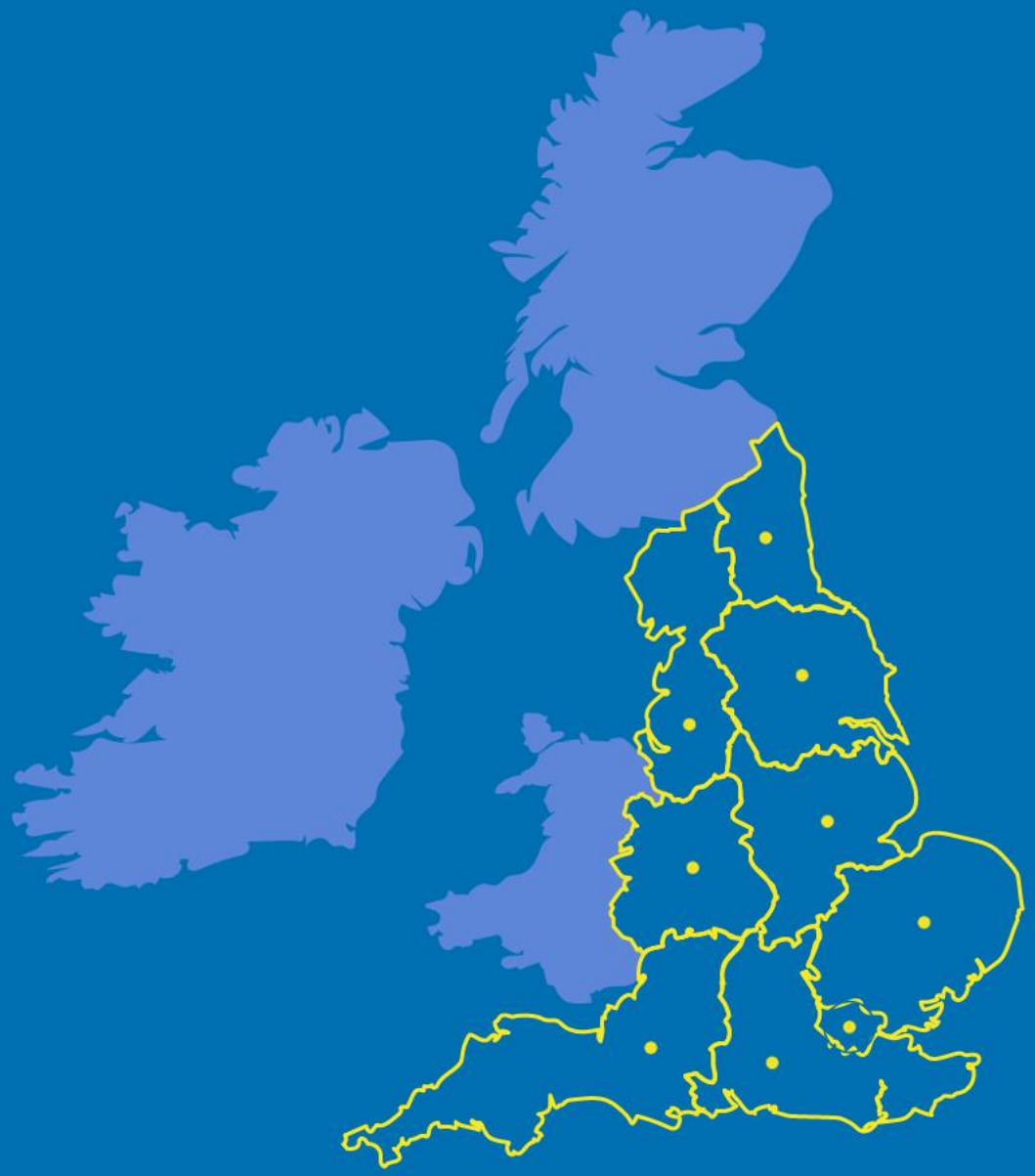
Public Health England

Joint Biosecurity Centre

CORONAVIRUS SITUATIONAL AWARENESS Summary

date: 6 January 2021



Contents

This situational awareness summary report collates information and intelligence from various sources. The summary will be provided daily and the content will continue to be developed.

- National context
- Case Rate and Case rate change maps
- High level summary
- Case rates, [redacted], positivity and testing

Please note:

13/10/2020 - denominator data for case and testing rates have been updated to 2019 mid-year population estimates.

20/10/20 - PHE has adjusted its approach to test positivity and testing rate metrics. Previously, any repeat tests for individuals since pandemic onset had been deduplicated. As the likelihood of individuals being tested multiple times has increased over time, test positivity and testing rate data are now deduplicated within each 7-day window. This change has been made in all OST outputs as of 20/10/2020 and applied retrospectively.

16/11/20-PHE has updated the way it records the location of people who test positive or negative for COVID-19. It now prioritises addresses given at the point of testing over the details registered on a patient's record in the NHS Digital Patient Demographic Service. This better reflects the distribution of cases and testing. However, it may give rise to differences in previously reported numbers of cases and rates in some areas. The change has been retrospectively applied to tests carried out from 1 September 2020, and data reports were updated to reflect this change on 16 November 2020.

20/12/20 - due to the increasing use of asymptomatic mass testing with lateral flow devices (LFD), positivity and testing rates reported in the national situational awareness reports are now only presented for PCR tests. This change has been made retrospectively, and rates reported here for earlier time periods will differ from those reported previously. Case rates are unaffected, and will include cases confirmed by PCR and/or LFD test. Data flows are being developed to enable reporting of testing and positivity by test type in early 2021.

- [redacted]
- Prevalence
- Hospitalisation
- NHS 111 potential COVID-19
- Outbreak reports
  - [redacted]
- Mortality

A separate Appendix contains Local Authority maps for case rates, positivity, testing, mortality and contact tracing.

Throughout the SAR:
Lower tier local authorities is used to represent local authority districts, unitary authorities, metropolitan district and London boroughs,
Upper tier local authorities is used to represent counties, metropolitan counties, London boroughs and unitary authorities

National context
(From 31 December 2020 Week 53 Report)

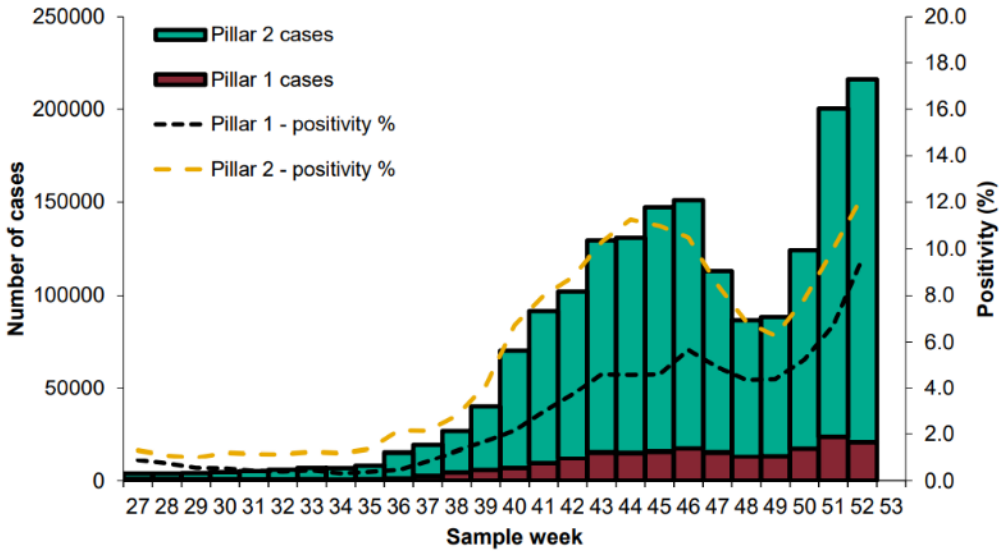
Overall case numbers and positivity in both Pillar 1 and 2 continued to increase in week 52. The highest case rates were seen in the 30 to 39 and 20 to 29 year olds in Pillars 1 and 2. Increases in positivity rates were noted across the majority of age groups. Cases rates remain highest in London, East of England and South East regions, with smaller increases in other regions.

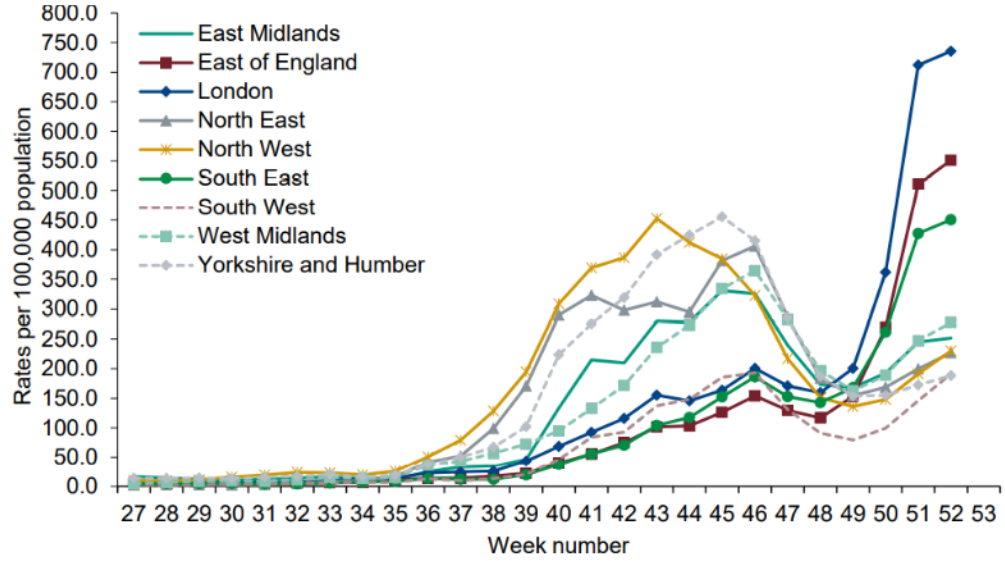
As of 09:00 on 29 December 2020, a total of 2,046,892 have been confirmed positive for COVID-19 in England under Pillars 1 and 2.

