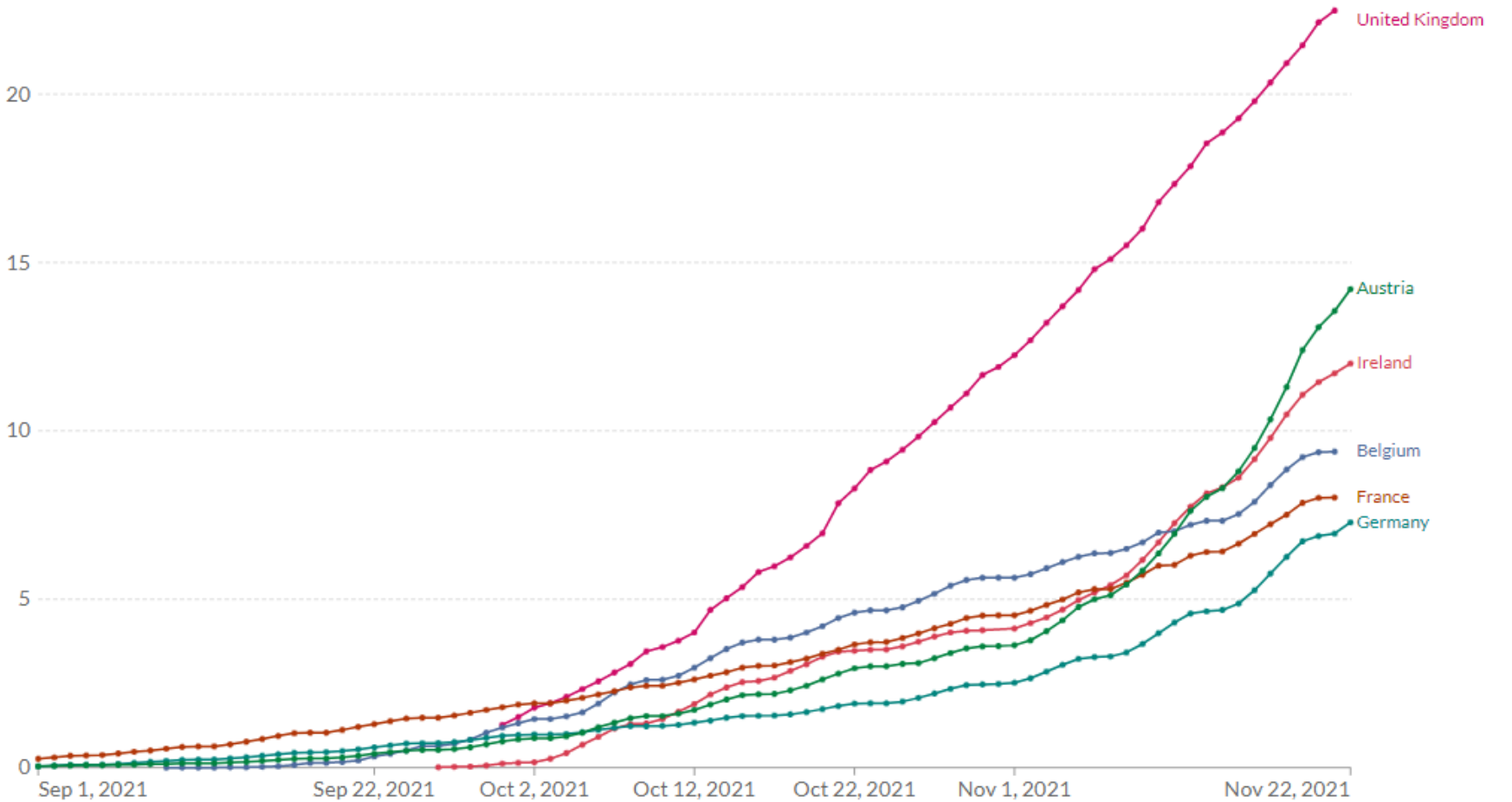
CC BY

COVID-19 vaccine booster doses administered per 100 people

Total number of vaccine booster doses administered, divided by the total population of the country. Booster doses are doses administered beyond those prescribed by the original vaccination protocol.

Our World in Data

LINEAR LOG



Source: Official data collated by Our World in Data.

CC BY

New Names for Covid-19 Variants

WHO began developing a new system of classification for the Coronavirus versions. The organization was deliberating on naming them based on Greek mythology Gods and Goddesses. Finally, they settled on Green alphabetical names. The following are the new names of Variants for each version.

Scientific Name	Origin	New Name
B.1.1.7	Kent	Alpha
B.1.351	South Africa	Beta
P.1	Brazil	Gamma
B.1.617.2	India	Delta
B.1.427, B.1.429	US	Epsilon
P.2	Brazil	Zeta
B.1.525	–	Eta
P.3	Philippines	Theta
B.1.526	US	Iota
B.1.617.1	India	Kappa

News > Health

Lambda variant: Details of new Covid mutation identified by WHO

Health body warns mutation has 'potential increased transmissibility or possible increased resistance to neutralising antibodies'

Joanna Taylor • Tuesday 06 July 2021 17:31 • Comments

WHO monitoring new coronavirus variant named Mu

Health body says Mu, or B.1.621, first identified in Colombia, has been designated as a variant of interest

Nu B.1.1.529 Variant: WHO Greek Alphabet COVID Naming System Explained

BY ROBERT LEA ON 11/26/21 AT 5:01 AM EST

The B.1.1.529 variant is already being called "Nu" in some quarters, but it remains to be seen if this will become its official name. *Nature* said Nu was the likely choice as it is the next available letter in the Greek alphabet.

Α	Β	Γ	Δ	Ε	Ζ
Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Η	Θ	Ι	Κ	Λ	Μ
Eta	Theta	Iota	Kappa	Lambda	Mu
Ν	Ξ	Ο	Π	Ρ	Σ
Nu	Xi	Omicron	Pi	Rho	Sigma
Τ	Υ	Φ	Χ	Ψ	Ω
Tau	Upsilon	Phi	Chi	Psi	Omega

N

B.1.1.529

Α	Β	Γ	Δ	Ε	Ζ
Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Η	Θ	Ι	Κ	Λ	Μ
Eta	Theta	Iota	Kappa	Lambda	Mu
Ν	Ξ	Ο	Π	Ρ	Σ
Nu	Xi	Omicron	Pi	Rho	Sigma
Τ	Υ	Φ	Χ	Ψ	Ω
Tau	Upsilon	Phi	Chi	Psi	Omega

O

Omicron

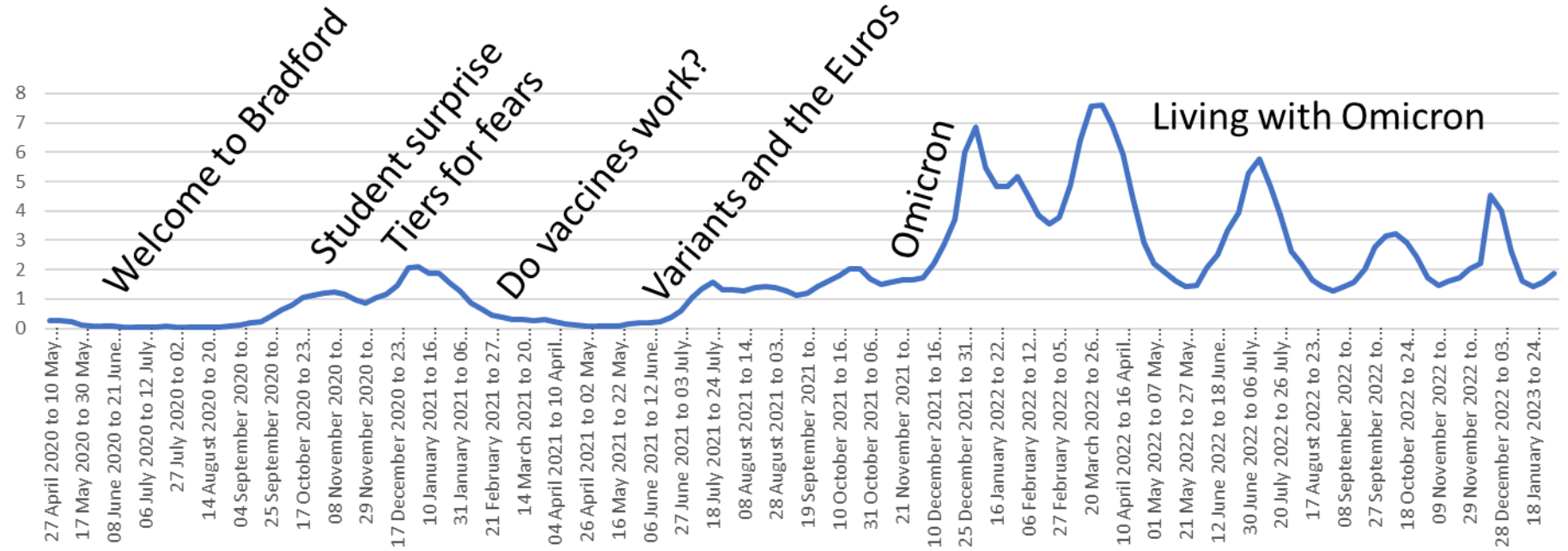
B.1.1.529

"Nu is too easily confounded with 'new' and Xi was not used because it is a common surname," the organization explained in an emailed statement to CNN.

"And WHO best practices for naming new diseases suggest 'avoiding causing offense to any cultural, social, national, regional, professional or ethnic groups.' "

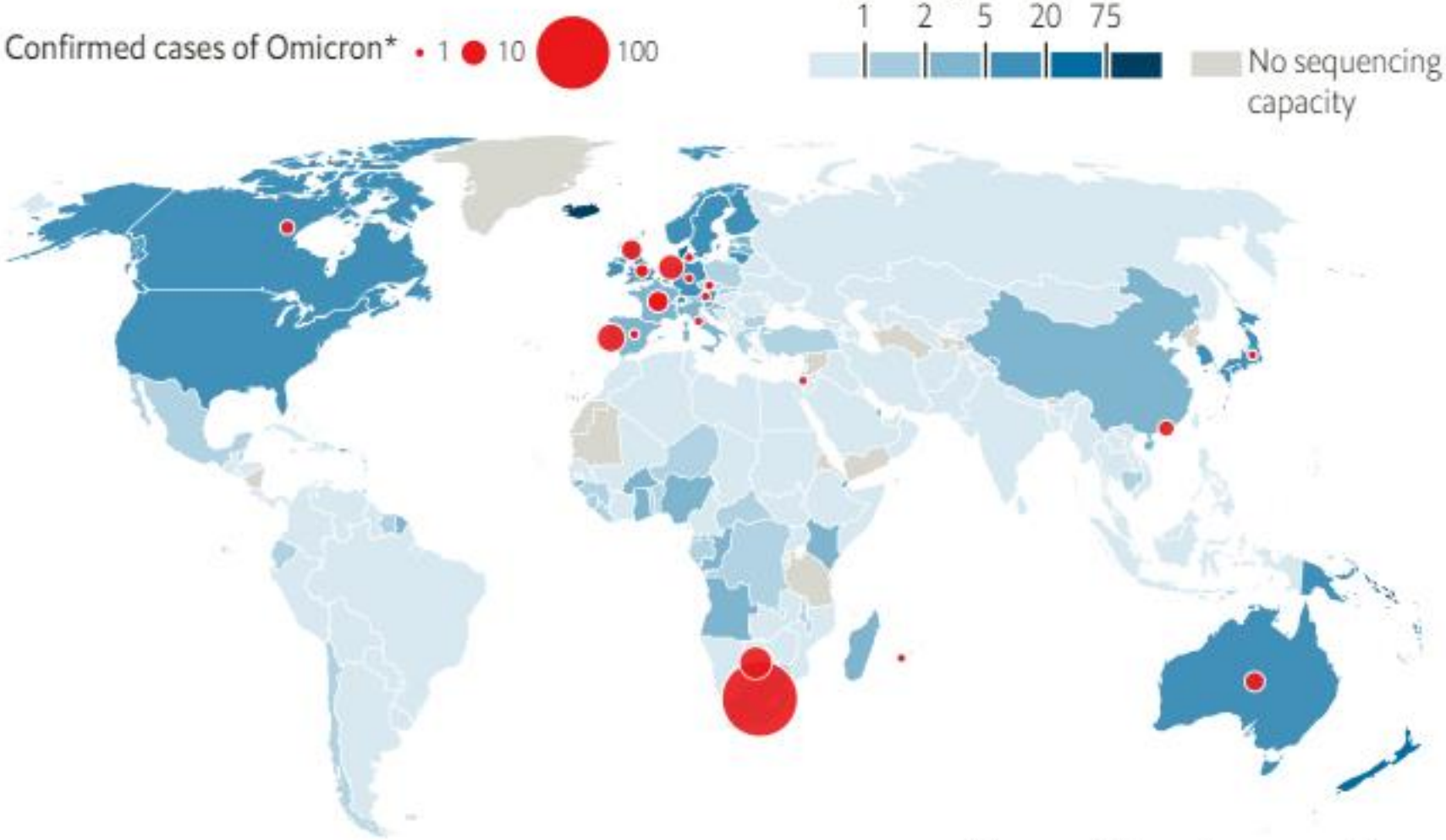
Omicron

What was Plan B?



Seek and you shall find

SARS-CoV-2, November 30th 2021



Sources: GISAID; JHU CSSE; press reports; *The Economist*

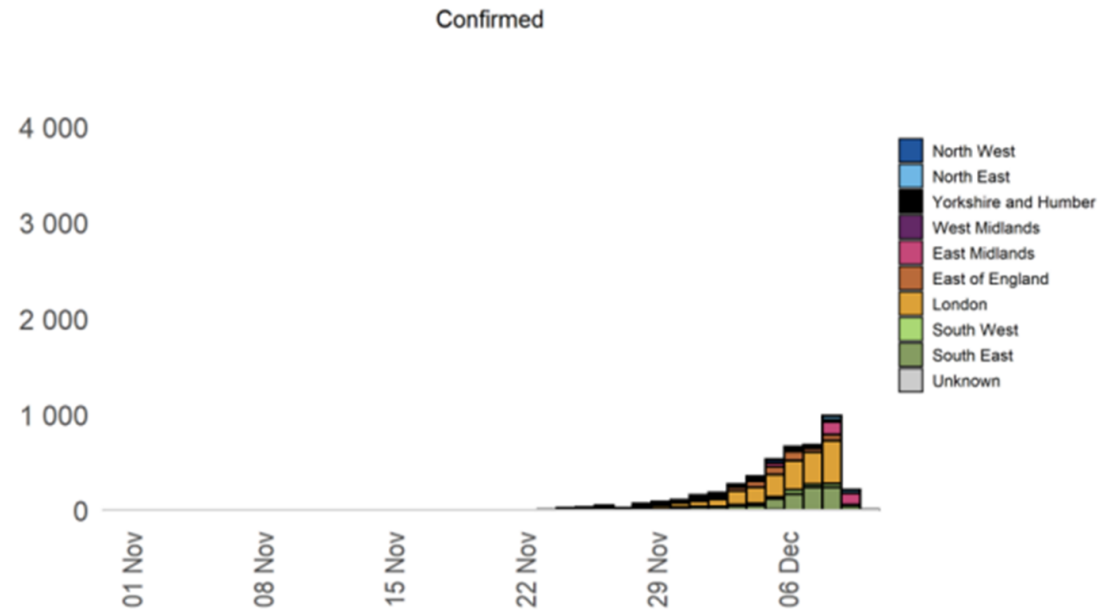
*France and Denmark are suspected cases

†Some countries sequence a high % of positive samples but test few, lowering probability of detection

The JCVI has recommended an acceleration to the vaccination programme through a number of ways outlined below:

- all adults over 18 are now eligible for a booster, though priority should still be given to older adults and those at risk
- booster doses should be offered at a reduced minimum of three months after completion of the primary course
- individuals who are severely immunosuppressed who have completed their primary course of three doses should be offered a booster dose, with a minimum of three months between the third primary and booster dose, in line with clinical advice on optimal timing
- both the Moderna and Pfizer-BioNTech vaccines should be used with equal preference in the COVID-19 booster programme. Both vaccines have been shown to substantially increase antibody levels when offered as a booster dose.

In addition, JCVI advises, as a secondary measure, that subject to appropriate consideration by deployment teams regarding feasibility, all children and young people aged 12 to 15 years should be offered a second dose of the Pfizer-BioNTech COVID-19 vaccine at a minimum of 12 weeks from the first dose. The interval for this group (and 16-17s) may be reduced to at least 8 weeks between doses if supported by the emerging epidemiological data.