- The data are shown by the week the specimen was taken from the person being tested. This gives the most accurate analysis of this time progression, however, for the most recent week results for more samples are expected therefore this should be interpreted with caution.
- Positivity is calculated as the number of individuals testing positive during the week divided by the number of individuals tested during the week based on PCR testing.
- As of 16 November 2020, the methodology for allocating geographies for cases has been updated to include alternate postcodes where applicable. This change has been applied for cases reported since 1 September 2020. Cases reported prior to 1 September 2020 will not be allocated alternate postcode geographies.

Weekly laboratory confirmed COVID-19 case rates per 100,000 population tested under Pillar 1 and Pillar 2, by PHE Centres and sample week

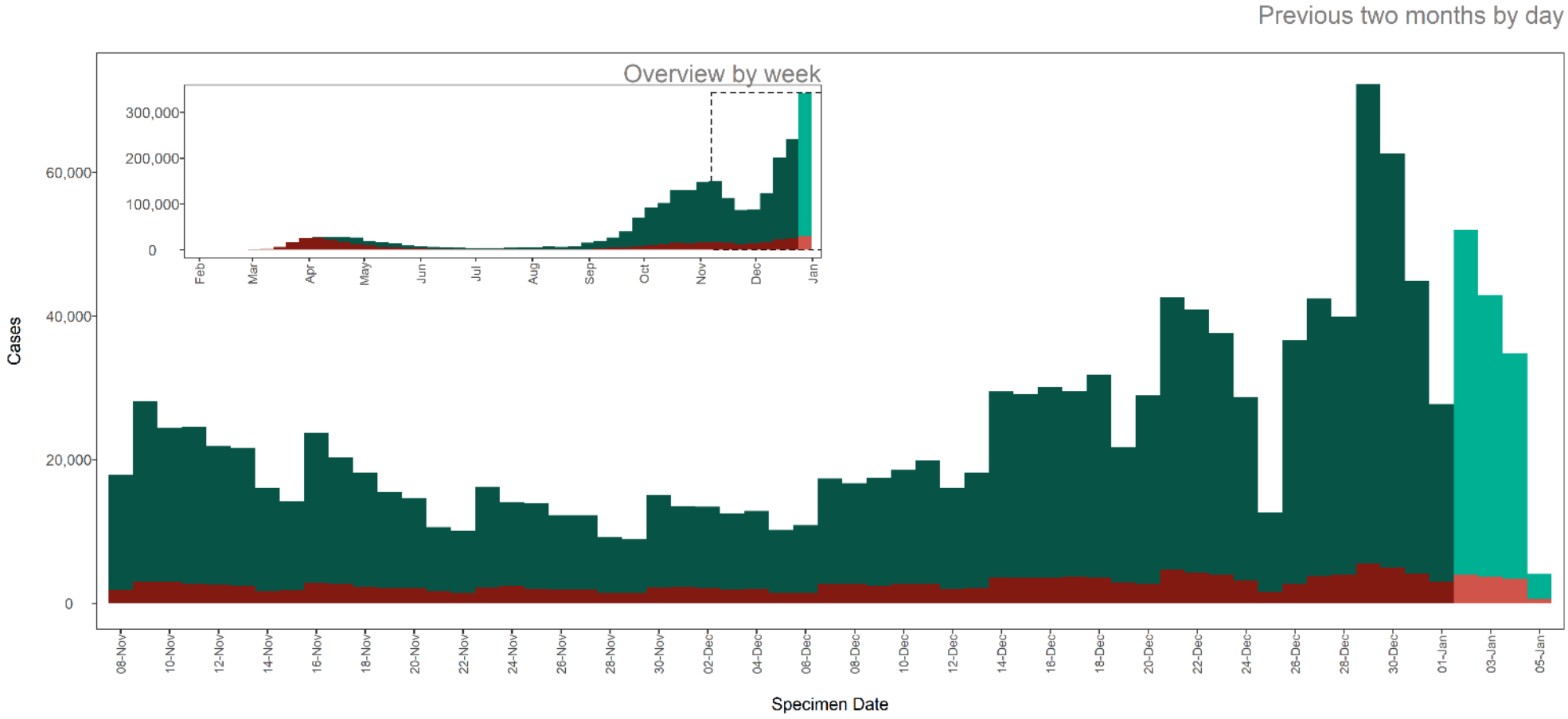
Case rates have been calculated using mid-2019 ONS population estimates





National context

England confirmed cases - epidemic curve*

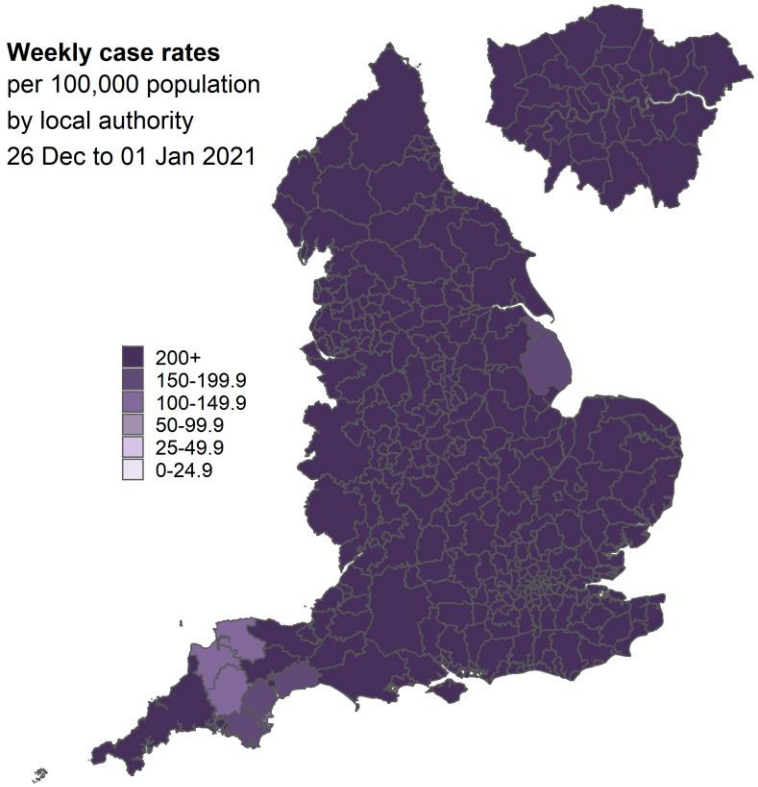


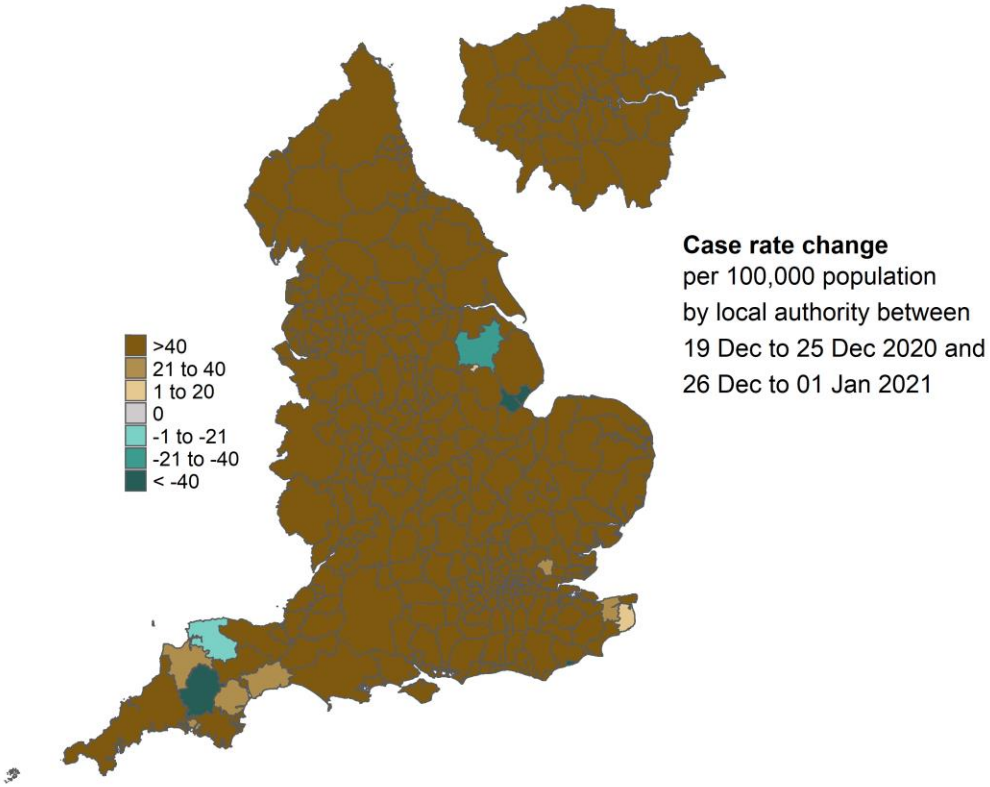
*Bars shaded in light red and light green are provisional.
Figures are expected to rise as results are received for additional samples tested during this period.
Inset epi curve is based on weekly reports from date of first case diagnosed.
Main epi curve shows daily cases truncated to show the previous two months.
Value labels are for combined pillar 1 and pillar 2 cases.

Produced by the Outbreak Surveillance Team, Public Health England.

Case Rates - Geographical spread of COVID-19 in England

Geographical spread of COVID-19 in England

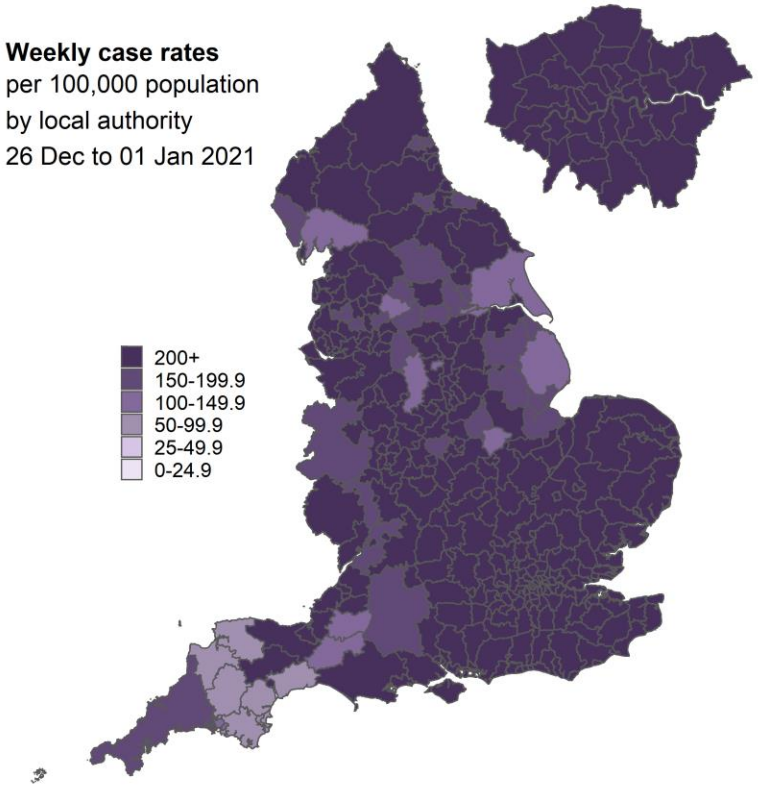


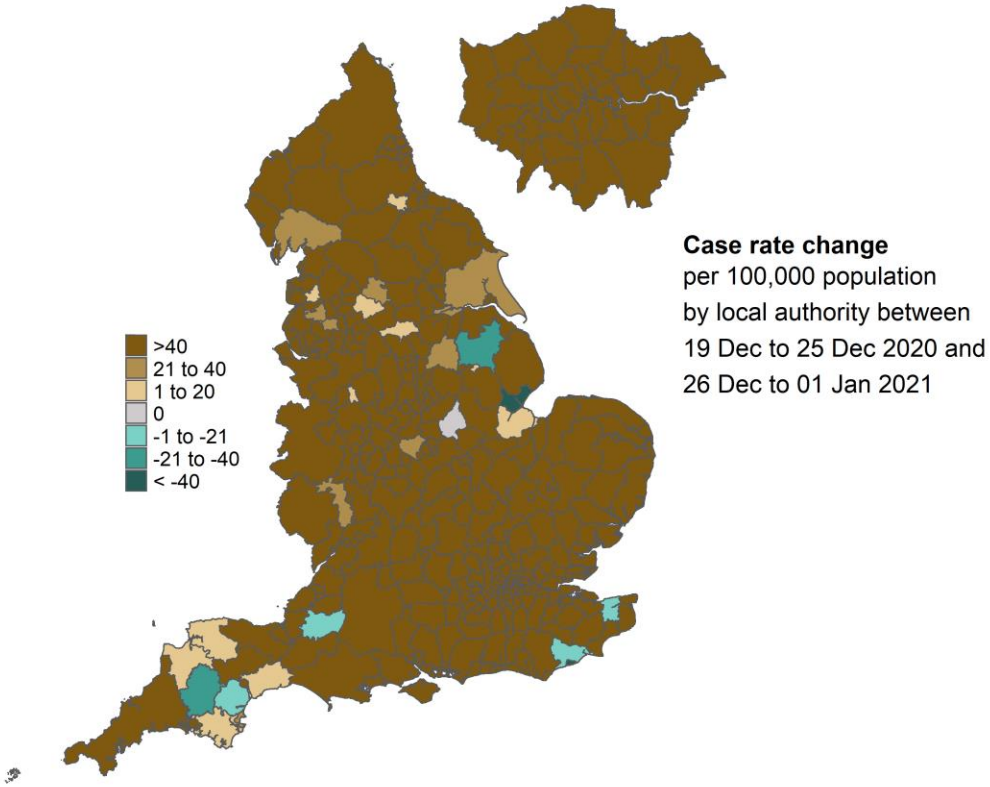


Data from SGSS; Pillar 1 and 2 testing. Figure by Outbreak Surveillance Team, Public Health England.

Case Rates - Geographical spread of COVID-19 in England (aged 60+ years)

Geographical spread of COVID-19 in England (aged 60+ years)





Data from SGSS; Pillar 1 and 2 testing. Figure by Outbreak Surveillance Team, Public Health England.

High level summary 1 – PHE Centres

PHE Centres with highest case rates in 7 days (26 December 2020 to 1 January 2021)

Region	Individuals tested per day per 100,000 population		Percentage individuals test positive		Number of LTLAs by percentage individuals test positive RAG status			Percentage individual cases reporting symptoms		Case rate per 100,000 population, all ages		Number of LTLAs by case rate per 100,000 RAG status			Case rate per 100,000 population aged 60 years and over		Case rate per 100,000 population aged 17-21yrs		Community outbreaks	Newly confirmed cases
	7-day moving average	7-day change, %	Weekly	7-day change, %	Red	Amber	Green	Weekly, Pillar 2 only	7-day change, %	Weekly	7-day change, %	Maroon	Dark red	Red	Weekly	7-day change, %	Weekly	7-day change, %	Last 7 days	Last 7 days
East Midlands	394.4	-1.1%	14.9%	+60.2%	39	1	0	[redacted]		389.2	+62.0%	34	6	0	273.1	+ 59.0%	399.3	+ 86.5%	[redacted]	18,822
East of England	616.1	-12.2%	18.9%	+61.5%	46	0	0			776.9	+44.1%	46	0	0	506.6	+ 61.8%	1043.6	+ 50.7%		50,541
London	553.8	-15.3%	27.6%	+55.1%	33	0	0			1012.1	+32.2%	33	0	0	811.4	+ 47.6%	1255.8	+ 46.0%		90,707
North East	398.2	+5.0%	14.9%	+77.4%	12	0	0			395.1	+87.7%	10	2	0	269.4	+ 83.6%	445.7	+109.0%		10,550
North West	400.4	-2.2%	15.9%	+93.9%	39	0	0			419.4	+97.8%	39	0	0	299.9	+ 87.7%	475.0	+116.4%		30,790
South East	538.3	-8.3%	19.1%	+63.2%	66	0	0			684.5	+51.4%	66	0	0	460.1	+ 64.4%	832.0	+ 53.6%		60,998
South West	460.8	+2.4%	10.6%	+86.0%	21	6	3			321.9	+95.7%	19	6	4	202.6	+108.4%	418.8	+112.1%		18,107
West Midlands	406.8	-1.5%	17.7%	+80.6%	30	0	0			477.1	+83.2%	29	1	0	330.4	+ 85.7%	527.9	+ 88.6%		28,312
Yorkshire and Humber	335.9	-5.0%	12.7%	+62.8%	21	0	0			281.1	+58.9%	15	6	0	202.3	+ 52.3%	301.8	+ 83.8%		15,469
England	**481.1**	**-7.0%**	**18.2%**	**+61.1%**	**307**	**7**	**3**			**579.8**	**+53.1%**	**291**	**21**	**4**	**387.7**	**+ 65.0%**	**678.9**	**+ 64.7%**		**326,333**

Data for positive cases with specimen dates between **26 December 2020 to 1 January 2021**

Arrows demonstrate how figures compare to the equivalent figure as of **25 December 2020**

Percentage positive: Red >7.5%, Amber >4 to 7.5%

All Cases / 17-21 year olds: Weekly case rate: Purple >250 cases per week, Dark Red > 150 cases per week, Red >50 cases per 100,000 per week, Amber >25 per 100,000 per week