Press release

Prime Minister confirms move to Plan B in England

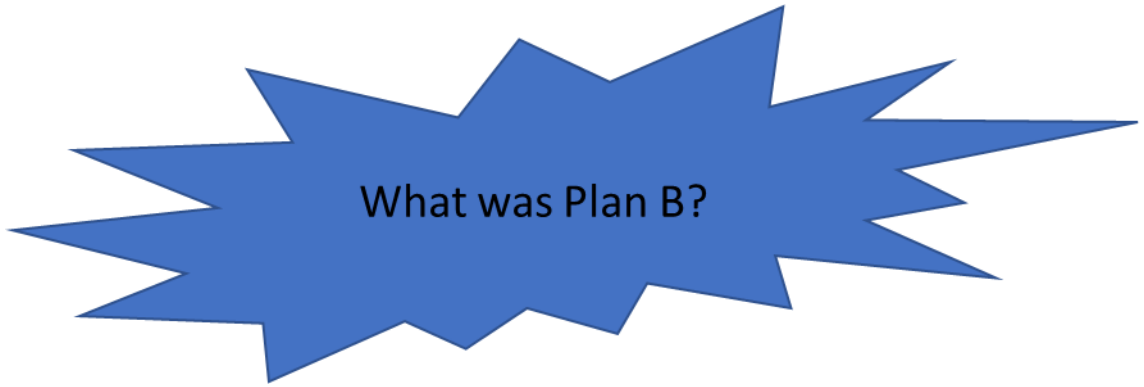
Prime Minister Boris Johnson has announced a move to Plan B in England.

From: Prime Minister's Office, 10 Downing Street and The Rt Hon Boris Johnson MP
Published 8 December 2021

- Move to Plan B confirmed as Omicron spreads across UK, with early analysis suggesting cases could be doubling at a rate of as little as 2.5 to 3 days
- Face masks to become compulsory in most public indoor venues, other than hospitality
- NHS Covid Pass to be mandatory in specific settings, using a negative test or full vaccination via the NHS Covid Pass
- Vaccines and testing remain our best lines of defence
- People asked to work from home if they can

The Prime Minister has today [Wednesday 8 December] confirmed that England will move to Plan B following the rapid spread of the Omicron variant in the UK.

Urgent work has been ongoing to understand the impact of the new variant with regards to vaccines, treatments and transmissibility. Early indications showed a large number of concerning spike protein mutations as well as mutations in other parts of the viral genome.



From Friday 10 December, face coverings will become compulsory in most public indoor venues, such as cinemas, theatres and places of worship. There will be exemptions in venues where it is not practical to wear one, such as when you are eating, drinking or exercising. For that reason, face masks will not be required in hospitality settings.

From Monday 13 December, those who can will be advised to work from home.

From Wednesday 15 December, and subject to parliamentary approval, the NHS Covid Pass on the NHS App will become mandatory for entry into nightclubs and settings where large crowds gather – including unseated indoor events with 500 or more attendees, unseated outdoor events with 4,000 or more attendees and any event with 10,000 or more attendees.

People will be able to demonstrate proof of two vaccine doses via the app. Having considered the evidence since the emergence of Omicron, proof of a negative lateral flow test will also be accepted.

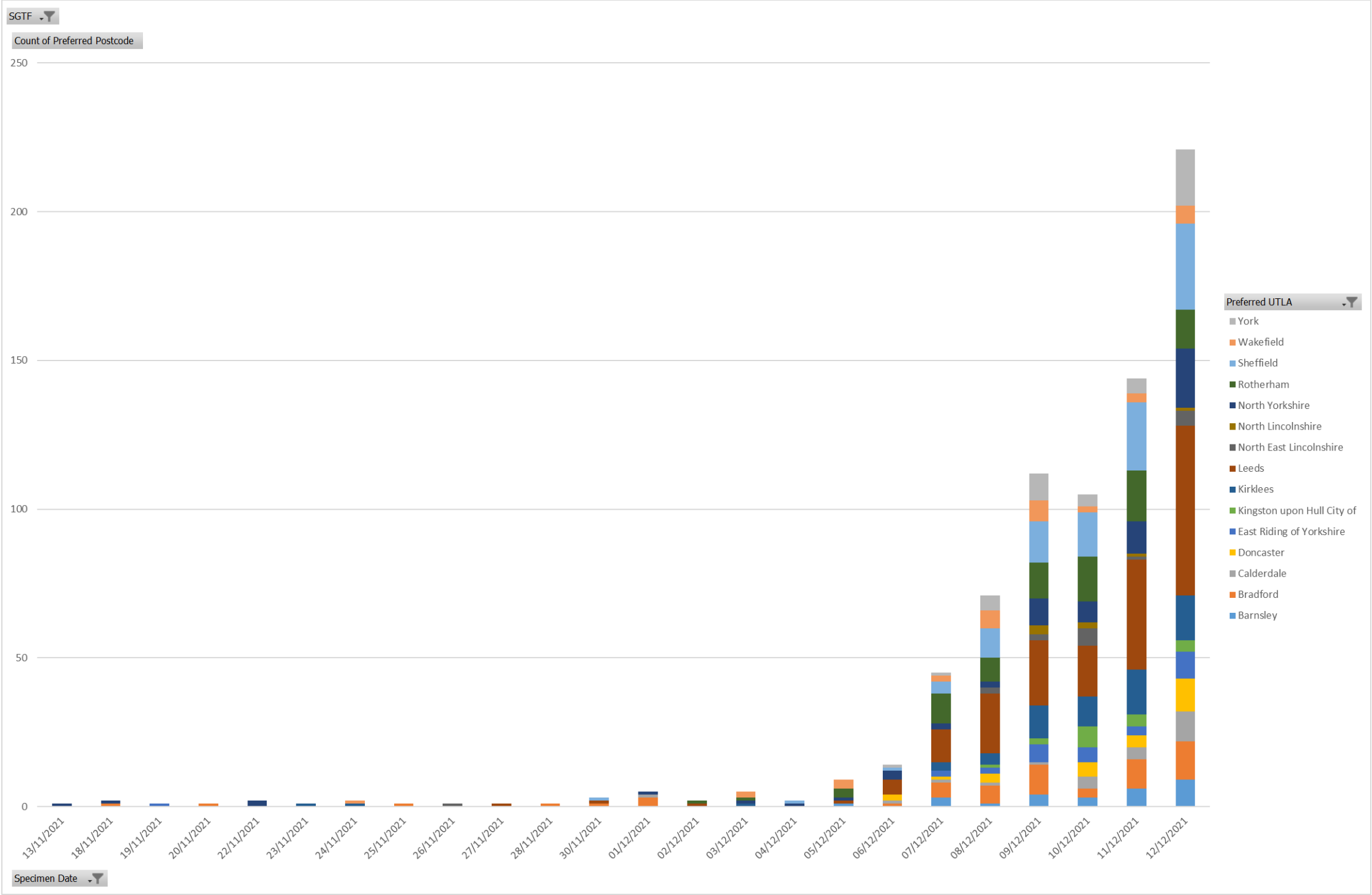
Introducing Covid-status certification from next Wednesday will give businesses a week's notice, as promised in the government's proposals for introducing mandatory certification published in September.

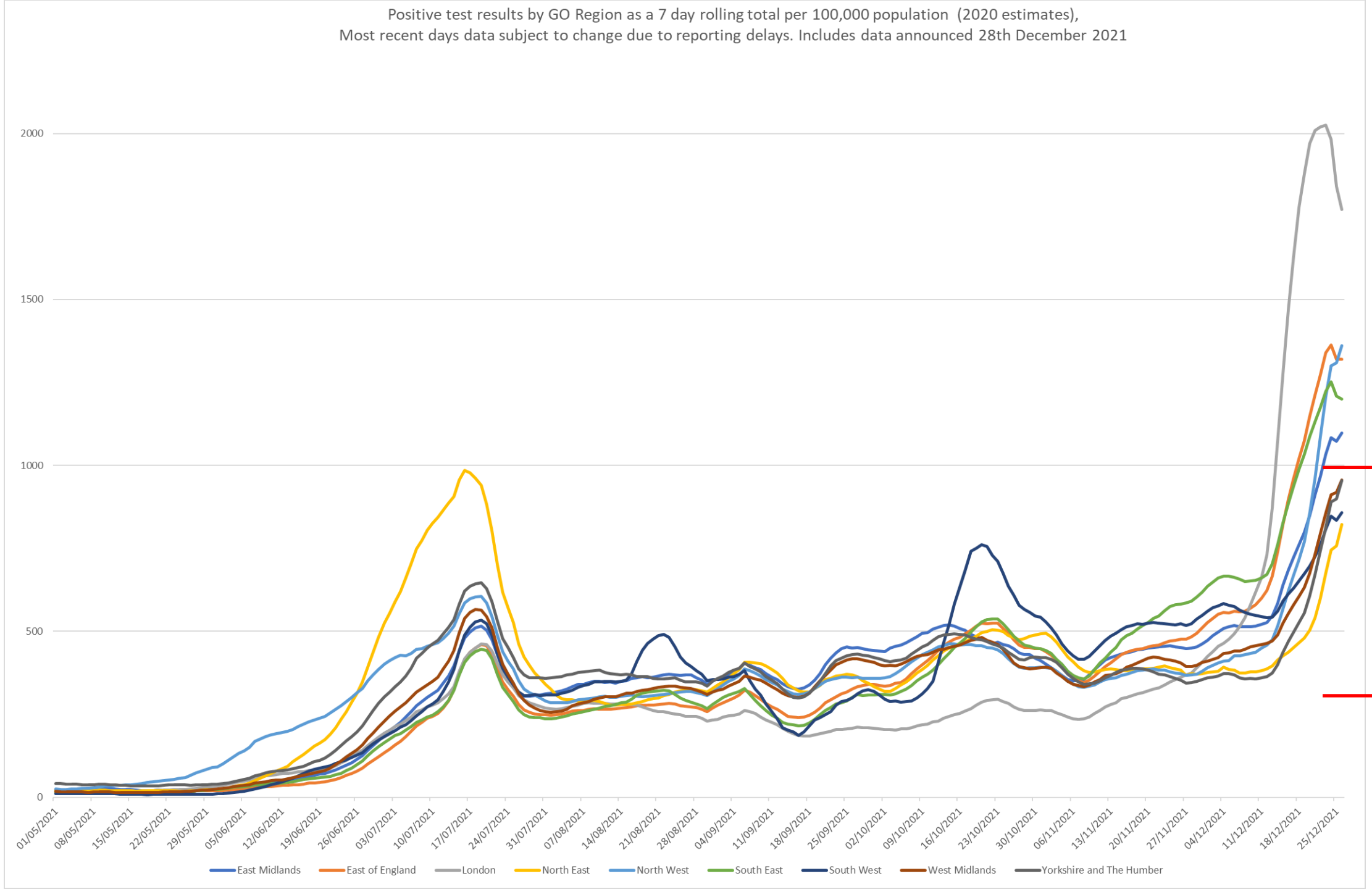
Number COVID19 cases with S gene +ve/SGTF and percentage SGTF by day, among those tested in TaqPath Labs

(95% confidence intervals indicated by gray shading). Data updated on 2021-12-12

A detectable S gene is a proxy for Delta since April 2021. SGTF was a surveillance proxy for VOC-20DEC-01 however has largely consisted of Delta since August 2021.
Local trends in these data may be affected by decisions to direct the processing of samples via a TaqPath laboratory.
Only tests carried out with the TaqPath PCR assay and with confirmed SGTF or S gene results included, from Newcastle, Alderley Park, Milton Keynes and Glasgow Lighthouse Labs.
SGTF refers to non-detectable S gene and <=30 CT values for N and ORF1ab genes. Detectable S-gene refers to <=30 CT values for S, N, and ORF1ab genes.
Produced by Outbreak Surveillance Team, UKHSA.

[20211213_OS_Daily_Omicron_Overview.pdf (publishing.service.gov.uk)]


SGTF
Count of Preferred Postcode
250
200
150
100
50
0
13/11/2021
18/11/2021
19/11/2021
20/11/2021
22/11/2021
23/11/2021
24/11/2021
25/11/2021
26/11/2021
27/11/2021
28/11/2021
30/11/2021
01/12/2021
02/12/2021
03/12/2021
04/12/2021
05/12/2021
06/12/2021
07/12/2021
08/12/2021
09/12/2021
10/12/2021
11/12/2021
12/12/2021
Specimen Date
Preferred UTLA
York
Wakefield
Sheffield
Rotherham
North Yorkshire
North Lincolnshire
North East Lincolnshire
Leeds
Kirklees
Kingston upon Hull City of
East Riding of Yorkshire
Doncaster
Calderdale
Bradford
Barnsley


Positive test results by GO Region as a 7 day rolling total per 100,000 population (2020 estimates),
Most recent days data subject to change due to reporting delays. Includes data announced 28th December 2021
2000
1500
1000
500
0
01/05/2021
08/05/2021
15/05/2021
22/05/2021
29/05/2021
05/06/2021
12/06/2021
19/06/2021
26/06/2021
03/07/2021
10/07/2021
17/07/2021
24/07/2021
31/07/2021
07/08/2021
14/08/2021
21/08/2021
28/08/2021
04/09/2021
11/09/2021
18/09/2021
25/09/2021
02/10/2021
09/10/2021
16/10/2021
23/10/2021
30/10/2021
06/11/2021
13/11/2021
20/11/2021
27/11/2021
04/12/2021
11/12/2021
18/12/2021
25/12/2021
East Midlands
East of England
London
North East
North West
South East
South West
West Midlands
Yorkshire and The Humber