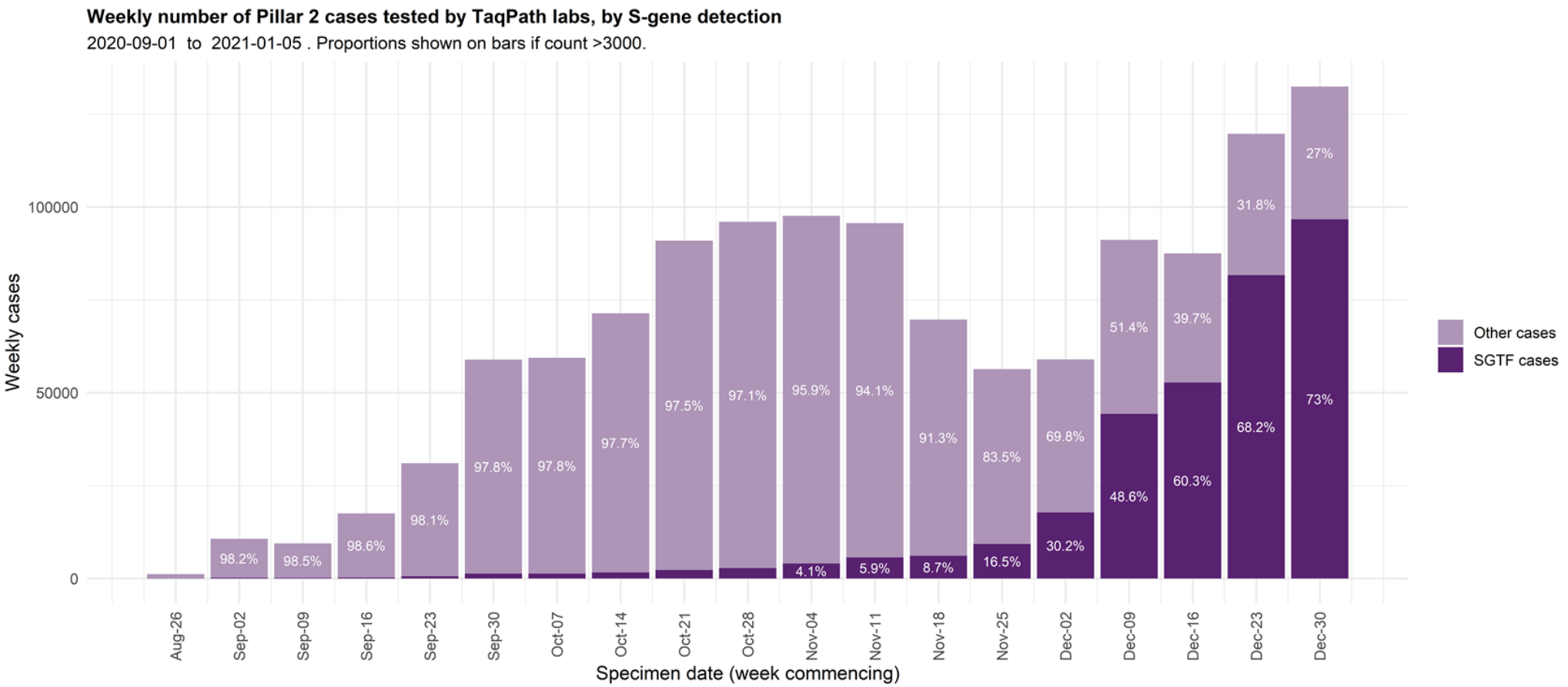
Age 60+ Cases: Weekly case rate: Purple >150 cases per week, Dark Red > 100 cases per week, Red >50 cases per 100,000 per week, Amber >25 per 100,000 per week

Test positivity and testing rate metrics based on updated methodology from 20th October

16/11/20 - PHE has updated the way it records the location of people and now prioritises addresses given at the point of testing. See Content Sheet for further details

Data definitions (see next slide for additional data)	
Weekly case rate	Total number of confirmed cases in the most recent 7 day period per 100,000 population
Individuals tested per day per 100,000 (7-DMA)	Number of individuals tested per 100,000 population
Percentage individuals test positive (7-DMA)	Percentage of individuals tested with specimen dates in the most recent 7-days period who were positive for SARS-CoV-2
Community outbreaks	Number of outbreaks reported to PHE during the 7 day period, excluding those reported from secondary healthcare and care home settings.

Tracking SARS-COV-2 S-Gene Target Failure
– weekly SGTF case numbers over time



VOC-202012/01 is confirmed through whole genome sequencing. SGTF is a surveillance proxy based on PCR CT values and may include other variants, particularly before December 2020.
SGTF = Positive test with non-detectable S gene and <=30 CT values for N and ORF1ab genes respectively
TaqPath labs = Alderley Park, Milton Keynes and Glasgow Lighthouse Labs.
Cases deduplicated to one positive test per person per week, prioritising SGTF tests. Complete 7-day periods shown with moving start days.
Data source: SGSS

Tracking SARS-COV-2 S-Gene Target Failure

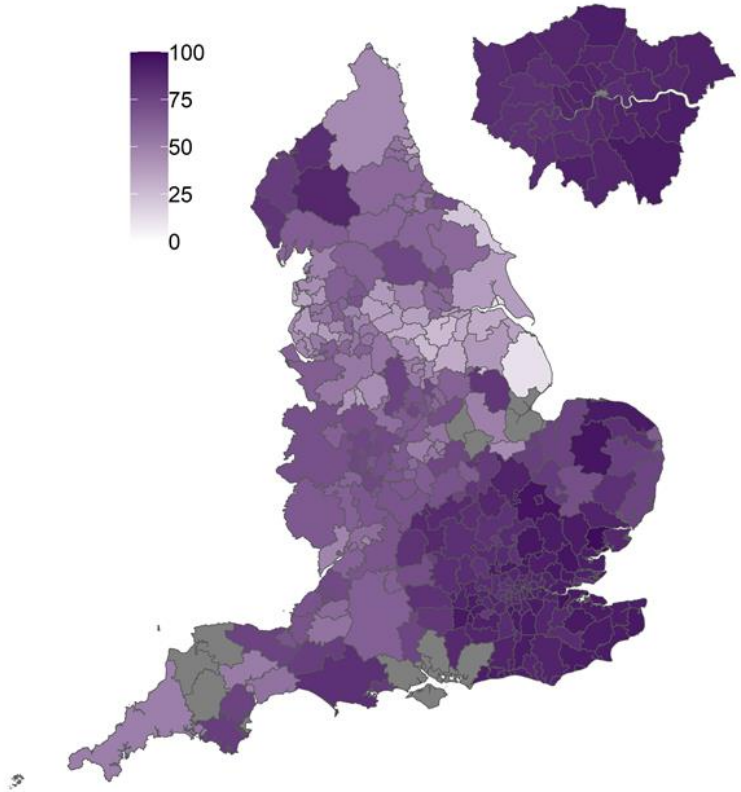
– most recent 7 days by LTLA

Only samples processed in TaqPath labs can be tested for SGTF. As some (or in some areas, most) samples are processed in other labs, the proportion of cases from TaqPath labs with SGTF can only provide an estimate of the overall proportion.

For LTLAs where TaqPath lab coverage is low (<2%) or total test numbers processed in a TaqPath lab is low (<20) in current reporting period, SGTF proportion is a less reliable indication of incidence and data are not shown. These LTLAs are greyed out.

Proportion of Pillar 2 COVID-19 cases with SGTF among those tested in TaqPath Labs, by Local Authority (30 Dec to 05 Jan 2021)

LAs with >=2% tests and >=20 cases in TaqPath labs shown; others in gray



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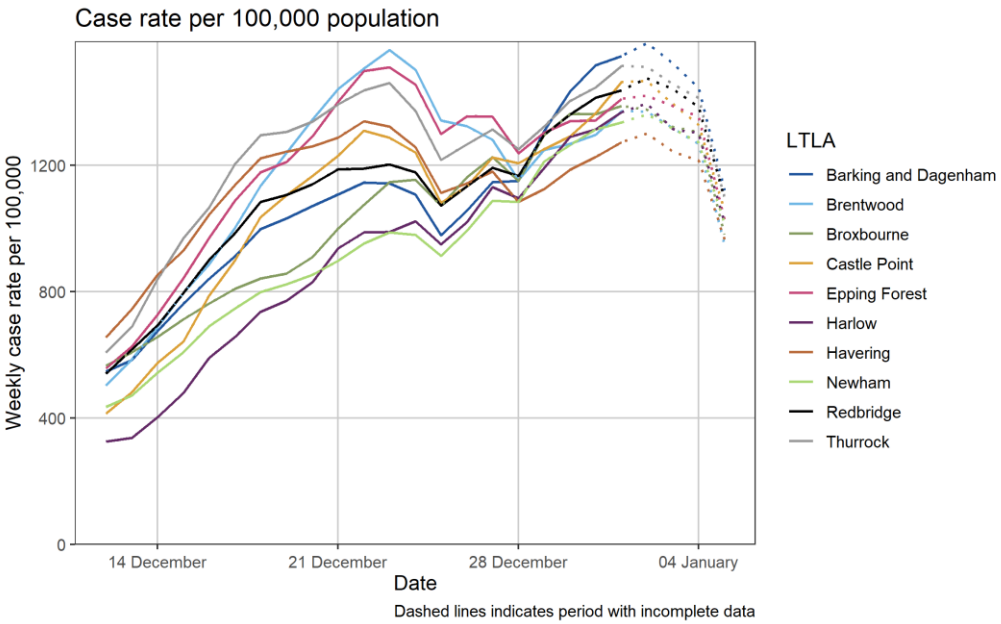
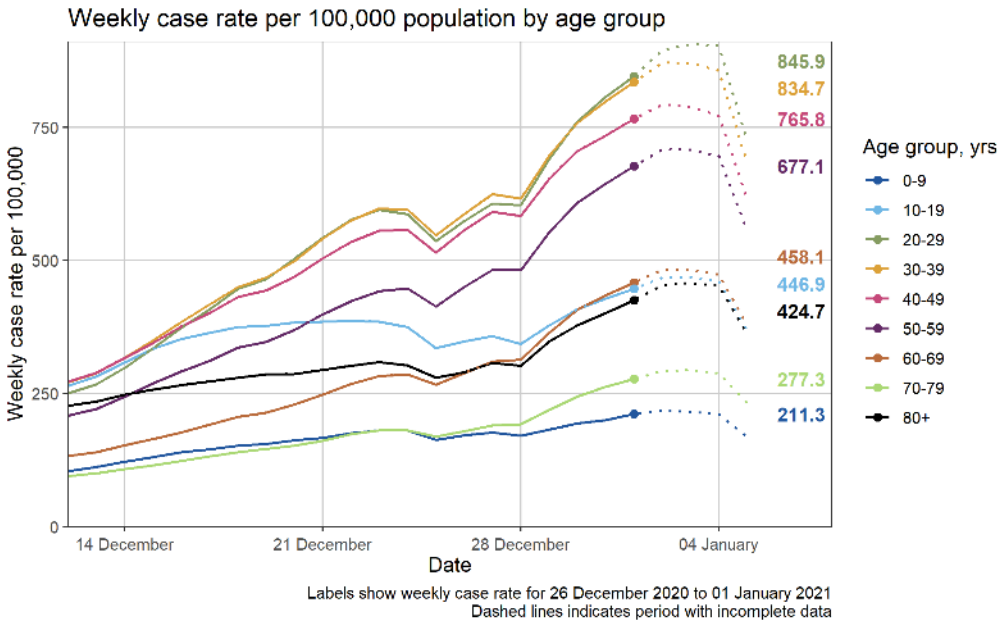
Cases deduplicated to one positive test per person per week, prioritising SGTF tests. 7 day periods shown.
Data source: SGSS. 128 persons with missing LA of residence excluded.