London Region

Wembley Stadium
90,000

November

1 24

December

21 22 23 24

NEY Region

December

20 21 22 23 24

St James Park
52,404

December

22 23 24

Riverside Stadium
34,742

YH only

22

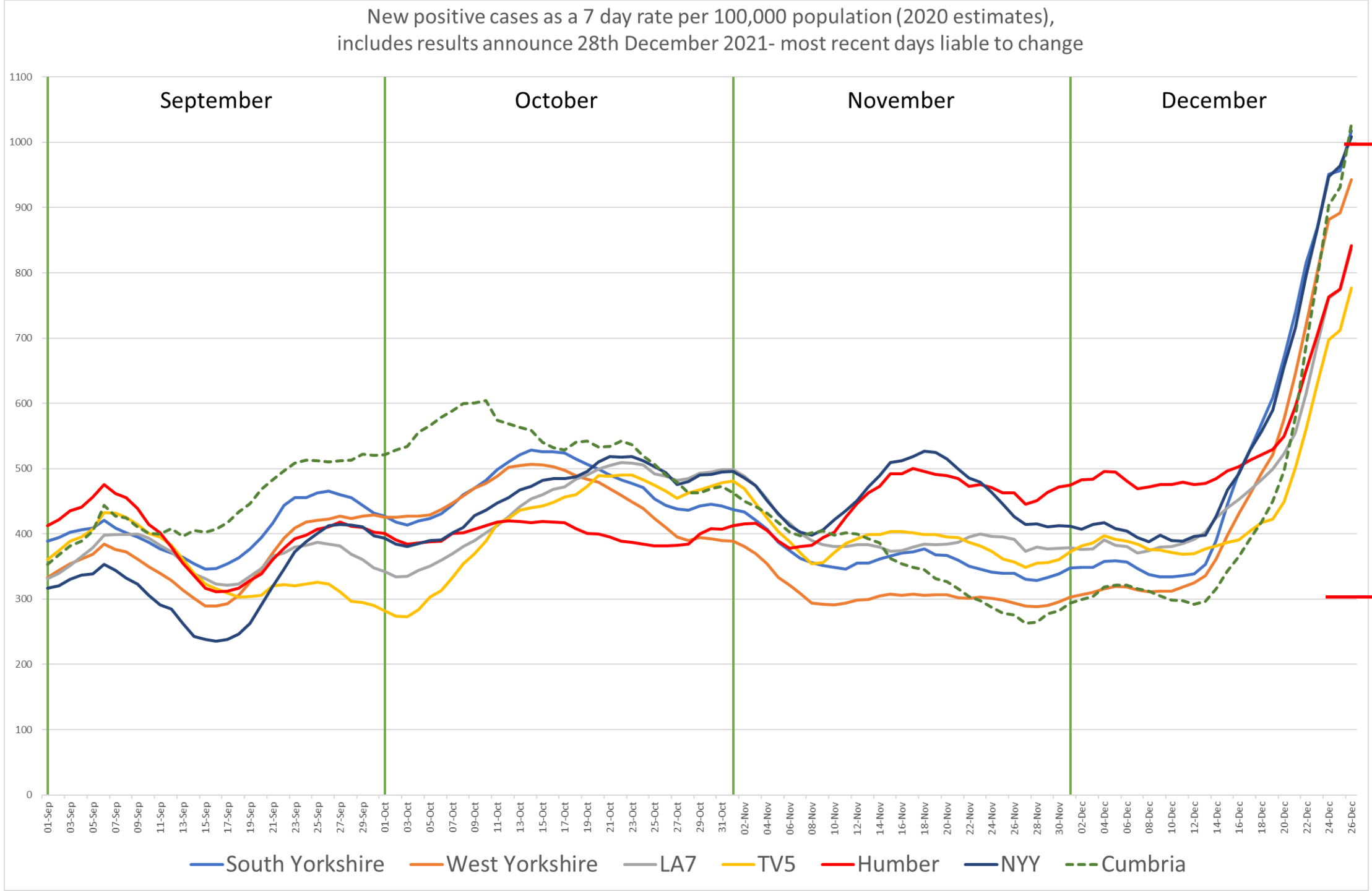
Glanford Park
9.088

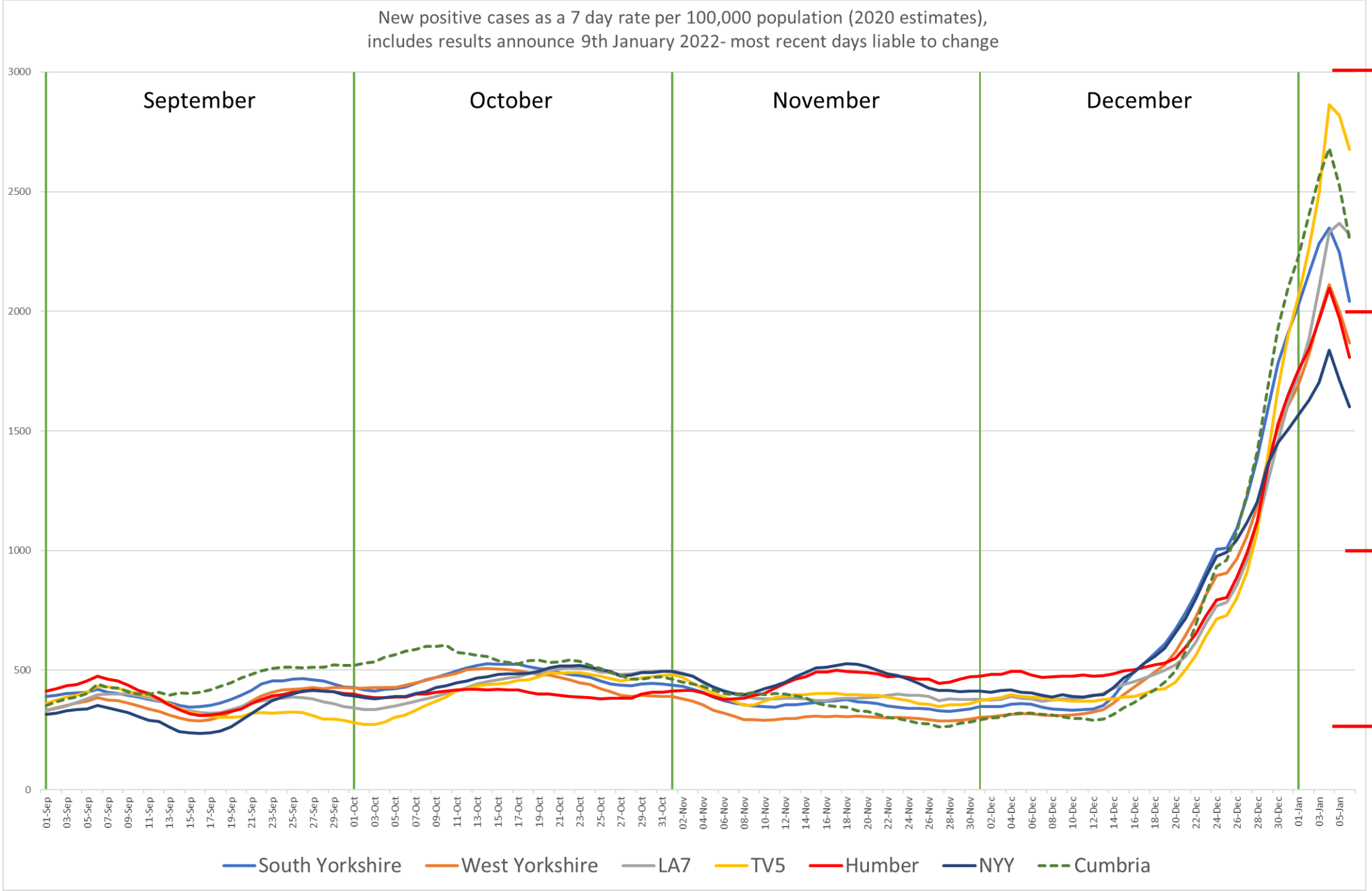
23

Glanford Park
9.088

24

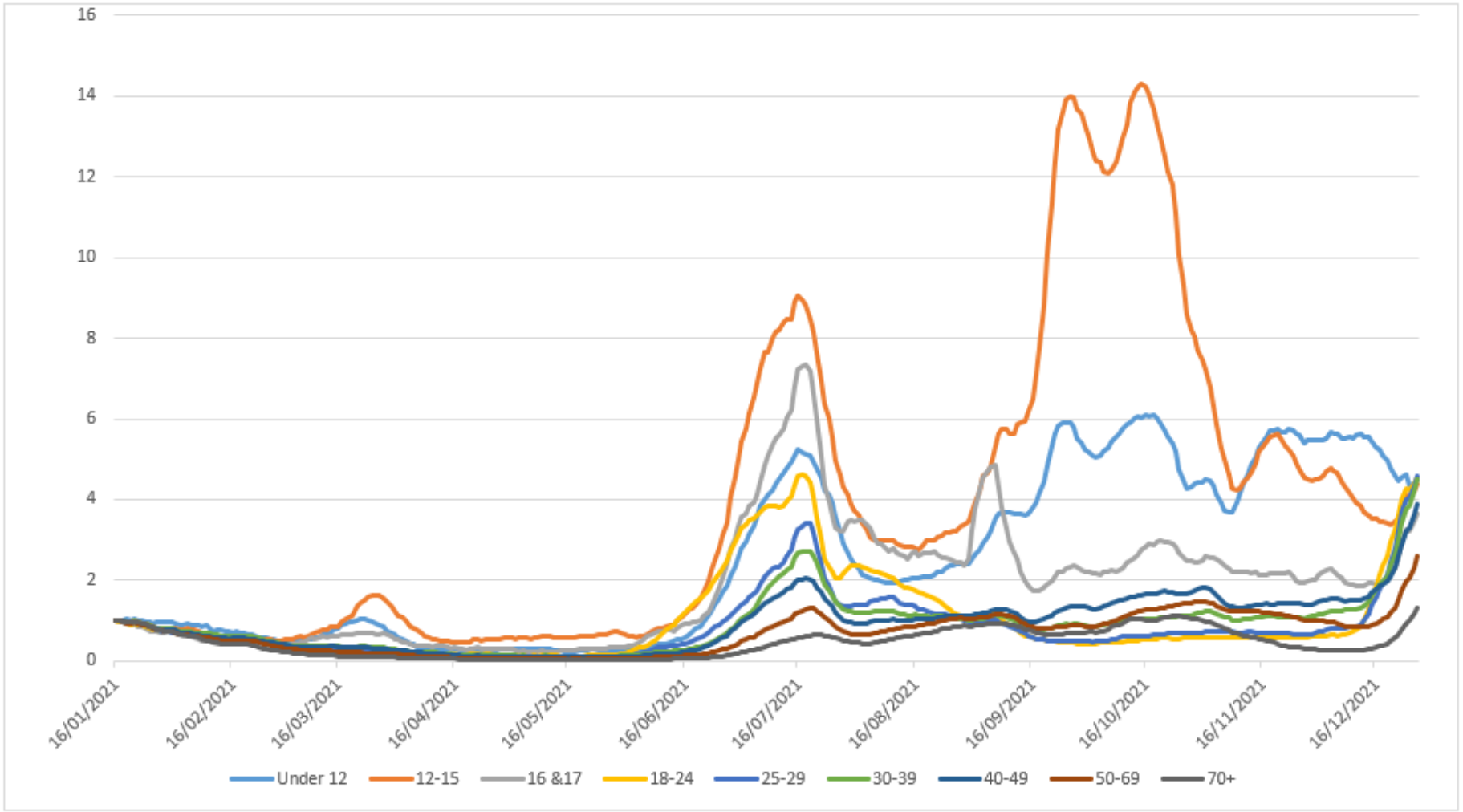
Glanford Park
9,088


New positive cases as a 7 day rate per 100,000 population (2020 estimates),
includes results announce 28th December 2021- most recent days liable to change
September
October
November
December
1100
1000
900
800
700
600
500
400
300
200
100
0
01-Sep
03-Sep
05-Sep
07-Sep
09-Sep
11-Sep
13-Sep
15-Sep
17-Sep
19-Sep
21-Sep
23-Sep
25-Sep
27-Sep
29-Sep
01-Oct
03-Oct
05-Oct
07-Oct
09-Oct
11-Oct
13-Oct
15-Oct
17-Oct
19-Oct
21-Oct
23-Oct
25-Oct
27-Oct
29-Oct
31-Oct
02-Nov
04-Nov
06-Nov
08-Nov
10-Nov
12-Nov
14-Nov
16-Nov
18-Nov
20-Nov
22-Nov
24-Nov
26-Nov
28-Nov
30-Nov
02-Dec
04-Dec
06-Dec
08-Dec
10-Dec
12-Dec
14-Dec
16-Dec
18-Dec
20-Dec
22-Dec
24-Dec
26-Dec
South Yorkshire
West Yorkshire
LA7
TV5
Humber
NYY
Cumbria


New positive cases as a 7 day rate per 100,000 population (2020 estimates),
includes results announce 9th January 2022- most recent days liable to change
September
October
November
December
3000
2500
2000
1500
1000
500
0
South Yorkshire
West Yorkshire
LA7
TV5
Humber
NYY
Cumbria

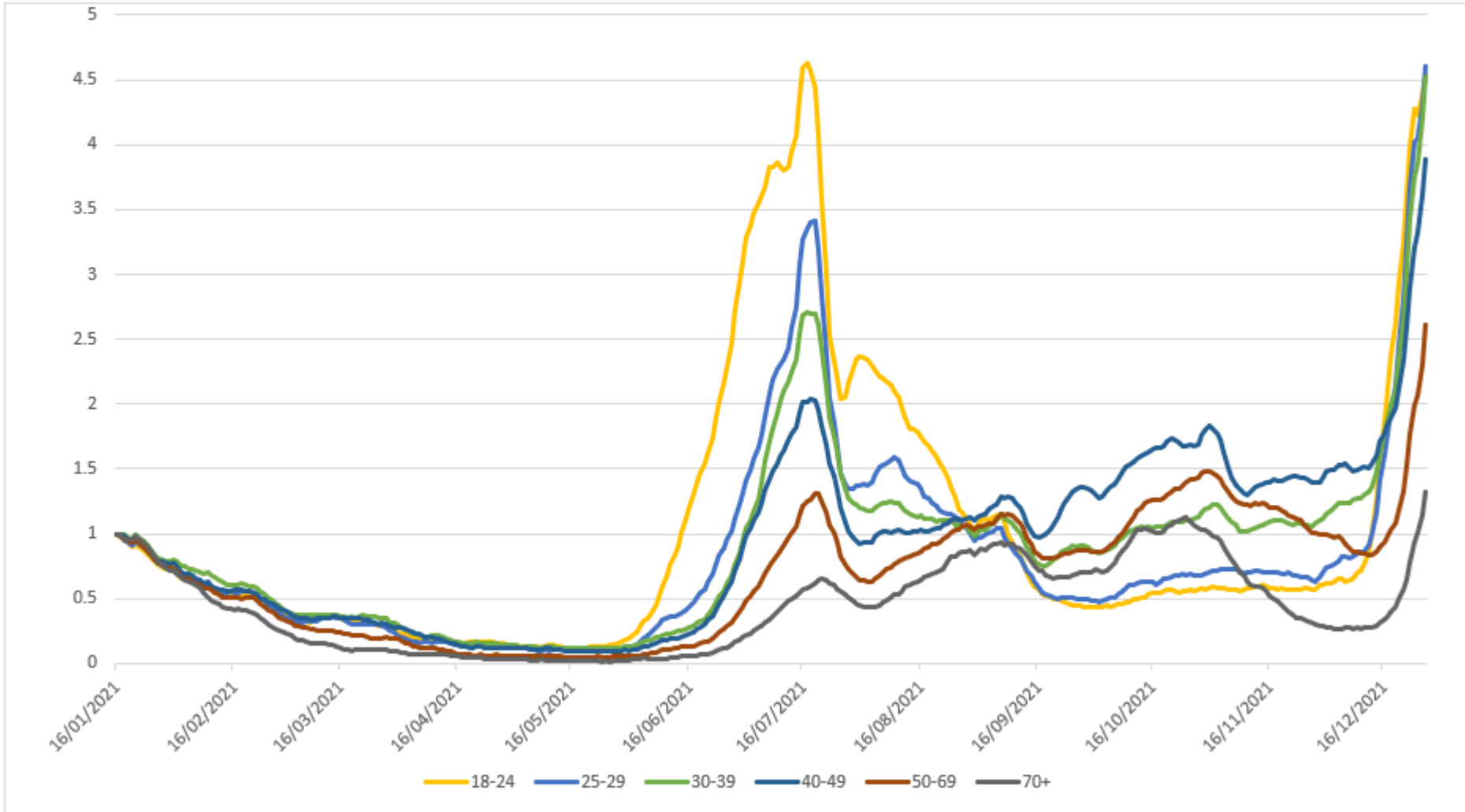
All ages

Number of cases by age band as a 7 day average as a proportion of the average for 7 days up to 16th January 2021
(All)



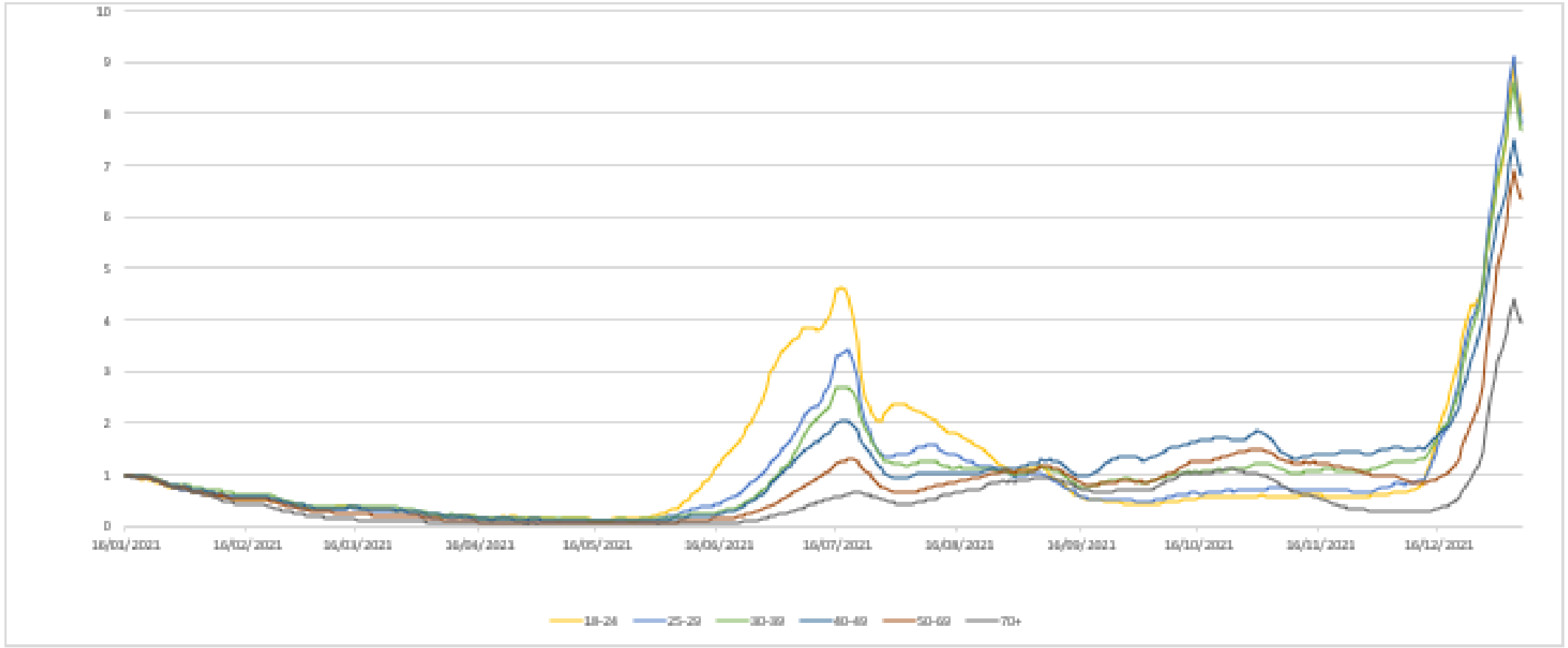
Number of cases by age band as a 7 day average as a proportion of the average for 7 days up to 16th January 2021
(All)

Excludes under 18s



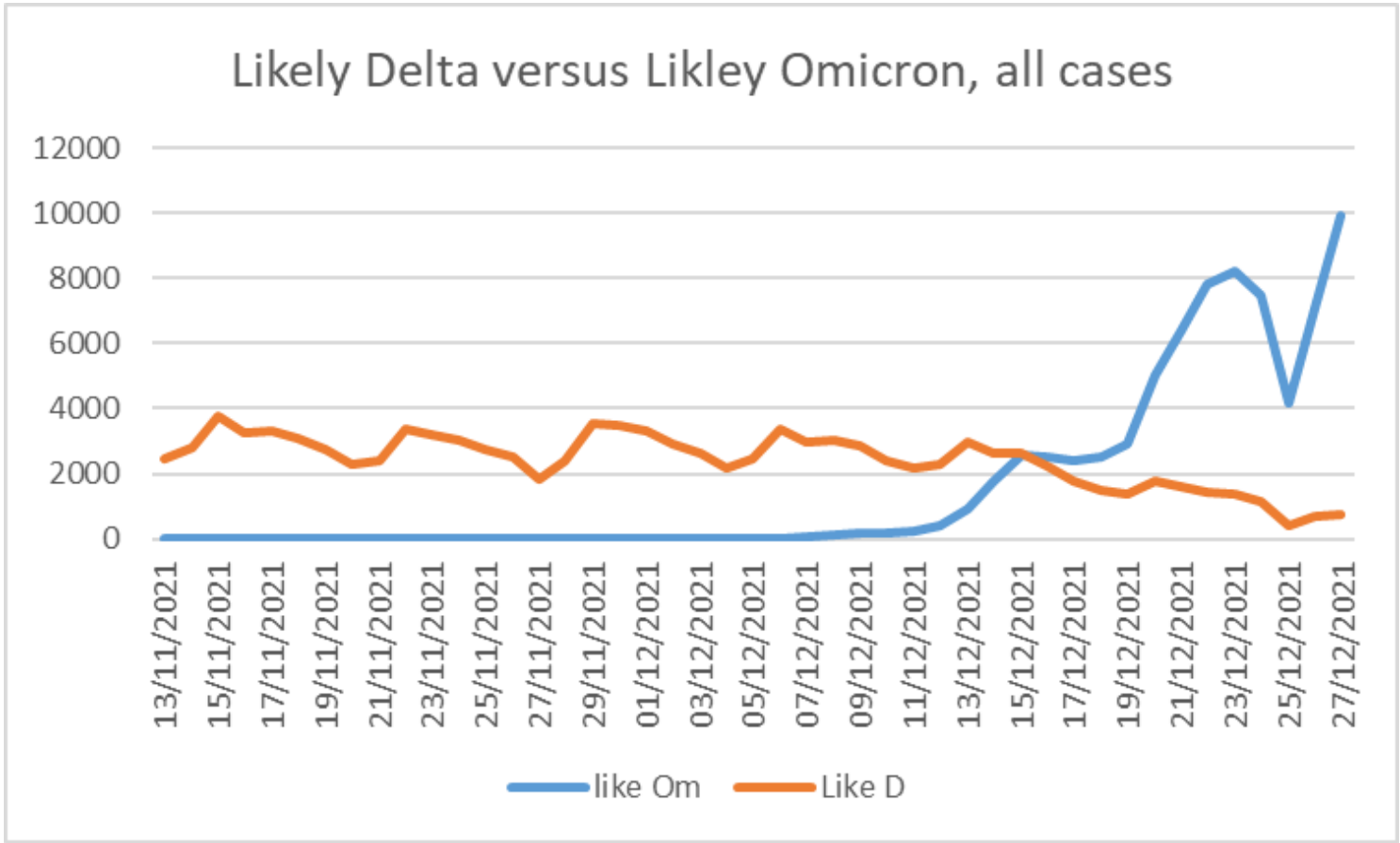
Excludes under 18s

Number of cases by age band as a 7 day average as a proportion of the average for 7 days up to 16th January 2021
(All)



SGTF*

YH


Likely Delta versus Likley Omicron, all cases
12000
10000
8000
6000
4000
2000
0
13/11/2021
15/11/2021
17/11/2021
19/11/2021
21/11/2021
23/11/2021
25/11/2021
27/11/2021
29/11/2021
01/12/2021
03/12/2021
05/12/2021
07/12/2021
09/12/2021
11/12/2021
13/12/2021
15/12/2021
17/12/2021
19/12/2021
21/12/2021
23/12/2021
25/12/2021
27/12/2021
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SGTF*

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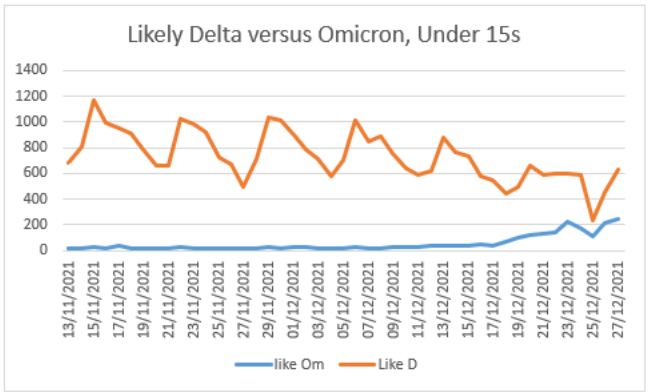
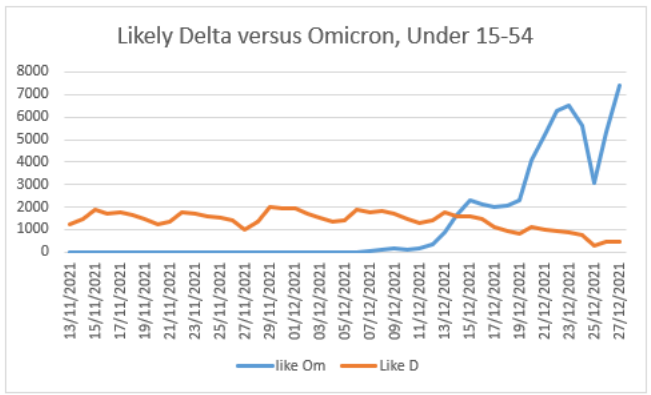
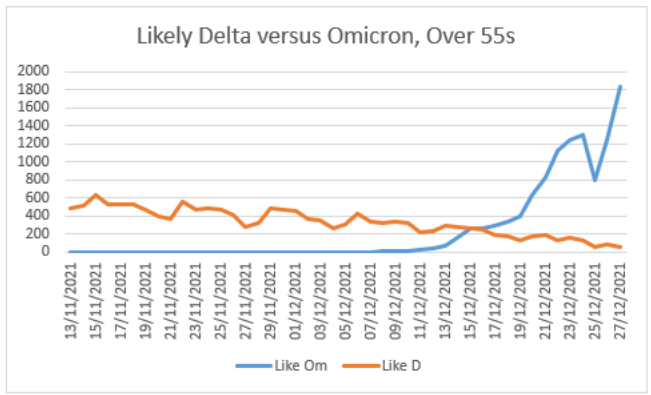


Under 15s



15-54 only

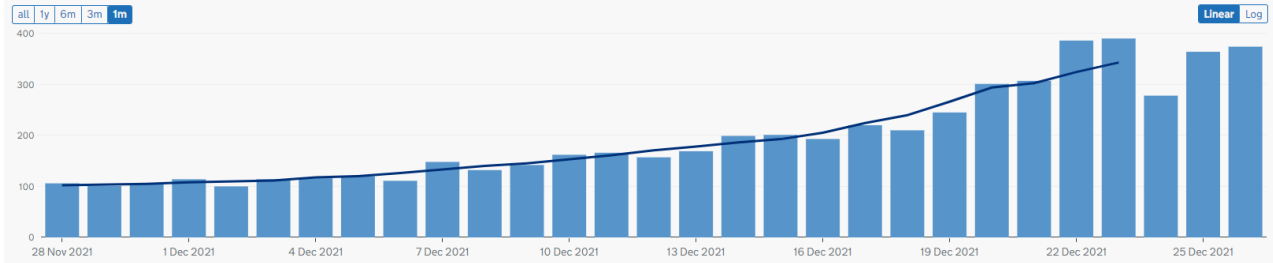


Over 55s

Patients admitted to hospital

Daily and cumulative numbers of COVID-19 patients admitted to hospital. Data are not updated every day by all 4 nations (England, Northern Ireland, Wales and Scotland). Figures are not comparable as Wales includes suspected COVID-19 patients while the other nations include only confirmed cases.

Daily | Cumulative | Data | About

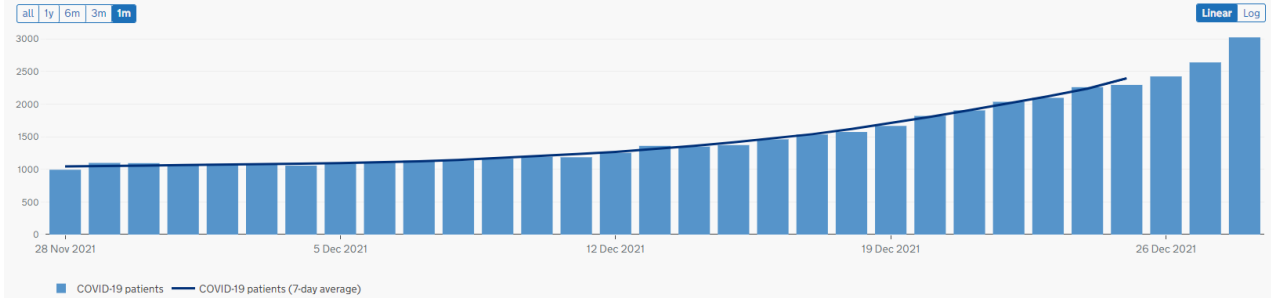


x2

Patients in hospital

Daily count of confirmed COVID-19 patients in hospital at 8am. Data are not updated every day.

Daily | Data | About

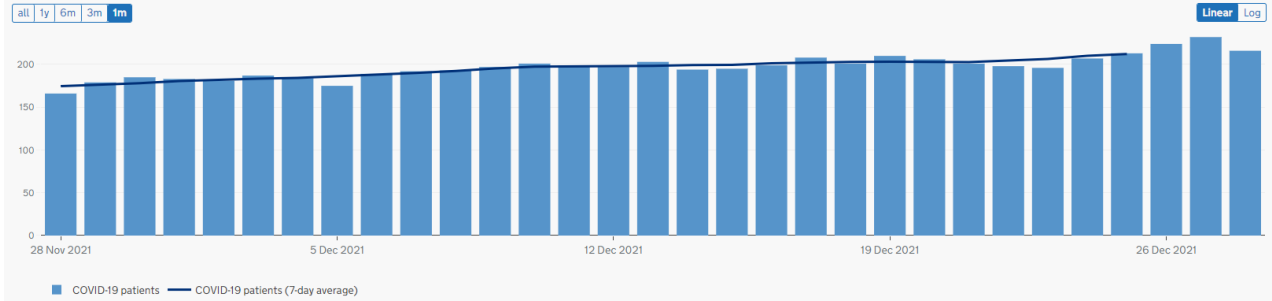


x2

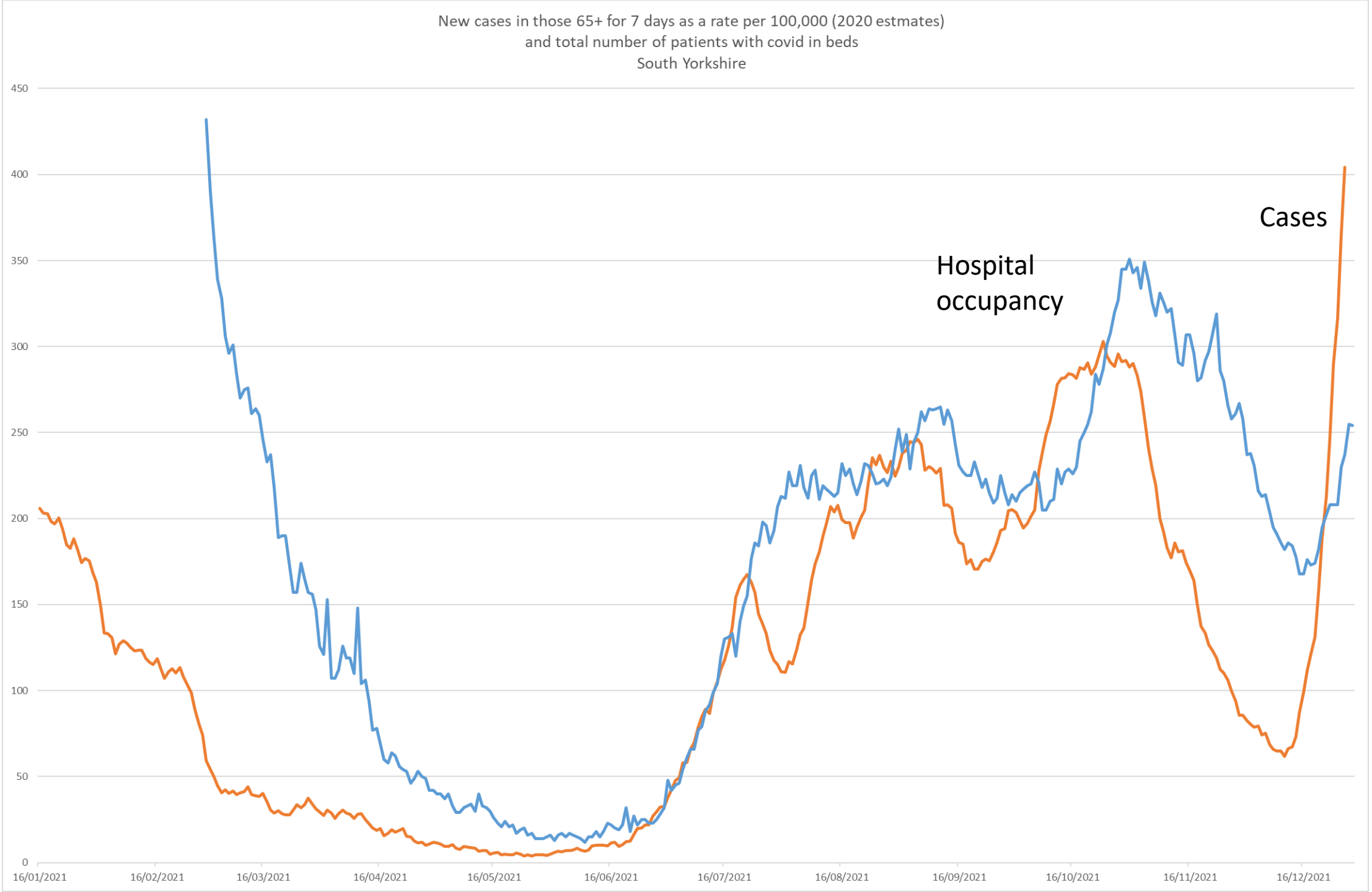
Patients in mechanical ventilation beds

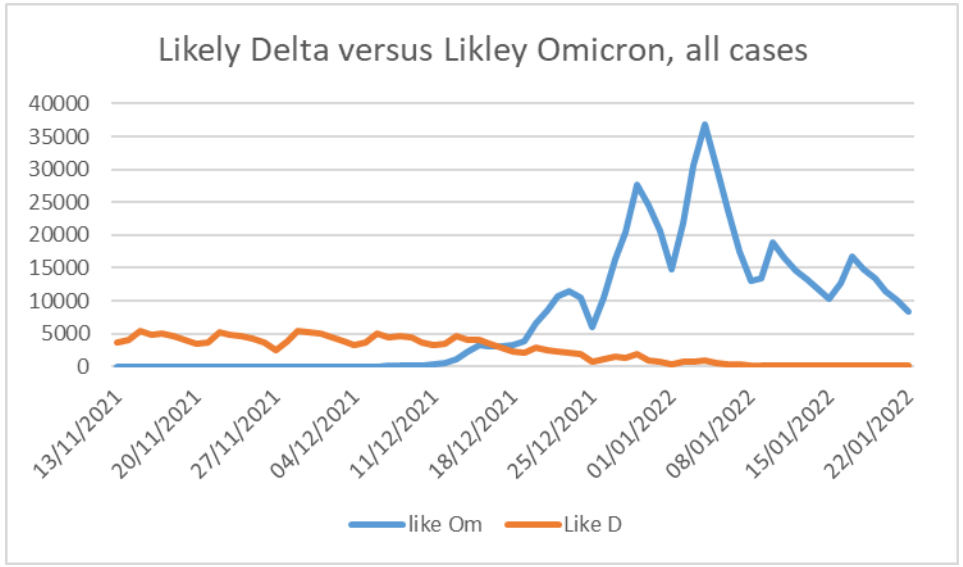
Daily count of COVID-19 patients in mechanical ventilation beds, and 7-day rolling average. Data are not updated every day.