Case rate across both pillars 1 and 2 (weekly)
Data up to the 1 January 2021





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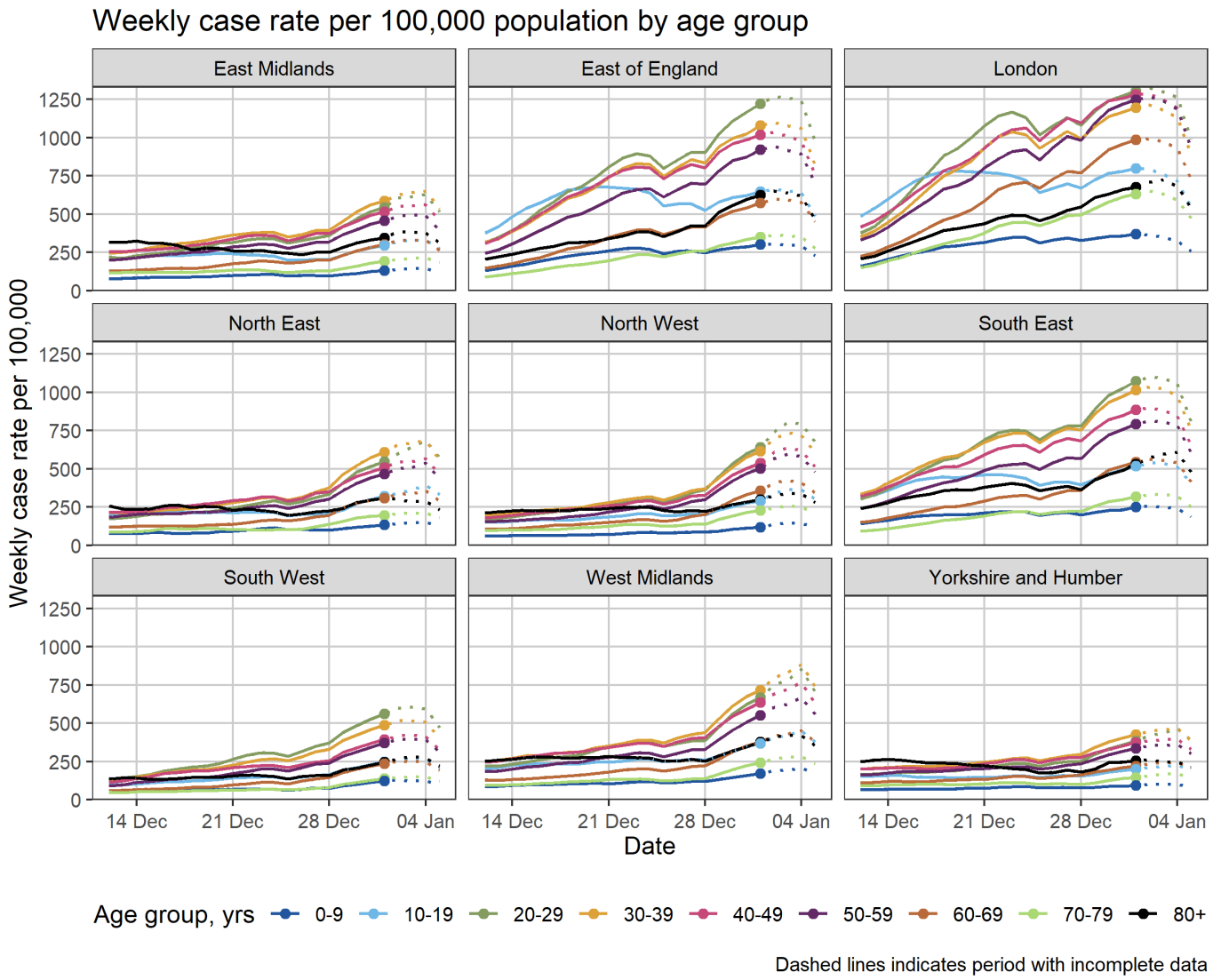
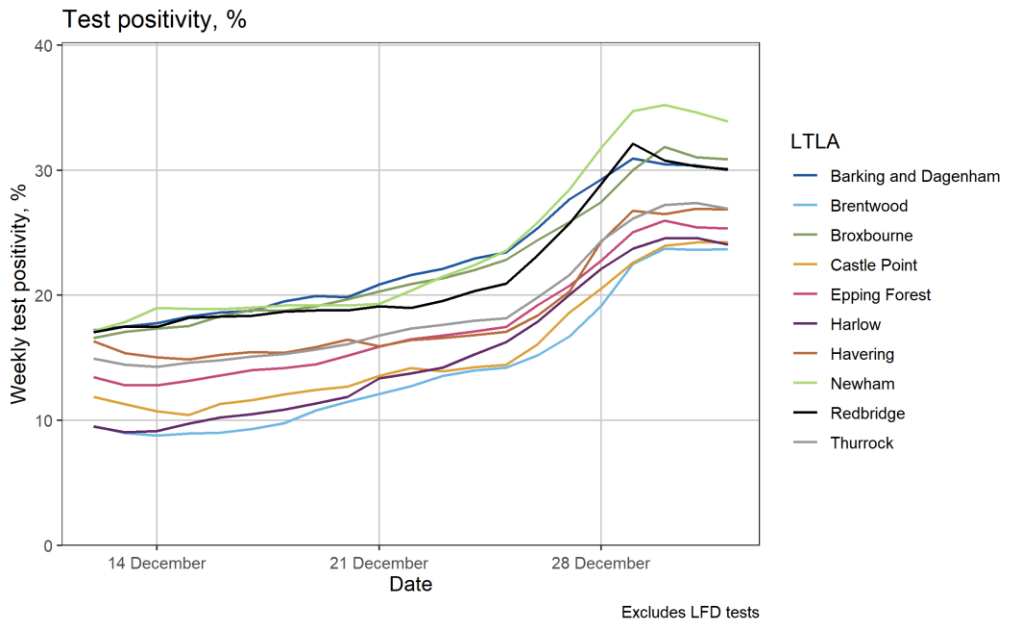
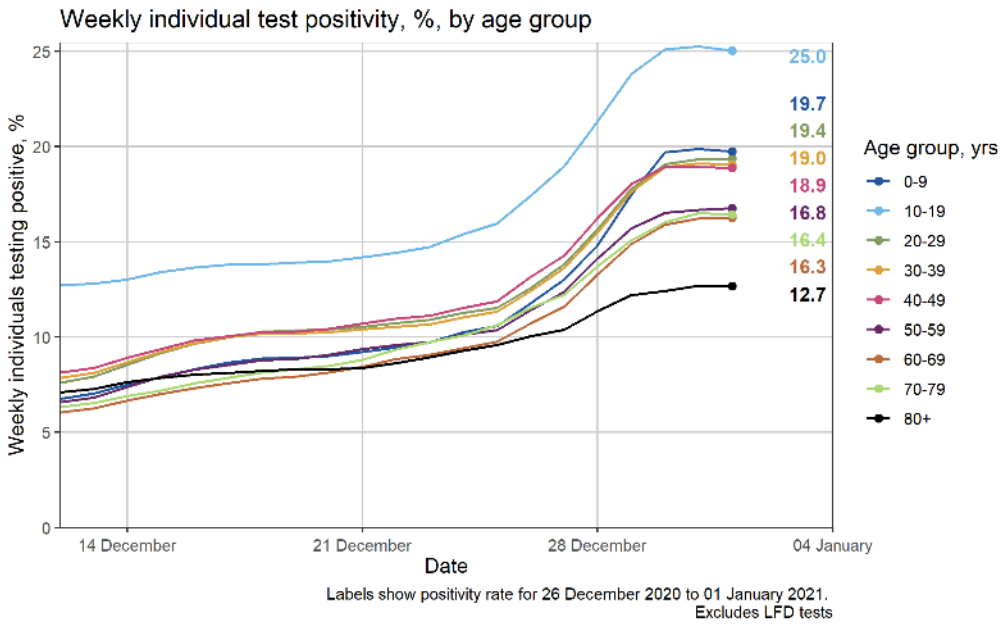


Percentage of individuals testing positive across both pillars 1 and 2 (weekly)
Data up to the 1 January 2021