Daily | Data | About



16%


New cases in those 65+ for 7 days as a rate per 100,000 (2020 estmates)
and total number of patients with covid in beds
South Yorkshire
450
400
350
300
250
200
150
100
50
0
16/01/2021
16/02/2021
16/03/2021
16/04/2021
16/05/2021
16/06/2021
16/07/2021
16/08/2021
16/09/2021
16/10/2021
16/11/2021
16/12/2021
Cases
Hospital occupancy


Likely Delta versus Likley Omicron, all cases
40000
35000
30000
25000
20000
15000
10000
5000
0
13/11/2021
20/11/2021
27/11/2021
04/12/2021
11/12/2021
18/12/2021
25/12/2021
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08/01/2022
15/01/2022
22/01/2022
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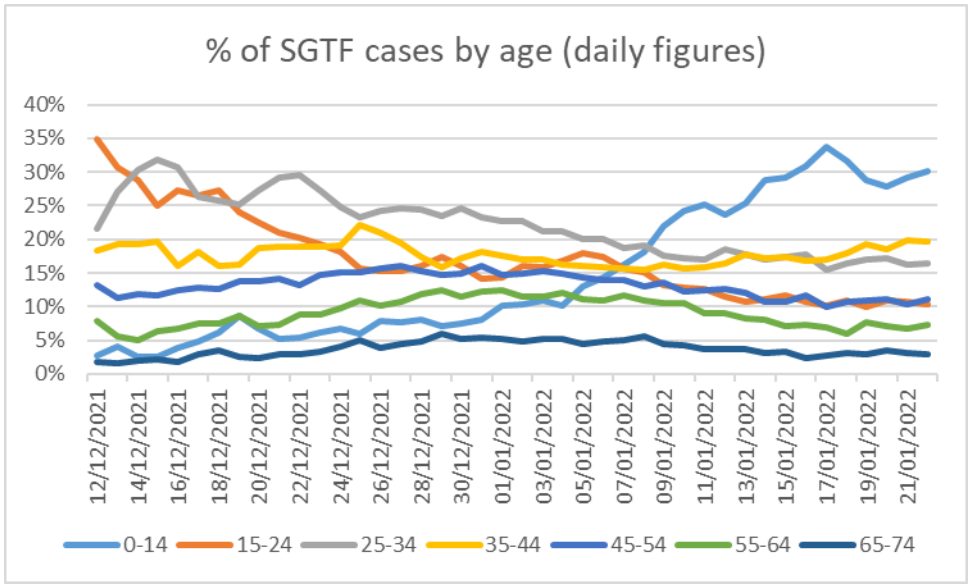
% of SGTF cases by age (daily figures)
40%
35%
30%
25%
20%
15%
10%
5%
0%
12/12/2021
14/12/2021
16/12/2021
18/12/2021
20/12/2021
22/12/2021
24/12/2021
26/12/2021
28/12/2021
30/12/2021
01/01/2022
03/01/2022
05/01/2022
07/01/2022
09/01/2022
11/01/2022
13/01/2022
15/01/2022
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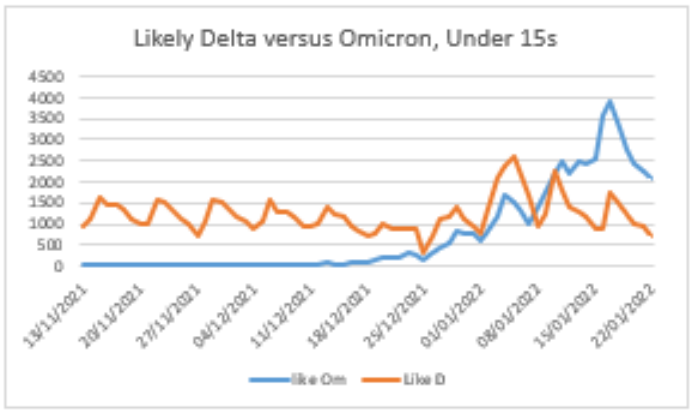
15-24
25-34
35-44
45-54
55-64
65-74


Likely Delta versus Omicron, Under 15s
4500
4000
3500
3000
2500
2000
1500
1000
500
0
13/11/2021
20/11/2021
27/11/2021
04/12/2021
11/12/2021
18/12/2021
25/12/2021
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08/01/2022
15/01/2022
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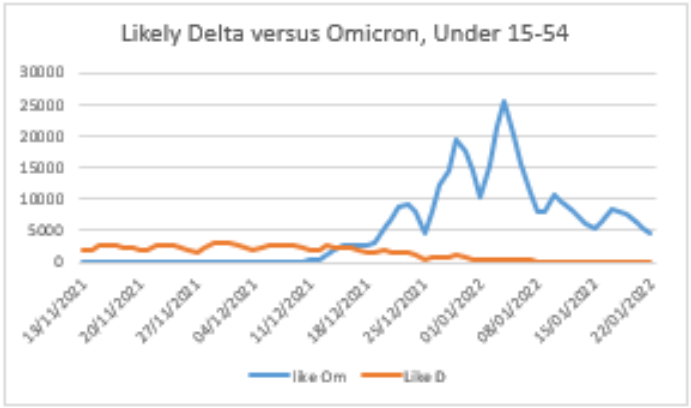
Likely Delta versus Omicron, Under 15-54
30000
25000
20000
15000
10000
5000
0
13/11/2021
20/11/2021
27/11/2021
04/12/2021
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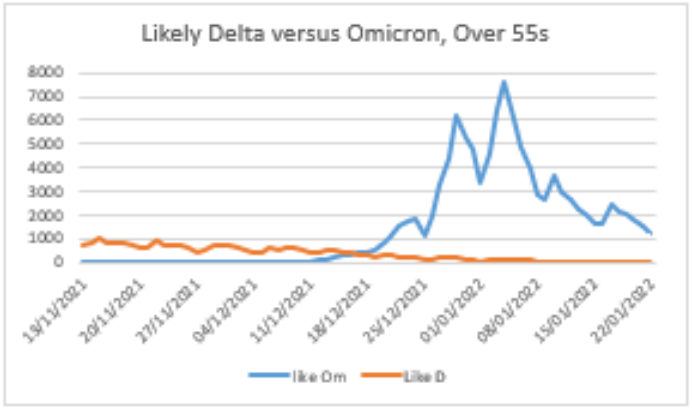
Likely Delta versus Omicron, Over 55s
8000
7000
6000
5000
4000
3000
2000
1000
0
13/11/2021
20/11/2021
27/11/2021
04/12/2021
11/12/2021
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08/01/2022
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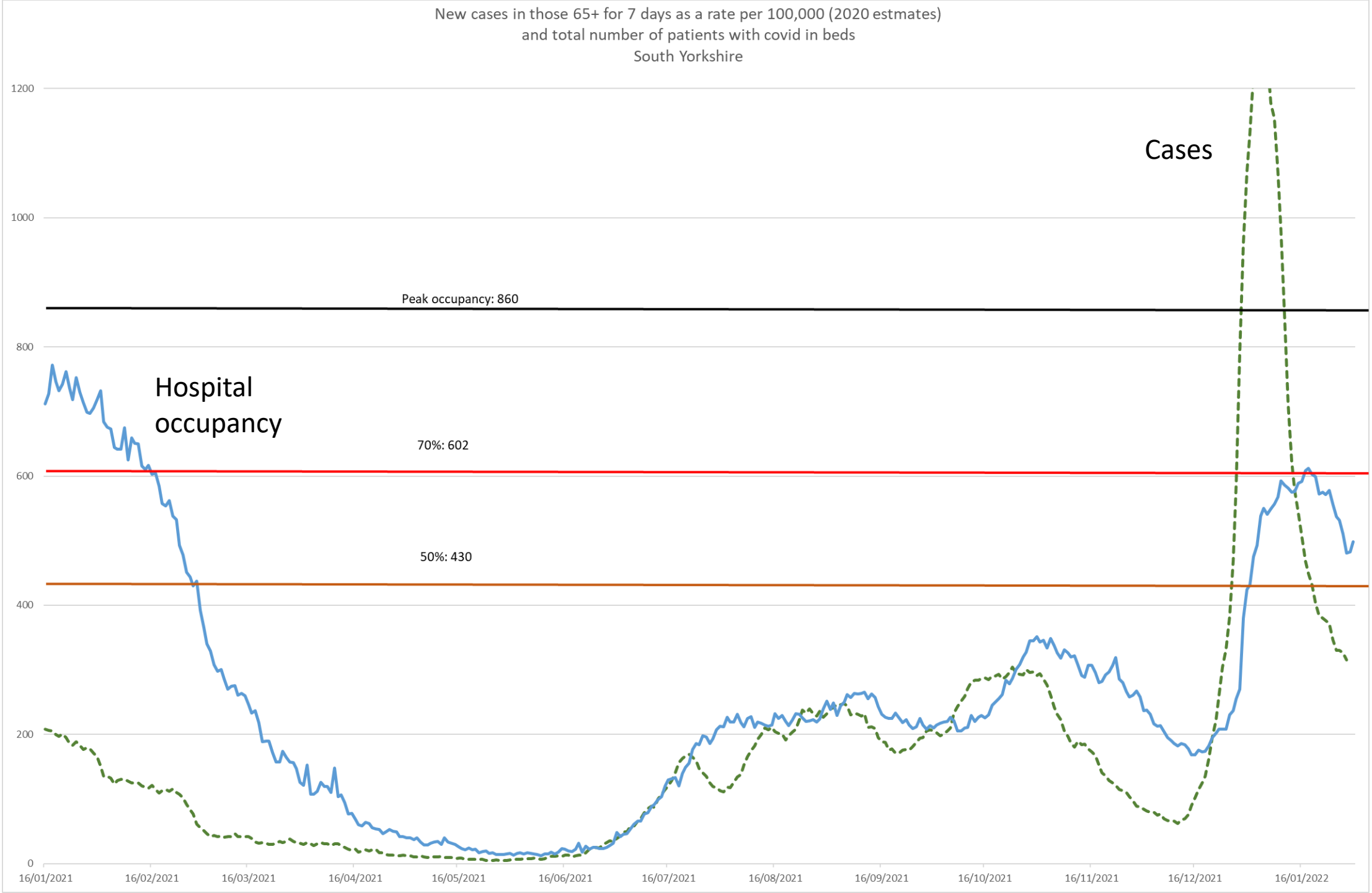
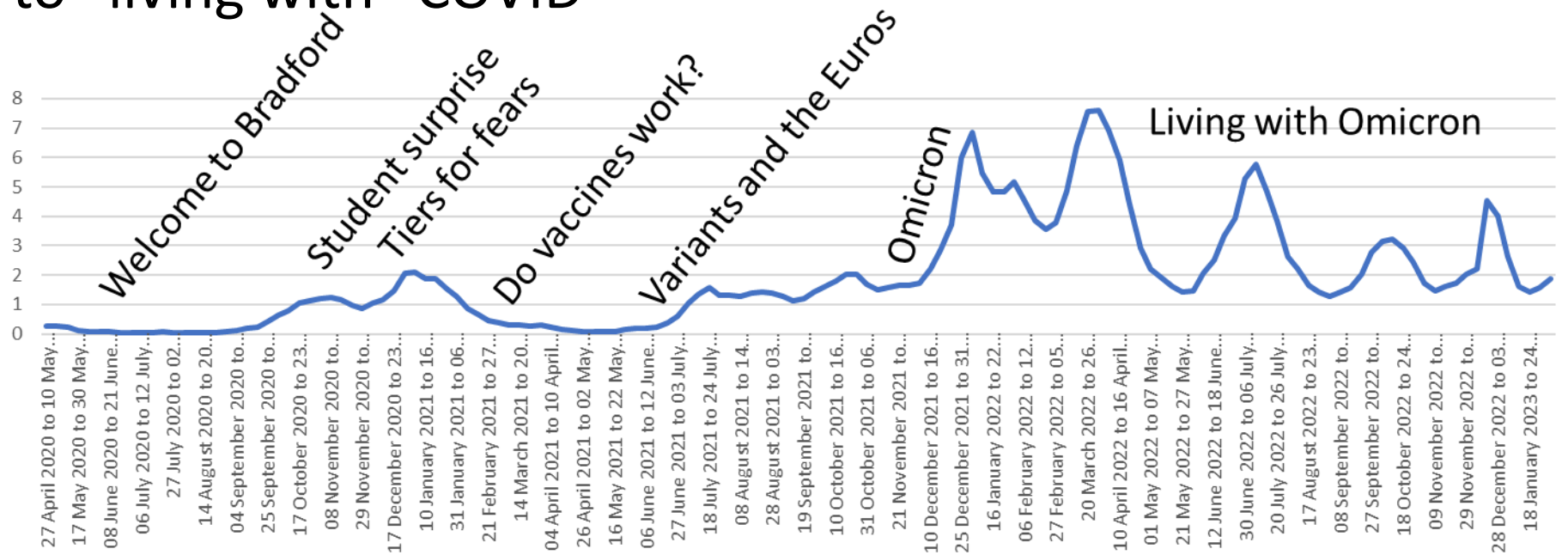

New cases in those 65+ for 7 days as a rate per 100,000 (2020 estmates)
and total number of patients with covid in beds
South Yorkshire
1200
1000
800
600
400
200
0
Cases
Peak occupancy: 860
Hospital occupancy
70%: 602
50%: 430
16/01/2021
16/02/2021
16/03/2021
16/04/2021
16/05/2021
16/06/2021
16/07/2021
16/08/2021
16/09/2021
16/10/2021
16/11/2021
16/12/2021
16/01/2022