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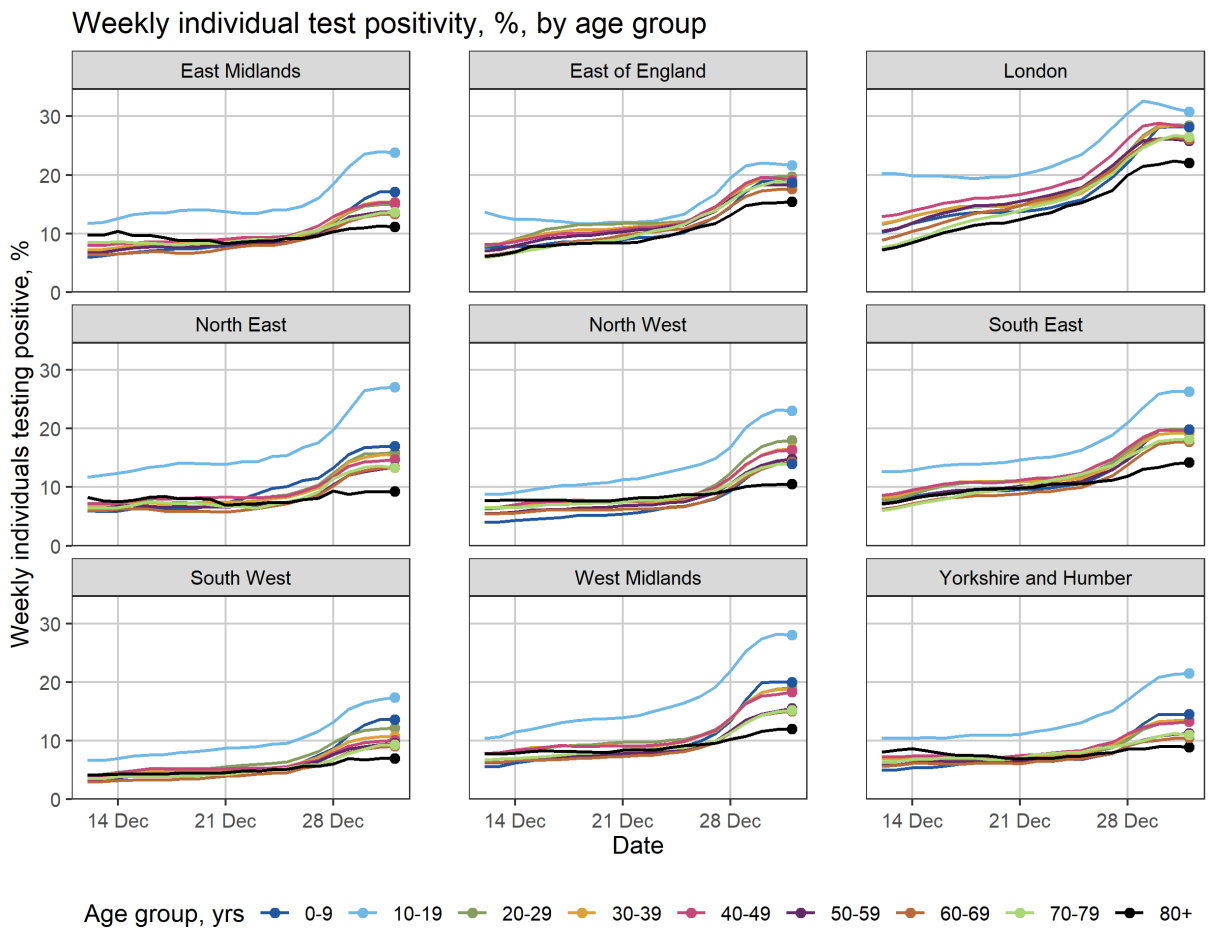
16/11/20 *- PHE has updated the way it records the location of people and now prioritises addresses given at the point of testing. See Content Sheet for further details*

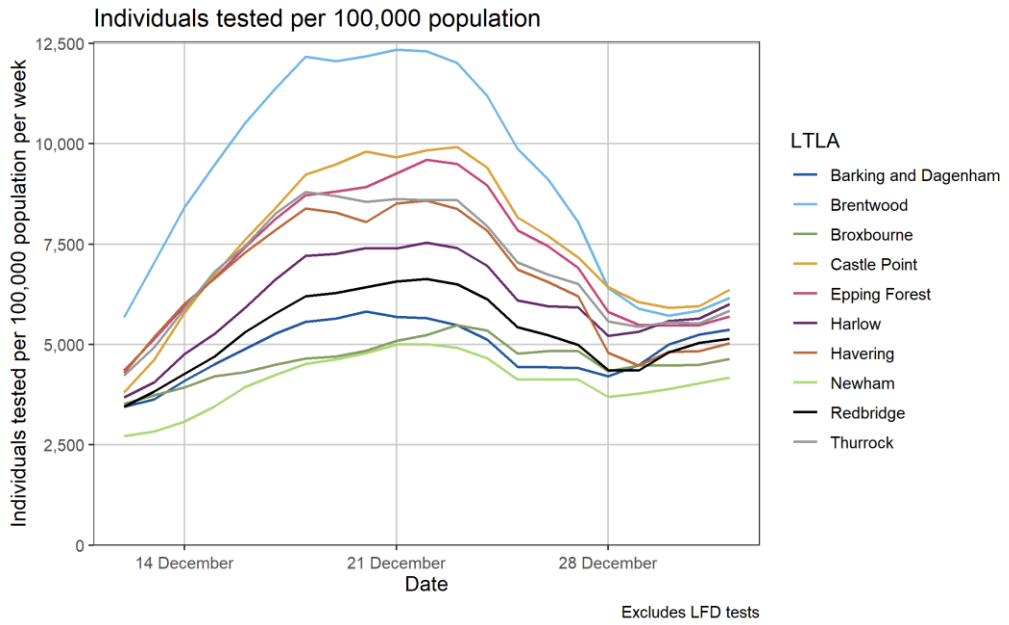
Test positivity and testing rate metrics based on updated methodology from 20th October

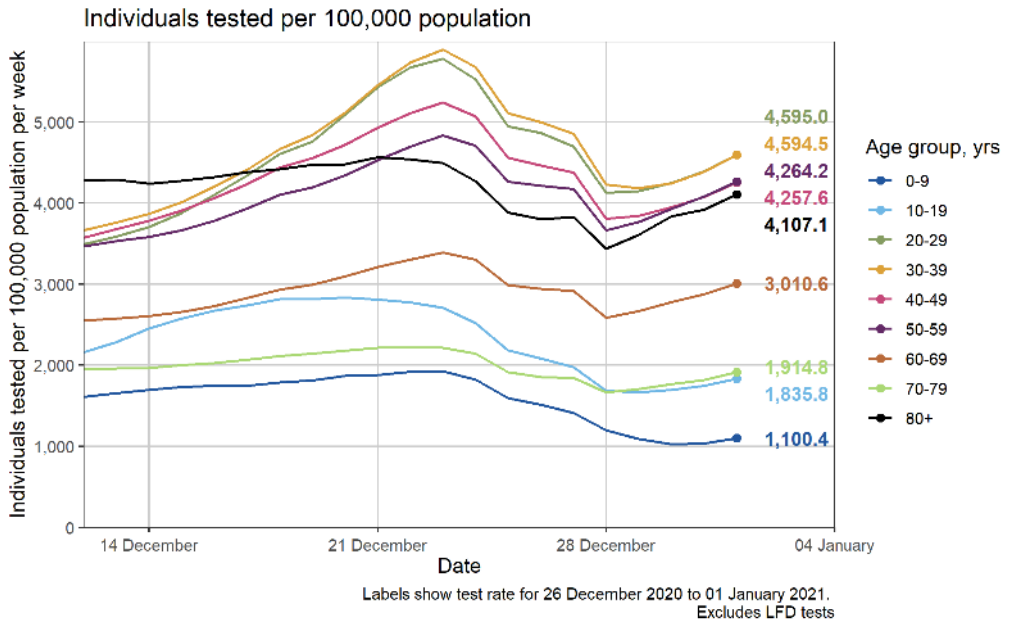
Percentage of individuals testing positive across both pillars 1 and 2 (weekly)
Data up to the 1 January 2021



Excludes LFD tests

Individuals tested across both pillars 1 and 2 (weekly)
Data up to the 1 January 2021





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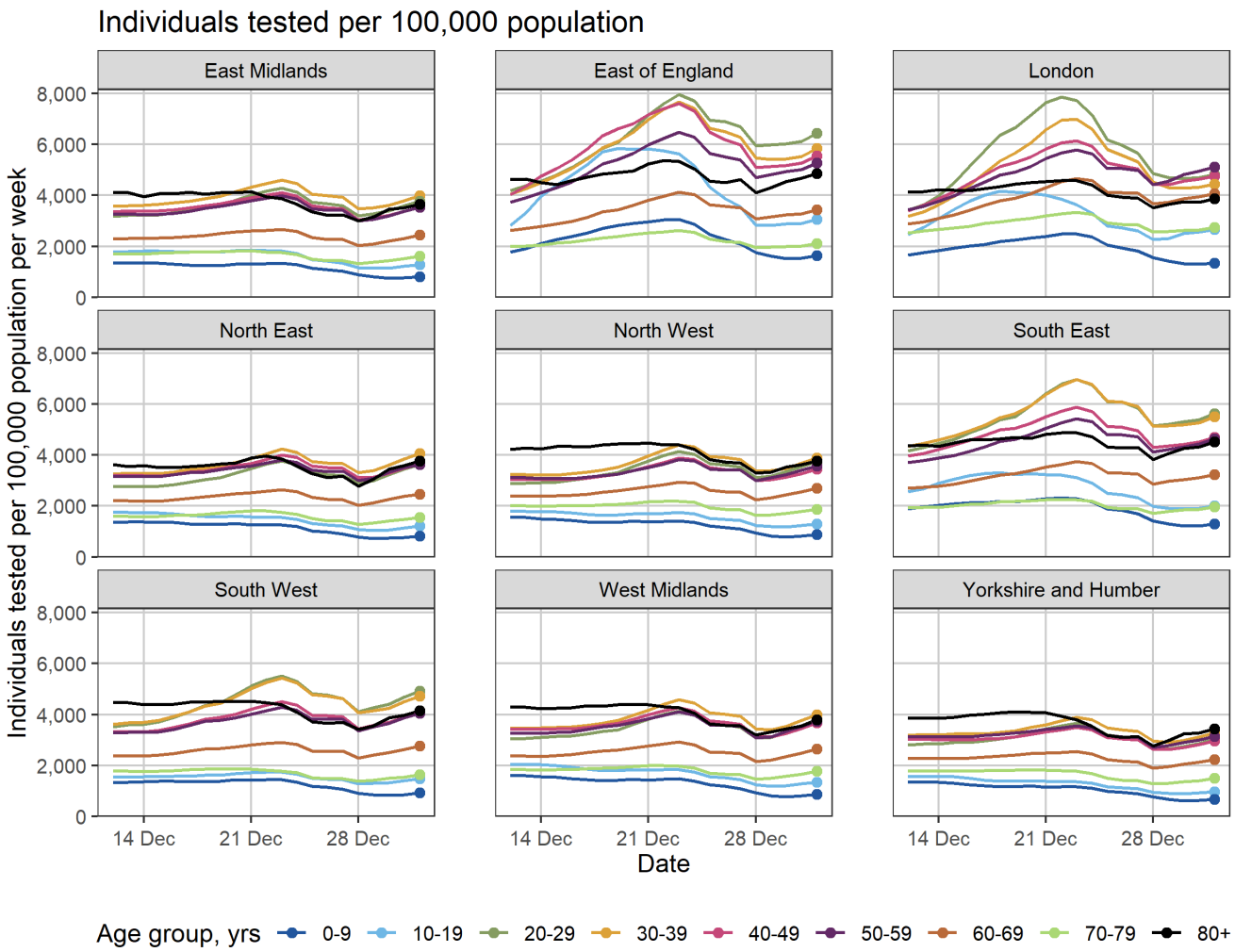