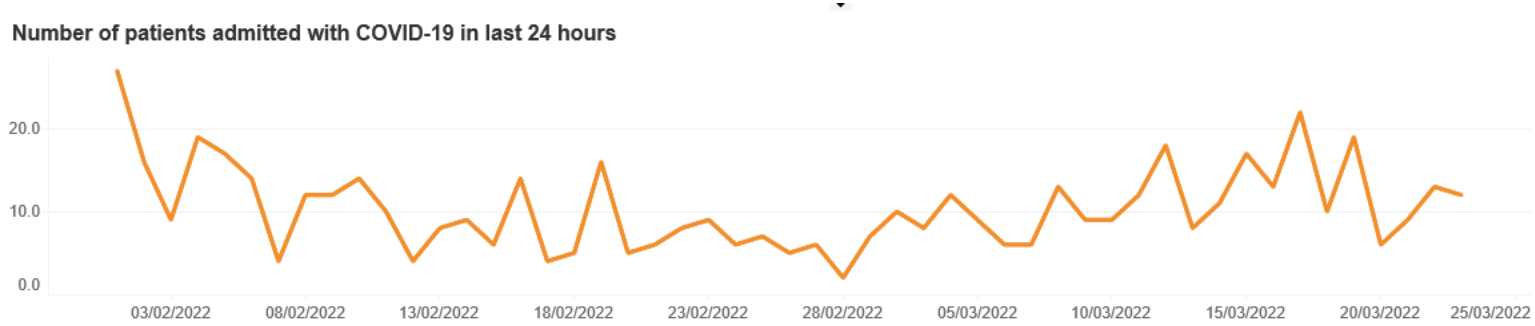
Living with Omicron

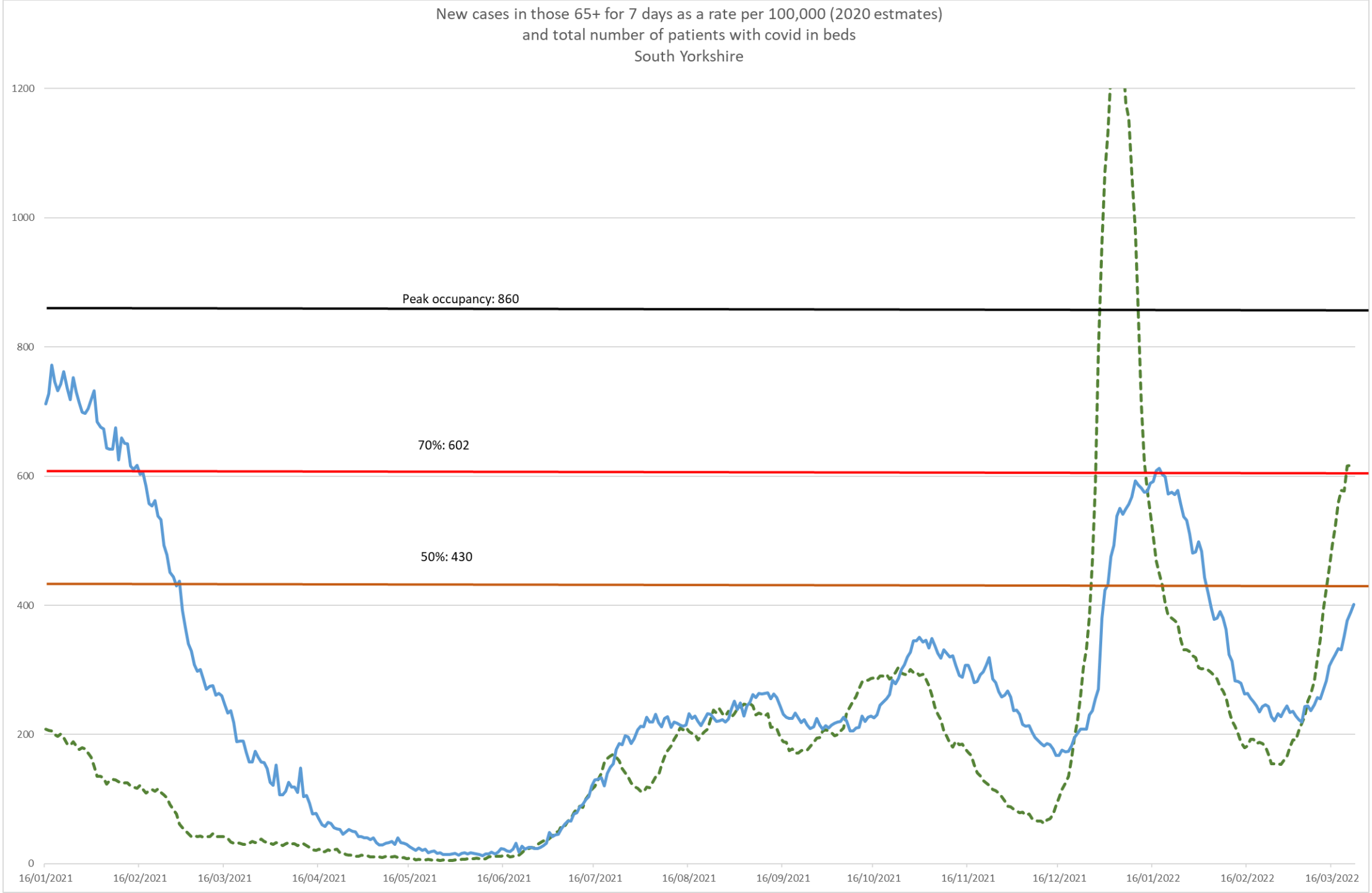
When did legal requirement to isolate end?

- Triple vaccination reduced the impact of rising cases
- A shift away from testing for the public
- A move away from asymptomatic testing in health settings
- A gradual move to “living with” COVID

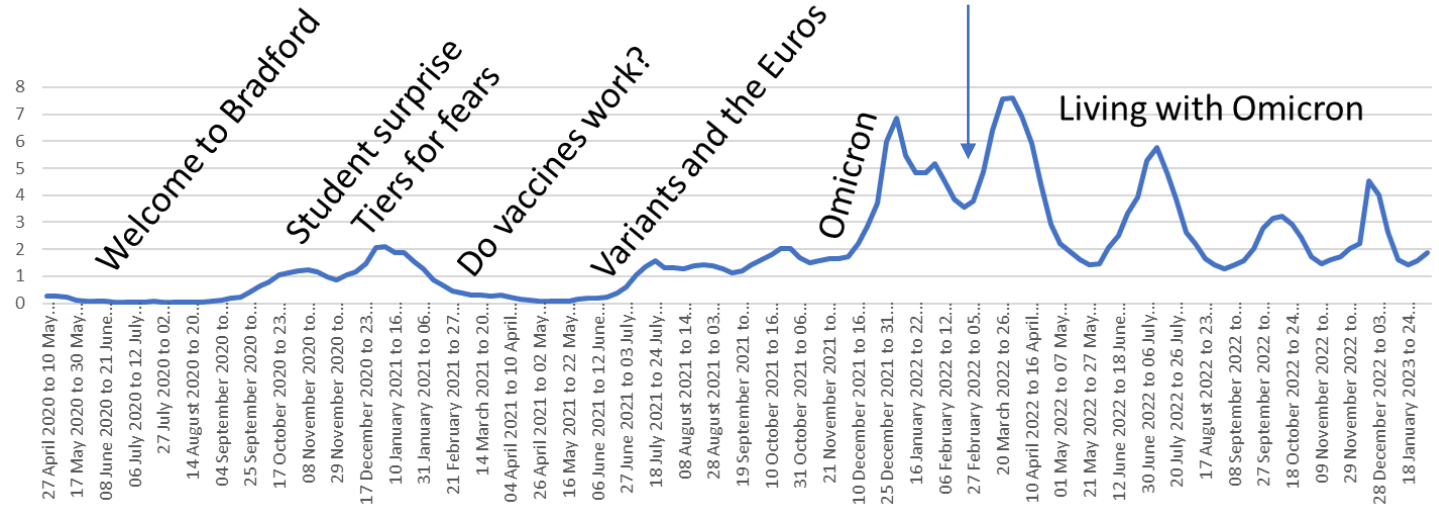


	Concern	Omicron	Current	
New cases in over 60s for 7 days as rate per 100,000	>50	>300	502-687	1
New cases all ages for 7 days as rate per 100,000	>100	>750	550-687	2
Positivity rate as a percentage of all PCR tests	>5%	>20%	24-28%	3
Weekly admissions to secondary care with diagnosis	>20	>70	91	4
Number of Covid patients in secondary beds as % all beds	>2%	>10%	10.3%	5




New cases in those 65+ for 7 days as a rate per 100,000 (2020 estmates)
and total number of patients with covid in beds
South Yorkshire
1200
1000
800
600
400
200
0
Peak occupancy: 860
70%: 602
50%: 430
16/01/2021
16/02/2021
16/03/2021
16/04/2021
16/05/2021
16/06/2021
16/07/2021
16/08/2021
16/09/2021
16/10/2021
16/11/2021
16/12/2021
16/01/2022
16/02/2022
16/03/2022

When did legal requirement to isolate end?



Covid: End of legal need to self-isolate in England

24 February 2022 · Comments

All remaining legal Covid restrictions have been removed in England, nearly two years after the first rules were introduced.

It means people are no longer legally required to self-isolate if they test positive for Covid - although they are still advised to do so.

The changes are part of the prime minister's **Living with Covid plan**, to "transition back to normality".

Winter is coming

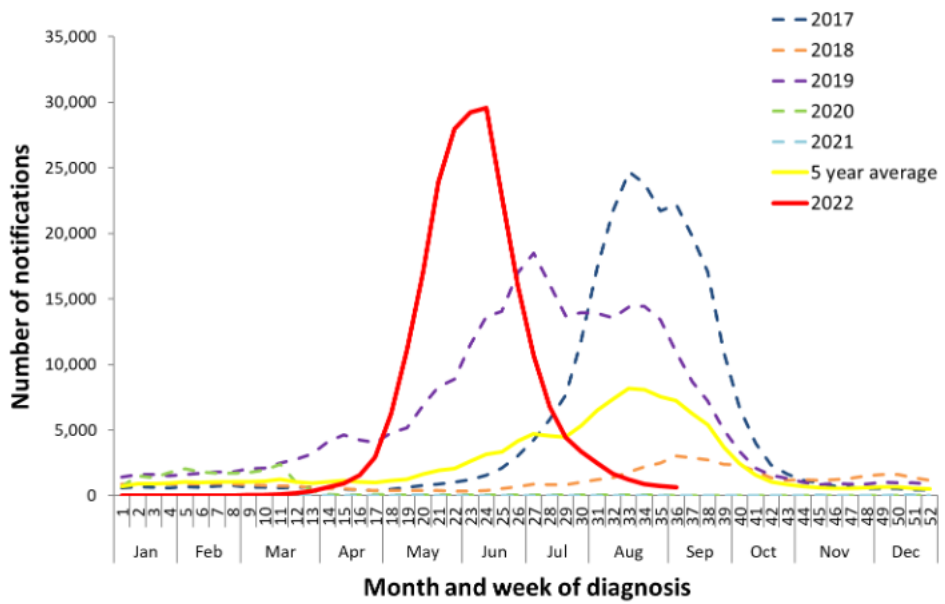
- Summer 2022 events for winter planning
- Flu in the Southern Hemisphere
- Scarlet fever out of season
- Planning for pre-Christmas pressures

Australian Government
Department of Health and Aged Care

AUSTRALIAN INFLUENZA SURVEILLANCE REPORT

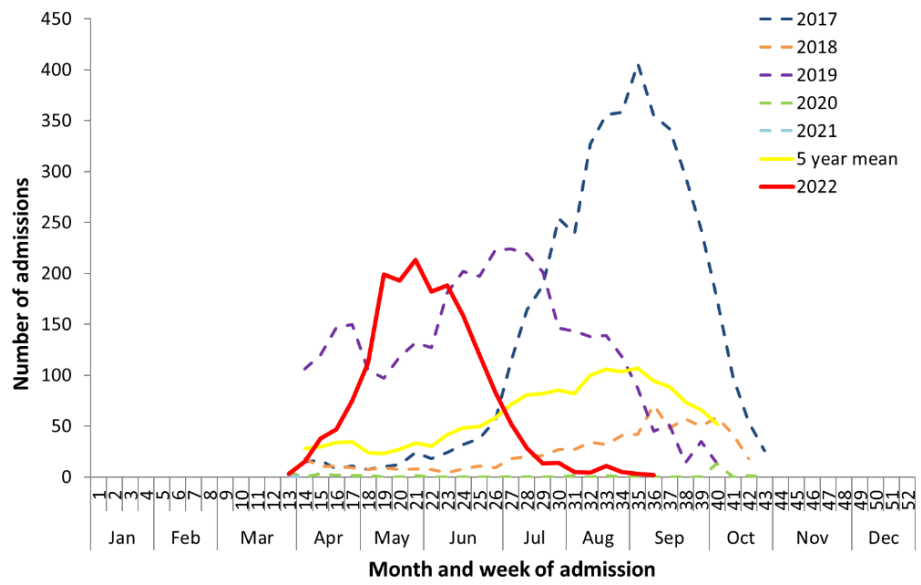
No. 12, 2022
Reporting fortnight: 29 August to 11 September 2022

Figure 4. Notifications of laboratory-confirmed influenza, Australia, 01 January 2017 to 11 September 2022, by month and week of diagnosis*



Source: NNDSS

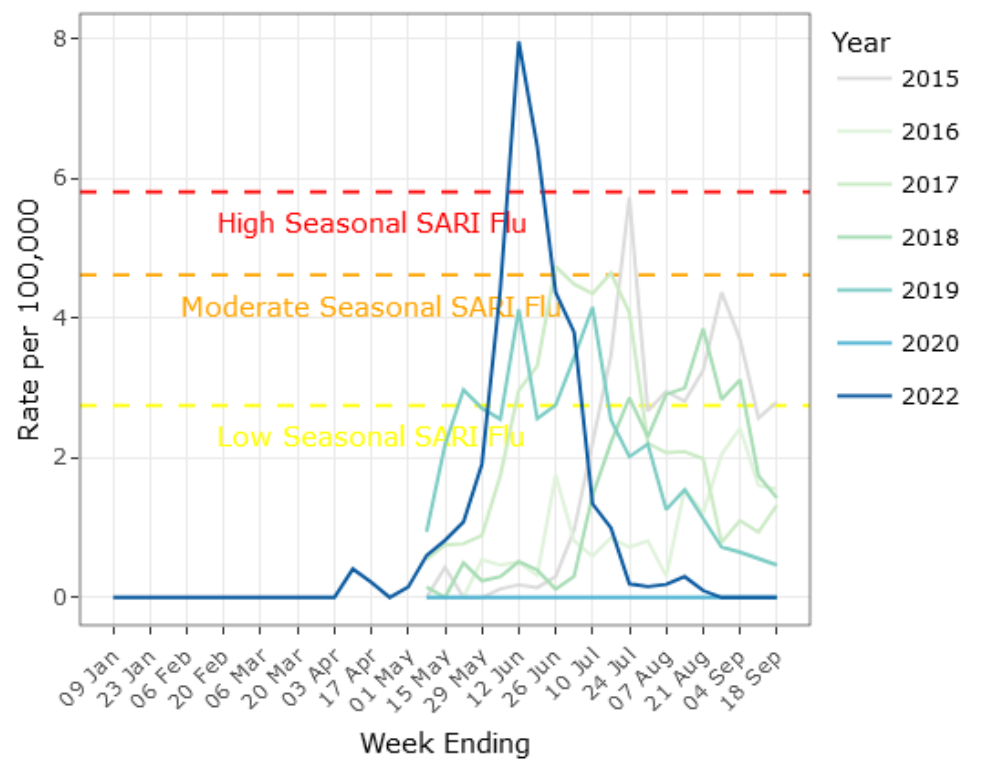
Figure 7. Number of influenza hospitalisations at sentinel hospitals, from April to October, 2017 to 2022 by month and week of diagnosis*



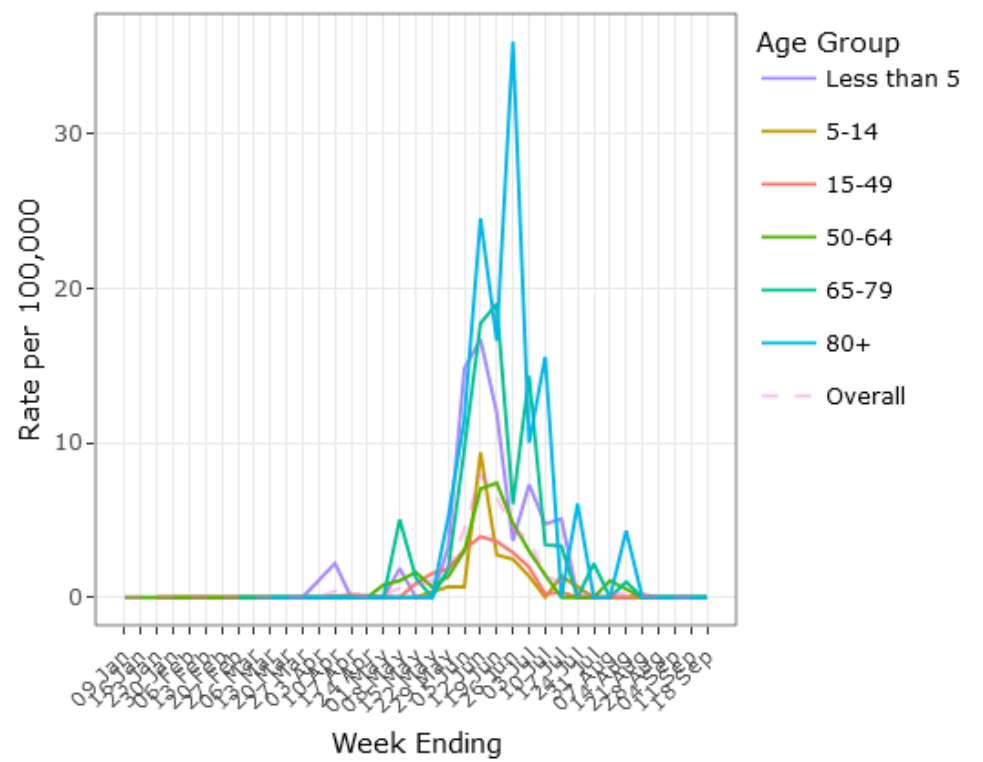
Source: FluCAN

ESR
Science for Communities
He Pūtaiao, He Tāngata

Weekly hospitalisation rates for influenza positive SARI



Weekly hospitalisation rates for influenza positive SARI by Age Groups



COVID is still present in the community at around 1%. The next wave is likely to come in late October/ November as immunity from previous waves fall. The impact on hospitalisations is partly related to community levels (especially for incidentals and outbreaks) and on levels of vaccination (as this reduces severity and hospitalisations). A new variant may arise, either a strain of Omicron or a new lineage. This might show immune escape and so it's important we continue with IPC measures in hospital and care homes to reduce transmission.