Percentage prevalence of COVID-19 across England and Government Office regions - table

Data generated 31 December 2020 by PHE Joint Modelling Cell

Geography	25/12/2020	01/01/2021	08/01/2021
England	1.58 (1.32, 2.36)	1.64 (1.37, 2.34)	1.58 (1.31, 2.14)
North East	1.13 (0.76, 1.77)	1.12 (0.70, 1.82)	1.04 (0.61, 1.77)
Yorkshire and The Humber	1.20 (0.87, 1.78)	1.04 (0.72, 1.58)	0.84 (0.55, 1.33)
North West	1.21 (0.89, 1.80)	1.16 (0.82, 1.72)	1.04 (0.70, 1.54)
East Midlands	1.76 (1.31, 2.64)	1.73 (1.23, 2.51)	1.55 (1.07, 2.25)
West Midlands	1.90 (1.46, 2.74)	1.79 (1.31, 2.57)	1.55 (1.07, 2.23)
East of England	1.88 (1.38, 2.92)	2.18 (1.54, 3.26)	2.28 (1.52, 3.41)
London	2.07 (1.56, 3.15)	2.18 (1.59, 3.21)	2.09 (1.48, 3.01)
South East	1.84 (1.43, 2.88)	2.15 (1.62, 3.15)	2.28 (1.65, 3.23)
South West	0.67 (0.46, 1.10)	0.69 (0.45, 1.16)	0.68 (0.41, 1.16)

Methodology

Prevalence estimates were generated by the Cambridge real-time model on **24 December 2020** using data up to **18 December 2020**.

The percentage prevalence of COVID-19 infections in the regional populations are rated using the following scale:

- Low prevalence: less than 0.5%
- Medium prevalence: 0.5% to, but not including, 2%
- High prevalence: 2% and above.

These estimates are subject to, sometime significant, revision on a weekly basis. The underpinning model relies on death data which is subject to a reporting lag. In the weeks surrounding the implementation and relaxation of restrictions, it often takes a while for the system to settle, to account for the data lag and changes in mobility patterns.All prevalence estimates are reported as percentages, the values in parentheses represent the 5th and 95th percentiles respectively.

Further details on the Cambridge real-time model can be found https://www.mrc-bsu.cam.ac.uk/tackling-covid-19/nowcasting-and-forecasting-of-covid-19/

Percentage prevalence of COVID-19 across England and Government Office regions - charts

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Prevalence estimates set against the prevalence boundaries.

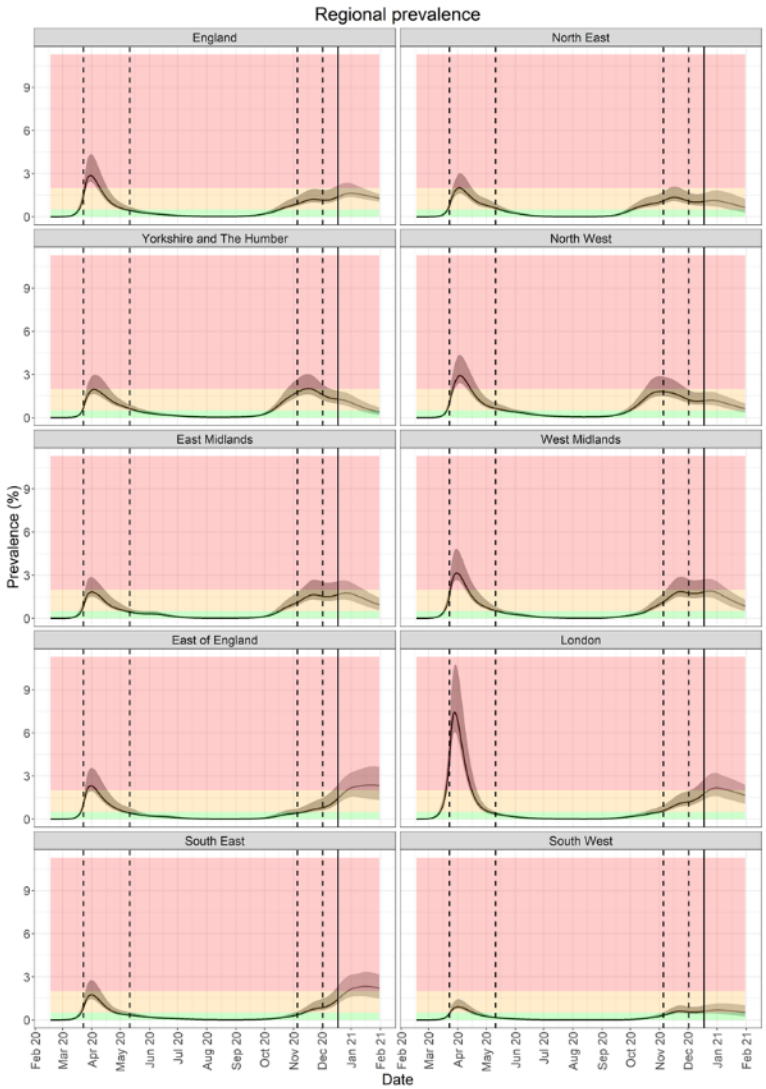
Solid line shows the point prevalence estimates, with the grey boundary covering the 5th to 95th centile range.

The solid vertical line indicates the cut off date for data that are used in the real-time model.

The point prevalence and range are faded after this date, indicating that the results are then projections.

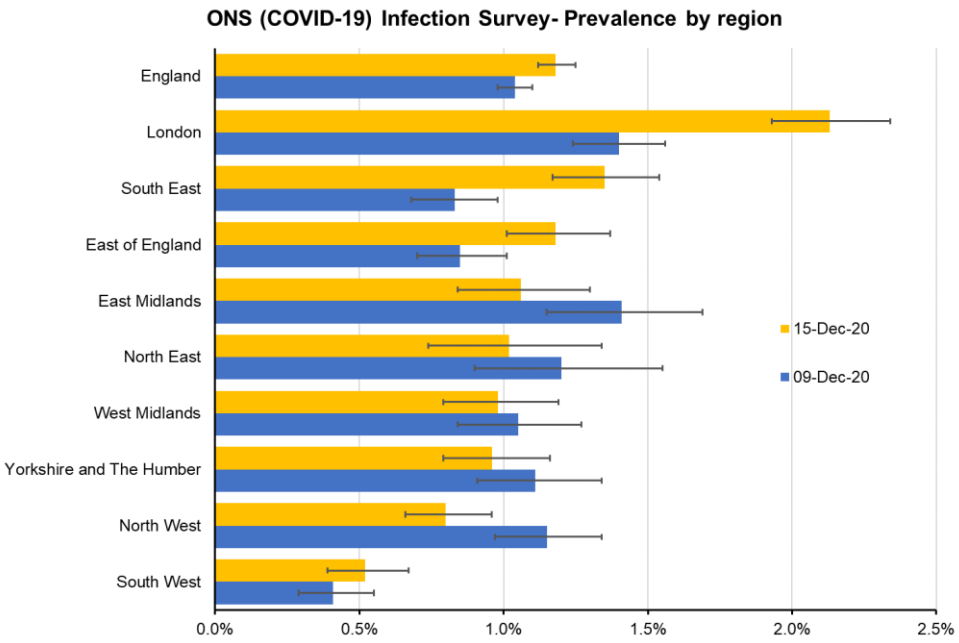
The dashed vertical lines indicate the time at which national measures were implemented.

Please note that weekly estimates are subject to revision.