On flu, the experience of the Southern Hemisphere was they saw a large and early rise in cases, especially in the unvaccinated, but this did not result in a large level of hospitalisation. The vaccine was a very good match for the circulating strains but it is still too early to measure effectiveness. We are not expecting anything unusual on RSV this winter.

So for us, we are expecting the flu wave to come early- perhaps late October/ November- but we are hopeful that vaccination should mitigate the impact. This is the focus of a tighter approach to working through at risk groups and starting with the most vulnerable.

One concern this winter is concurrent waves.

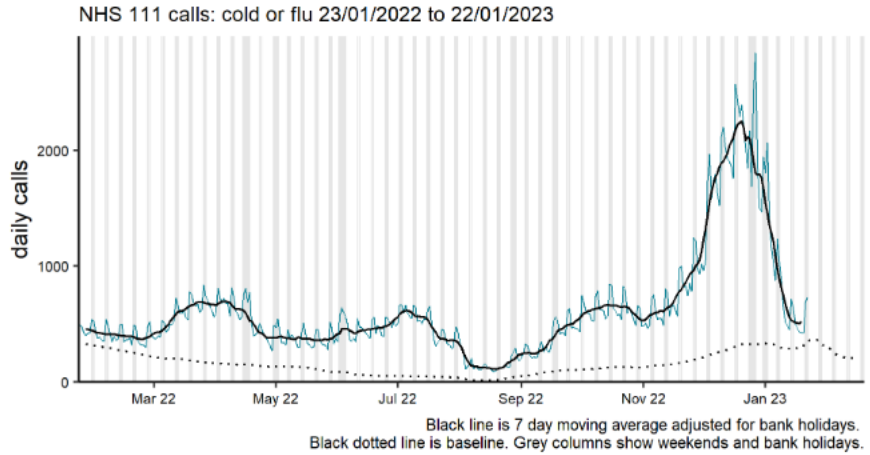
It is possible that the rise in winter viruses we see every year starting from the end of September- which is apparent in recent data- will coincide with an early flu wave and the next wave of COVID. If these do not fall at the same time this will be easier to manage. But if all three coincide one estimate suggests 50% of acute hospital beds could have respiratory cases requiring active care. This compares to the peak of 20-25% for COVID occupancy.

Sadly that isn't the end of it. As we expect a further rise in COVID in the new year, about three months after any autumn wave, even if no new variant arises.

The challenge of fuel bills, the risk of a cold snap, other impacts on cost of living, all add to the uncertainty for the next six months. Overall we need to do all we can to get excellent coverage for winter vaccines for all staff and eligible patients, and renew our focus on IPC as the last line of defence. Staffing challenges are also likely to coincide with community levels of illness making capacity a real challenge.

Figure 29: NHS 111 telephony indicators (and 7-day moving average) for number of daily cold or flu calls, England (a) nationally and (b) by age group

(a)



(b)

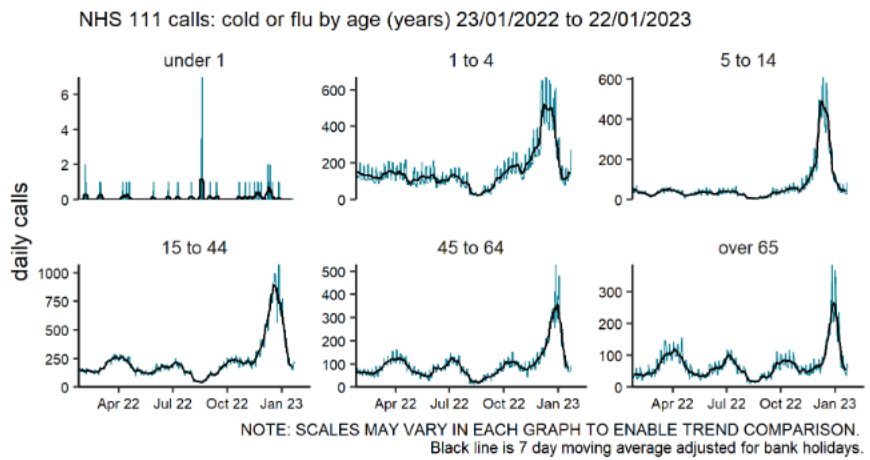
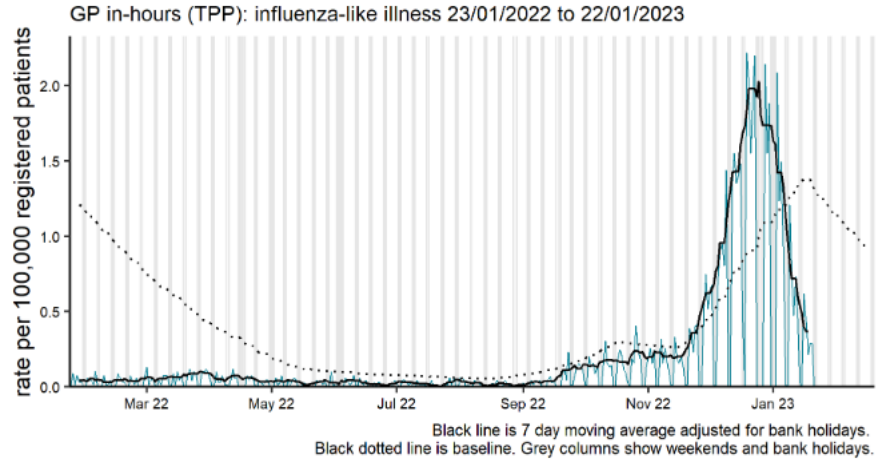
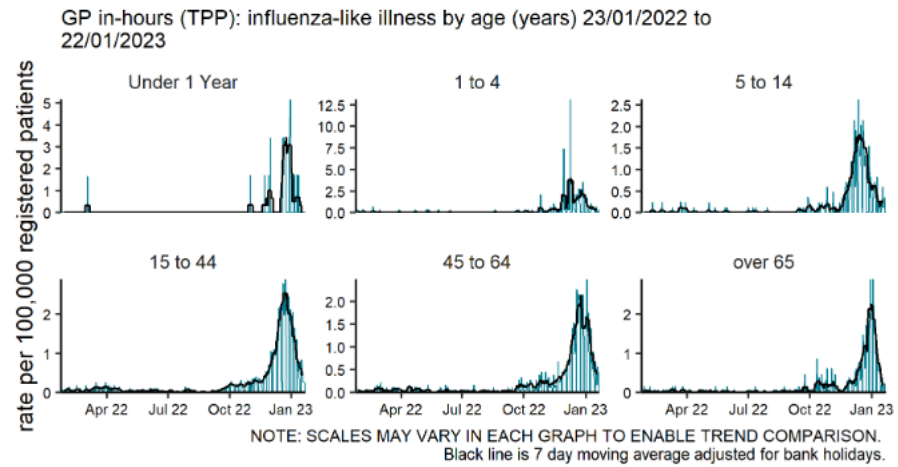


Figure 34: GPIH clinical indicators for influenza-like illness GP consultations, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)



(b)



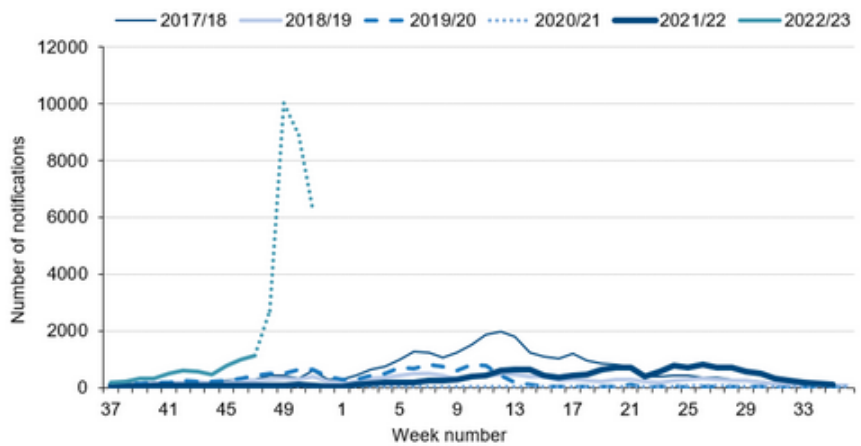
Scarlet fever

Following higher than expected scarlet fever activity during the early part of this summer in England, notifications during the early part of the current season (2022 to 2023; seasons are defined from week 37 (mid-September) to week 36 (mid-September)) have increased to exceptional levels (Figure 1).

A total of 33,836 notifications of scarlet fever were received from weeks 37 to 51 of this season (2022 to 2023) in England, with 6,254 notifications received so far for week 51. This compares with an average of 2,670 (range 443 to 4,672) for this same period (weeks 37 to 51) in the previous 5 years (Figure 1). Increased health seeking behaviour as a result of national alerts is likely to have contributed to the increased reports. The last peak season for scarlet fever notifications was 2017 to 2018 when 30,768 reports were received across the entire season.

Figure 1. Weekly scarlet fever notifications in England, by season, 2017 to 2018 onwards (weeks 37 to 51)

Note: In this graph the 2022 to 2023 season goes up to week 51 (25 December 2022). Recent weeks in the current season may change as further notifications are received, represented by a dotted line between weeks 47 and 51.



Scarlet fever notifications to date this season showed considerable variation across England, ranging between 33.7 (West Midlands) and 91.3 (East Midlands) per 100,000 population (table 1); while this may represent differential disease transmission it may also relate to differential notification practices by clinicians.

Table 1. Number and rate per 100,000 population of scarlet fever and iGAS notifications in England: week 37 to week 51 of the 2022 to 2023 season

Note: In this table, weeks 37 to 51 cover the period 12 September 2022 to 25 December 2022.

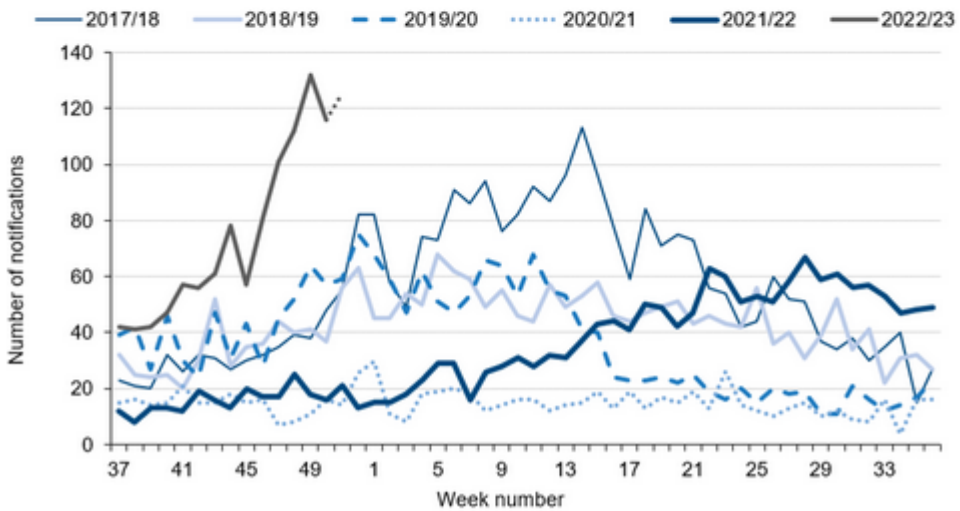
Region	Number of cases of scarlet fever	Rate of scarlet fever	Number of cases of iGAS	Rate of iGAS
East of England	3,280	49.0	102	1.5
East Midlands	4,440	91.3	98	2.0
London	4,566	50.7	146	1.6
North East	903	33.7	55	2.1
North West	6,103	82.8	144	2.0
South East	5,153	57.6	206	2.3
South West	3,014	54.8	142	2.6
West Midlands	2,640	44.3	95	1.6
Yorkshire and the Humber	3,737	67.6	160	2.9
England	**33,836**	**59.8**	**1,148**	**2.0**

Invasive group A streptococcal infection

Laboratory notifications of iGAS so far this season (weeks 37 to 51, 2022 to 2023) are higher than expected (Figure 2). A total of 1,148 notifications of iGAS disease received through laboratory surveillance in England, with a weekly high of 132 notifications in week 49 (5 to 11 December 2022). Laboratory notifications of iGAS infection are higher than recorded over the last 5 seasons for the same weeks (average 421, range 240 to 634 notifications; Figure 2).

Figure 2. Weekly laboratory notifications of iGAS, England, by season, 2017 to 2018 onwards (weeks 37 to 51)

Note: In this graph, the most recent weeks of the 2022 to 2023 season are expected to increase due to lags in reporting timelines from laboratories. The decline in recent weeks (week 50) should not be interpreted as an actual drop in laboratory notifications: it is therefore represented by a dotted line between week 49 and week 51.



Weekly laboratory notifications are high for this point in the season and slightly higher than the weekly totals seen during the last peak season (2017 to 2018) when the peak weekly total was 113 in week 14 (2 April 2018 to 8 April 2018; Figure 2). A total of 1,207 notifications were received during a 14 week period during the last high activity year (weeks 5 to 18 in 2018), above the levels seen in the past 14 weeks (n=1,106). However, high levels of activity at such an early point in the season remain a concern, with further increases possible in the coming weeks.

During the current season to date, the highest rates were reported in the Yorkshire and Humber region (2.9 per 100,000 population), followed by the South West region (2.6 per 100,000) and the South East region (2.3 per 100,000); see Table 1.

The highest rate was in the 1 to 4 years age group (5.7 per 100,000), followed by those aged 75 years and over (4.8 per 100,000) and the under-1-year age group (4.2 per 100,000); see Table 2.

Table 2. Rate per 100,000 population of iGAS notifications in England by age group, weeks 37 to 51 in the 2022 to 2023 season versus the 2017 to 2018 season

Note: In this table the current 2022 to 2023 season covers weeks 37 to 51, whereas the 2017 to 2018 season data covers the full season, weeks 37 to 36.

Age group (years)	2022 to 2023 season (weeks 37 to 51): number of cases	2022 to 2023 season (weeks 37 to 51): rate per 100,000 population	2017 to 2018 (full season): number of cases	2017 to 2018 (full season): rate per 100,000 population
Aged 1 year and under	25	4.2	80	12.5
1 to 4	151	5.7	194	7.2
5 to 9	102	2.9	117	3.3
10 to 14	26	0.8	40	1.2
15 to 44	254	1.2	633	3.0
45 to 64	205	1.4	625	4.4
65 to 74	151	2.7	480	8.7
75 and over	234	4.8	792	17.0
Total	**1,148**	**2.0**	**2,967**	**5.3**

The median age of patients with iGAS infection so far this season was 46 years (range 1 year and under, to 102 years), slightly lower than the range seen at this point in the preceding 5 seasons (age 52 to 58 years); 24% of iGAS infections reported so far this season are in children (aged 10 years and under), higher than the range seen for the past 5 seasons (4% to 13%).

Figure 1. Acute Respiratory Infection – Emergency Department (ED) Syndromic Surveillance

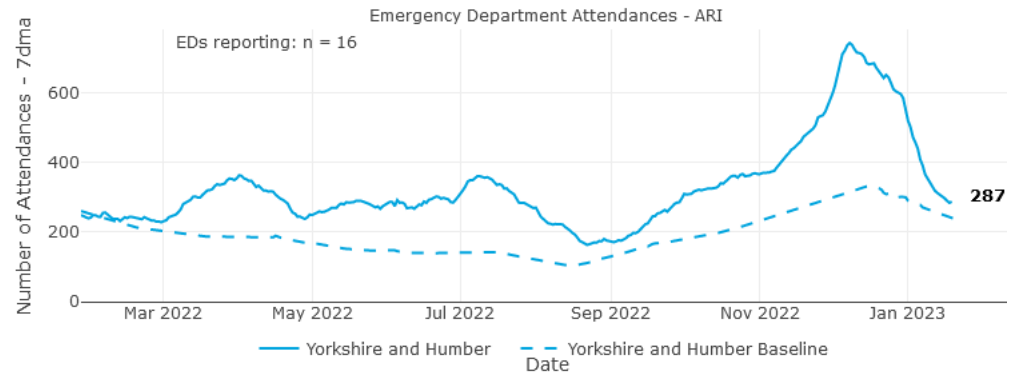
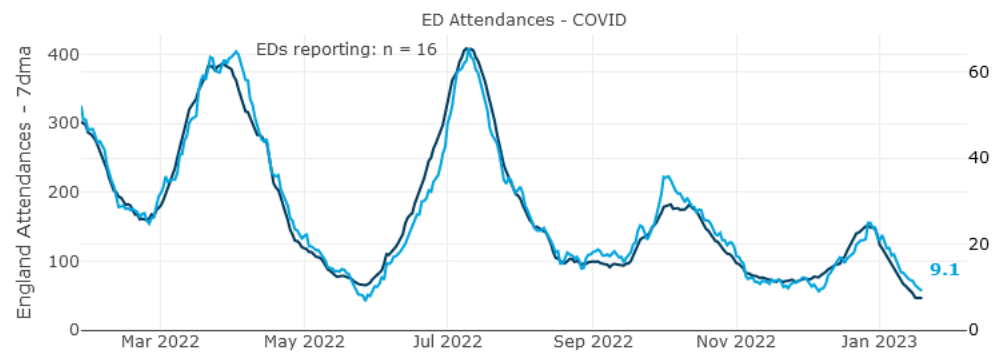


Figure 2. Potential SARS-CoV-2 – NHS 111 and ED Syndromic Surveillance



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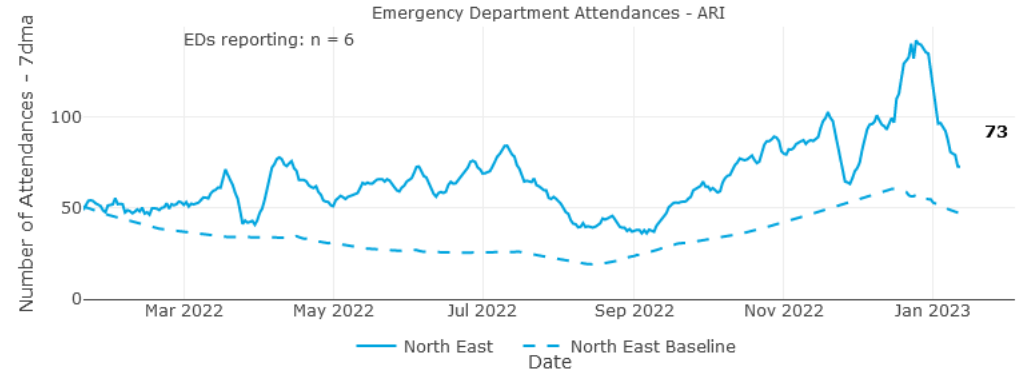

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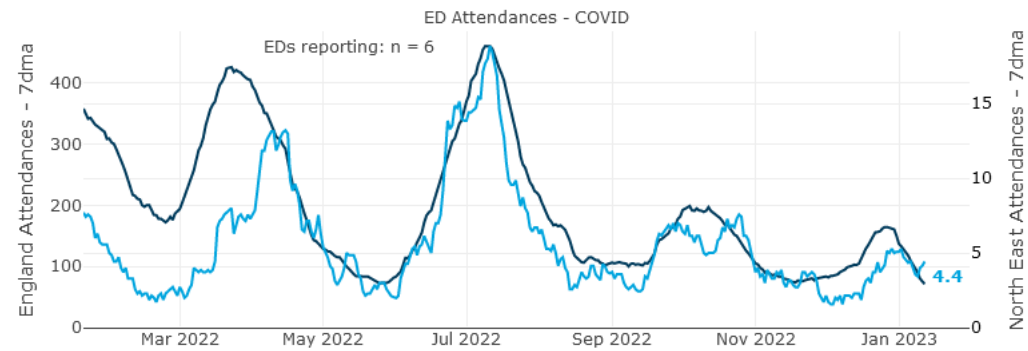

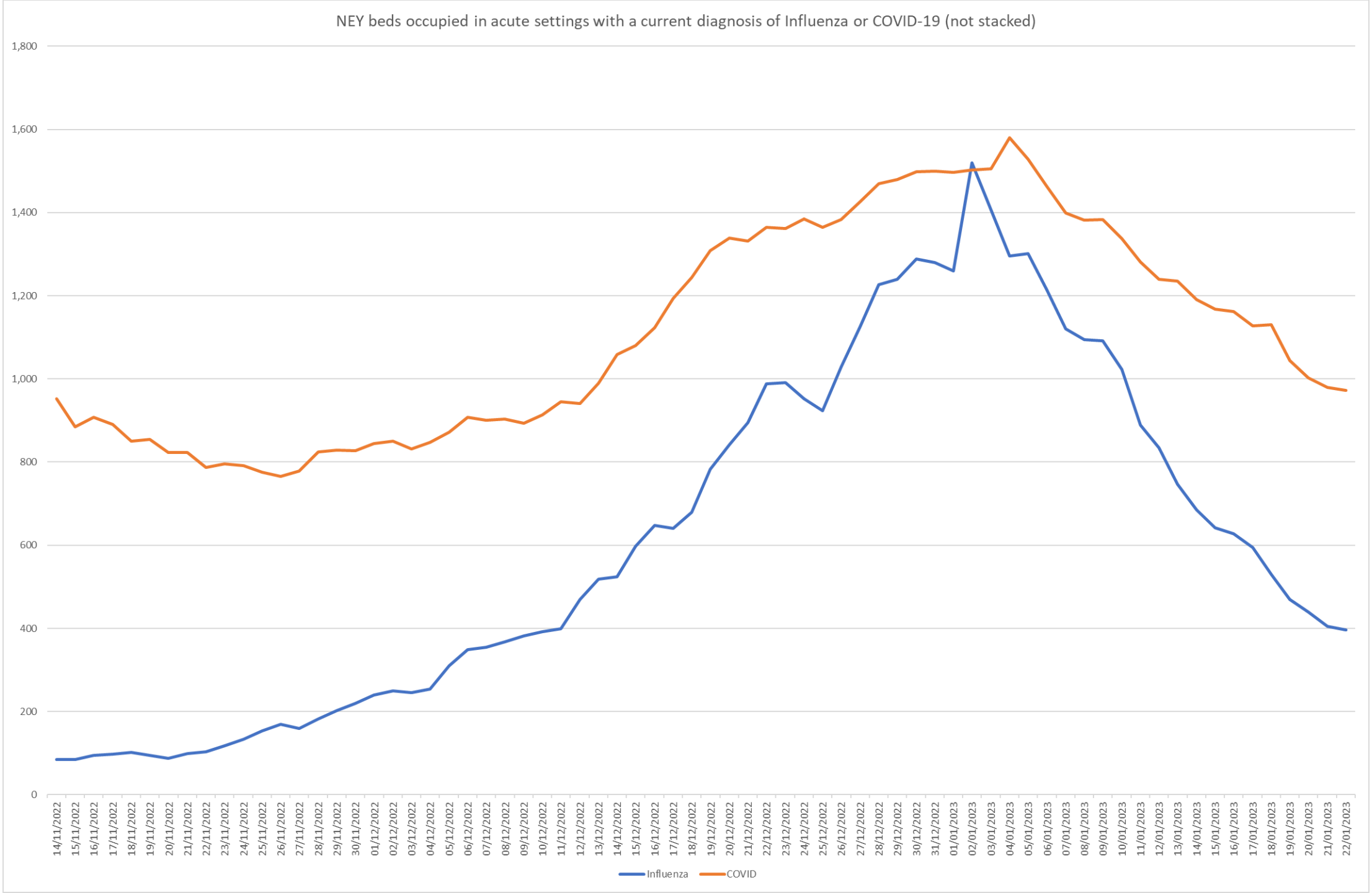
NEY beds occupied in acute settings with a current diagnosis of Influenza or COVID-19 (not stacked)
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
14/11/2022
15/11/2022
16/11/2022
17/11/2022
18/11/2022
19/11/2022
20/11/2022
21/11/2022
22/11/2022
23/11/2022
24/11/2022
25/11/2022
26/11/2022
27/11/2022
28/11/2022
29/11/2022
30/11/2022
01/12/2022
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16/01/2023
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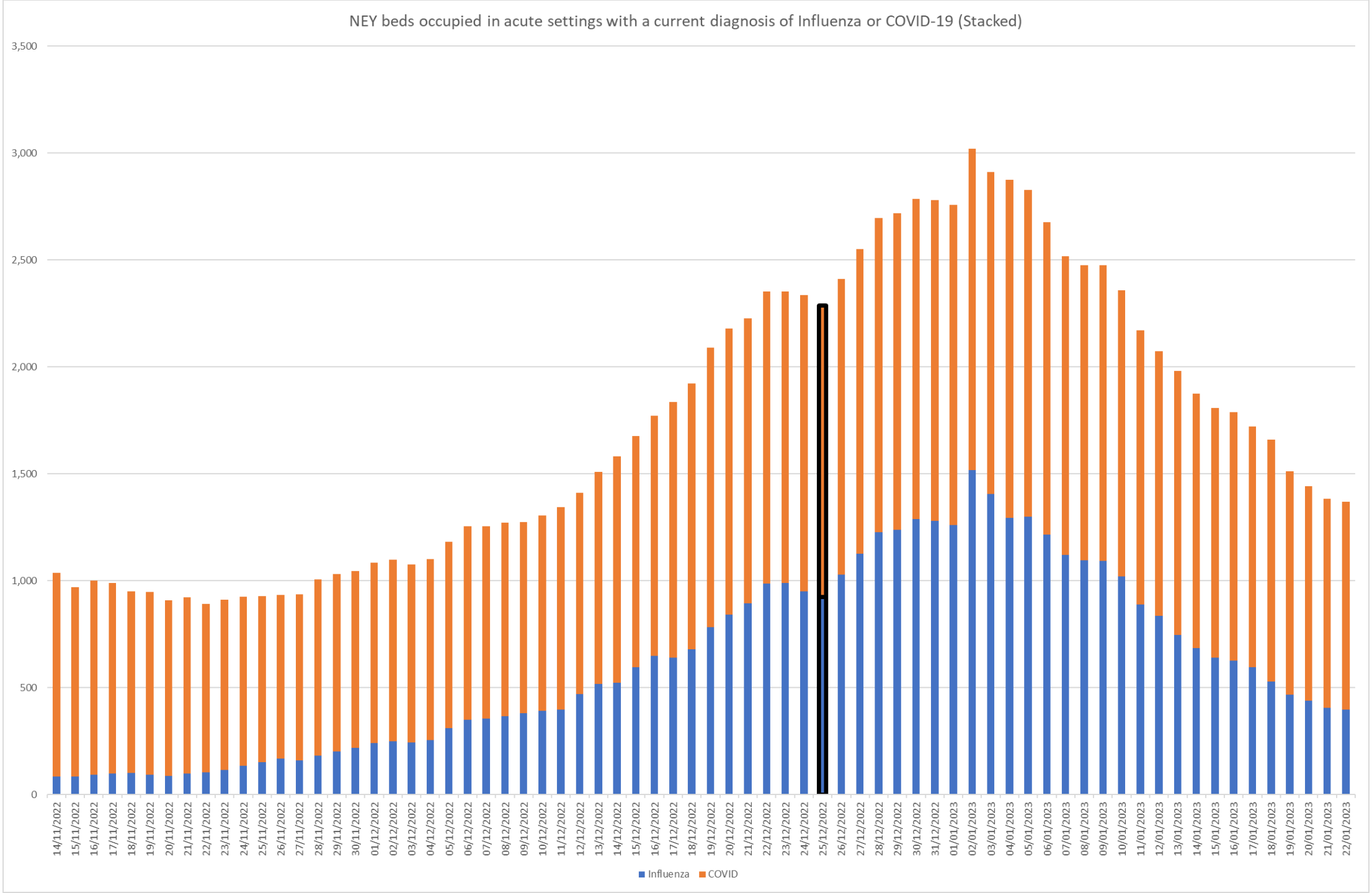
21/01/2023
22/01/2023
Influenza
COVID


NEY beds occupied in acute settings with a current diagnosis of Influenza or COVID-19 (Stacked)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
14/11/2022
15/11/2022
16/11/2022
17/11/2022
18/11/2022
19/11/2022
20/11/2022
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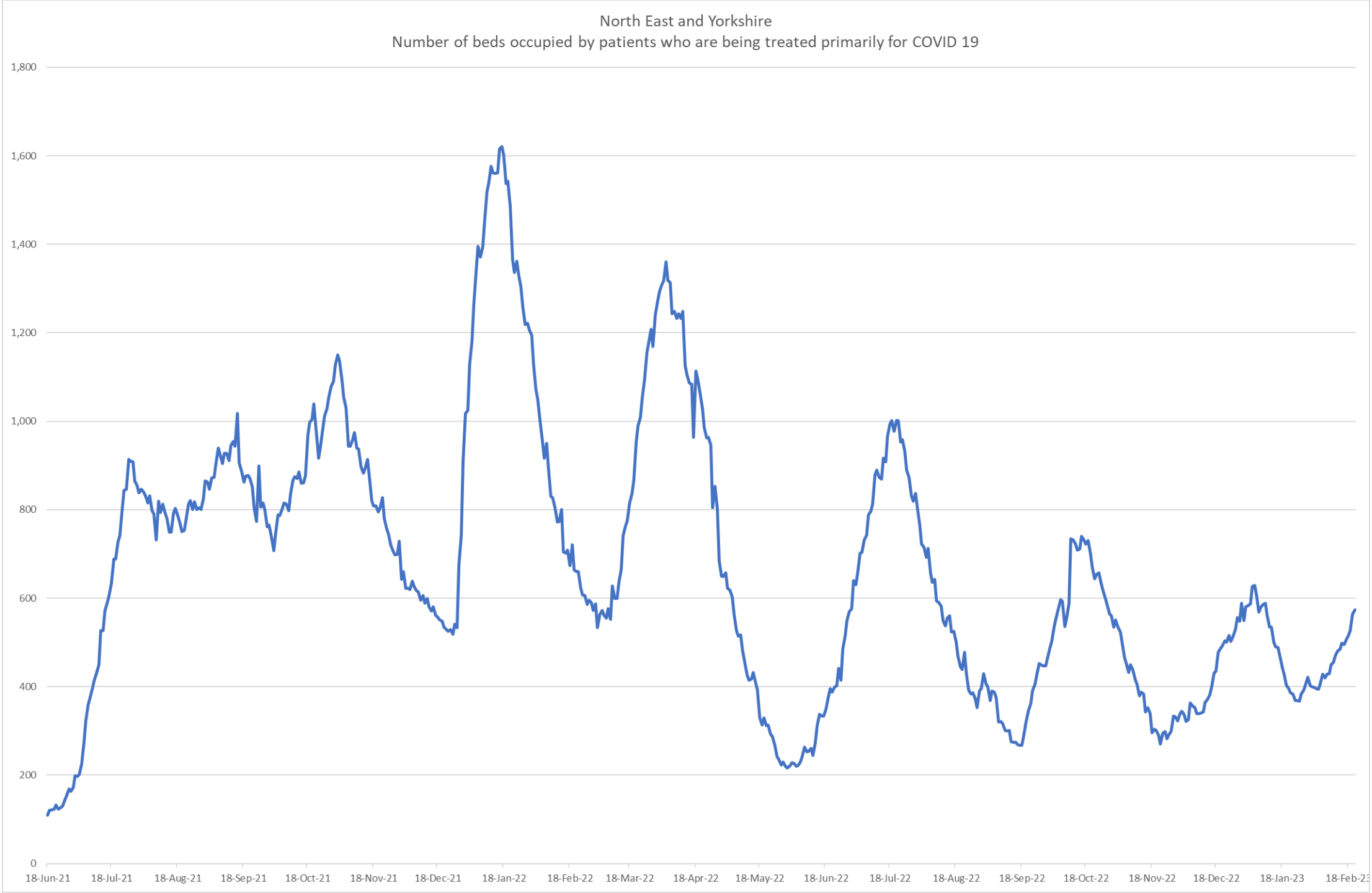
21/01/2023
22/01/2023
Influenza
COVID


North East and Yorkshire
Number of beds occupied by patients who are being treated primarily for COVID 19
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
18-Jun-21
18-Jul-21
18-Aug-21
18-Sep-21
18-Oct-21
18-Nov-21
18-Dec-21
18-Jan-22
18-Feb-22
18-Mar-22
18-Apr-22
18-May-22
18-Jun-22
18-Jul-22
18-Aug-22
18-Sep-22
18-Oct-22
18-Nov-22
18-Dec-22
18-Jan-23
18-Feb-23

My purpose

- Work through the last three years
- Reviewing how we used epidemiology to inform planning
- Consider how data becomes information
- Balance uncertainty with need for planning assumptions
- The challenge of emerging data and academic methods