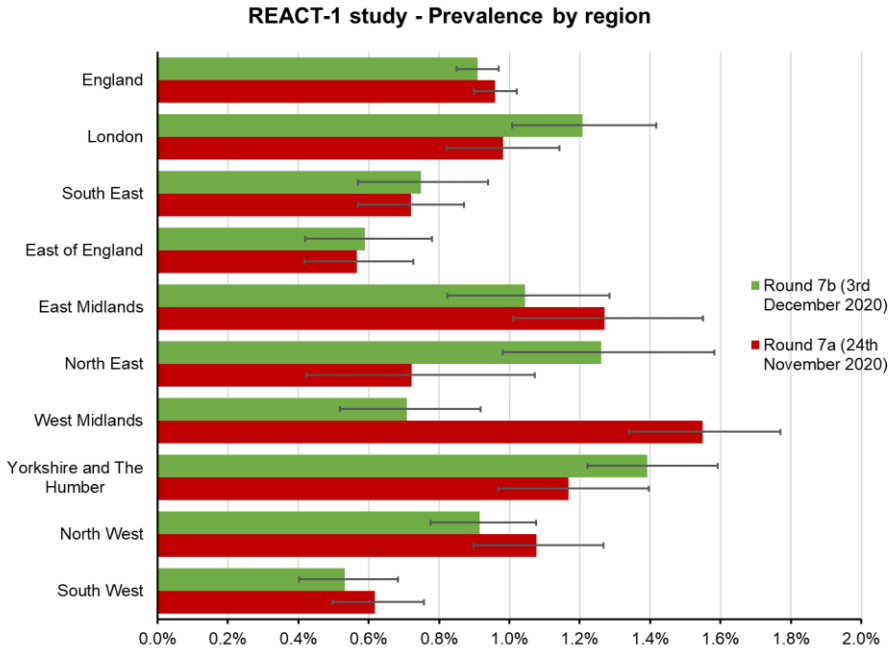
Estimated Prevalence by Region

ONS Coronavirus (COVID-19) Infection Survey (24 December)
Over the most recent week, the percentage of people testing positive has continued to increase sharply in London, the East of England, and the South East; London now has the highest percentage of people testing positive.
In the most recent week, the percentage of people testing positive has increased for all age groups except those aged 50 to 69 years where there are early signs of an increase, and those aged 70 years and above in whom there are early signs of a decrease



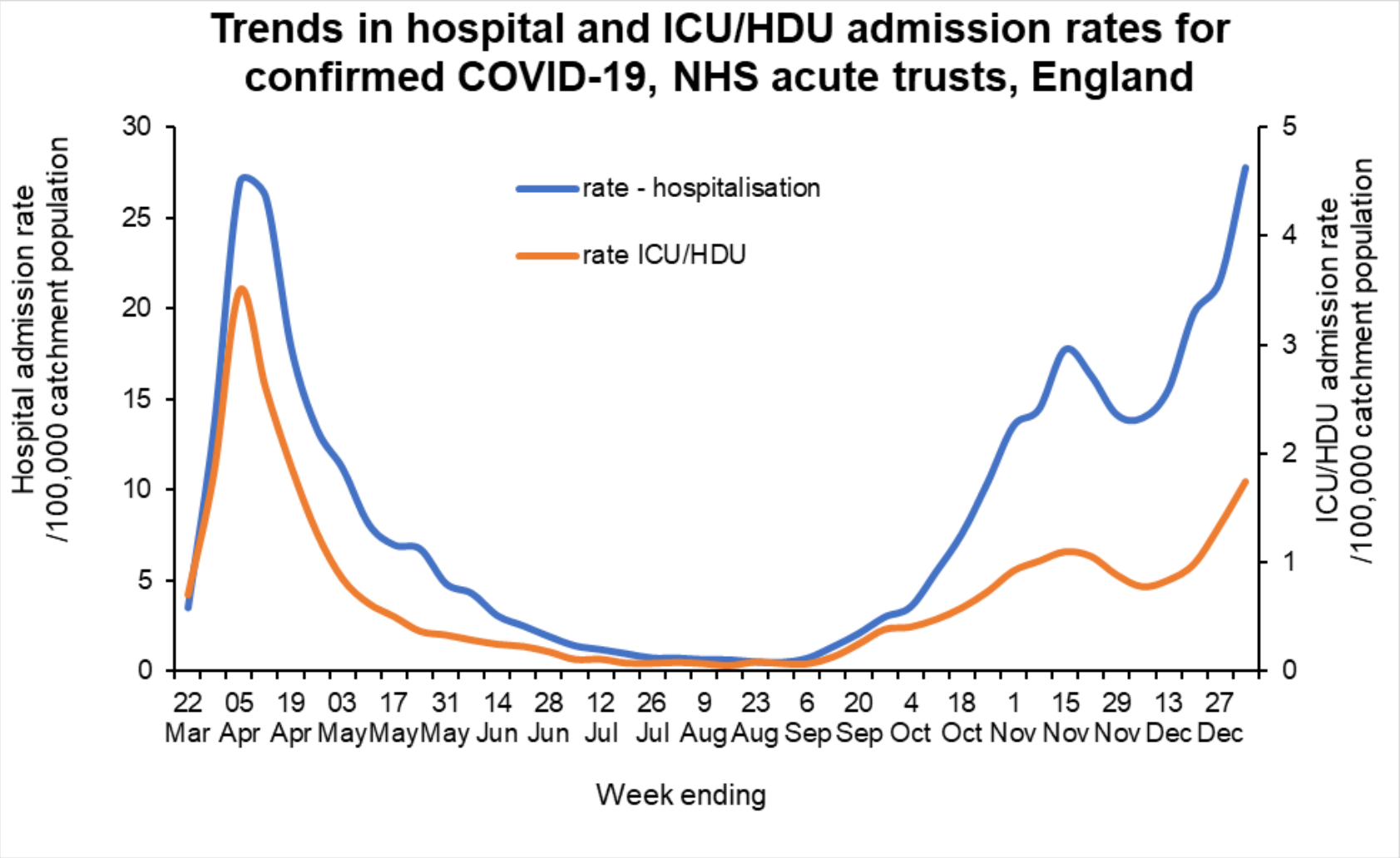
Coronavirus (COVID-19) Infection Survey, UK: 24 December 2020

REACT-1 round 7 updated report (3 December)
During round 7 there was a marked fall in prevalence in West Midlands, a levelling off in some regions and a rise in London. R numbers at regional level ranged from 0.60 (0.41, 0.80) in West Midlands up to 1.27 (1.04, 1.54) in London, where prevalence was highest in the east and south-east of the city. Nationally, between 13th November and 3rd December, the highest prevalence was in school-aged children especially at ages 13-17 years at 2.04% (1.69%, 2.46%), or approximately 1 in 50.



REACT-1 round 7 updated report: Between the previous round and round 7 (during lockdown), there was a fall in prevalence of swab-positivity nationally, but it did not fall uniformly over time or by geography 3 Dec 2020

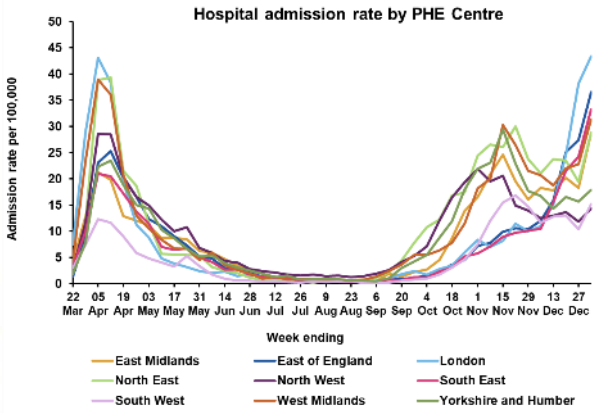
Hospitalisations national trends



Hospital admissions refers to admissions to all levels of care inclusive of ICU/HDU admissions

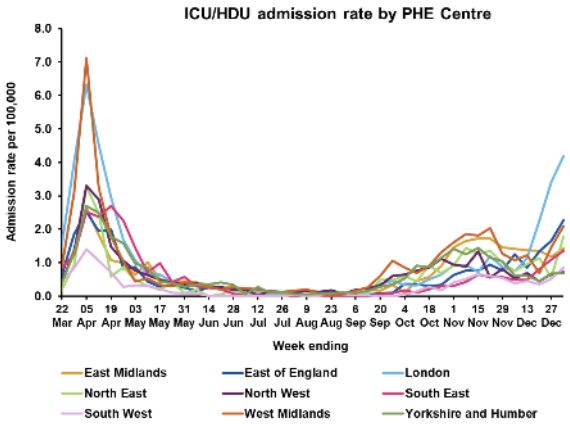
Source: PHE Severe Acute Respiratory Infection surveillance web tool - SARI-Watch

Hospitalisations by PHE Centre



Weeks 12 to 53

Weeks 27 to 53



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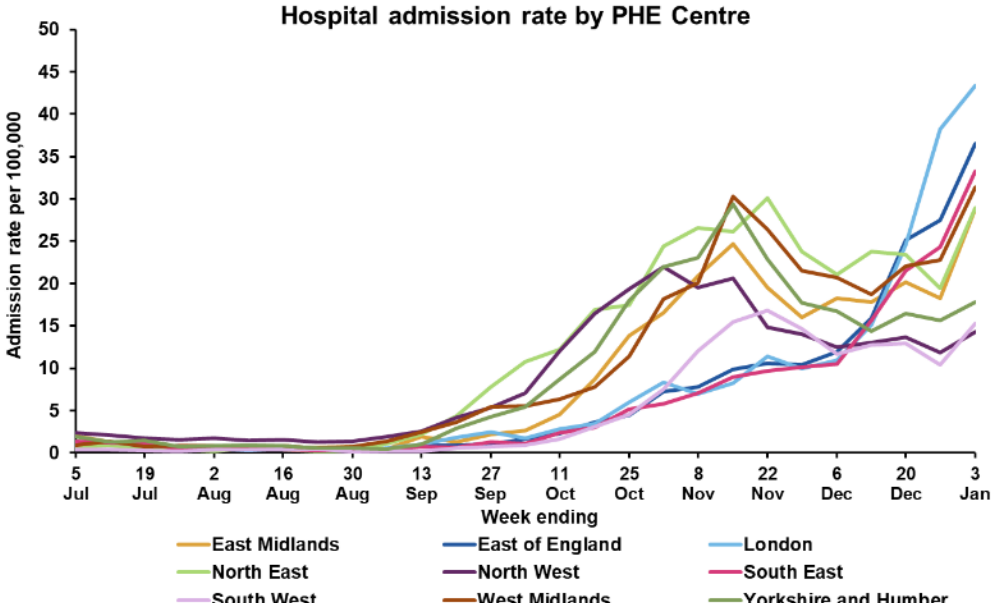
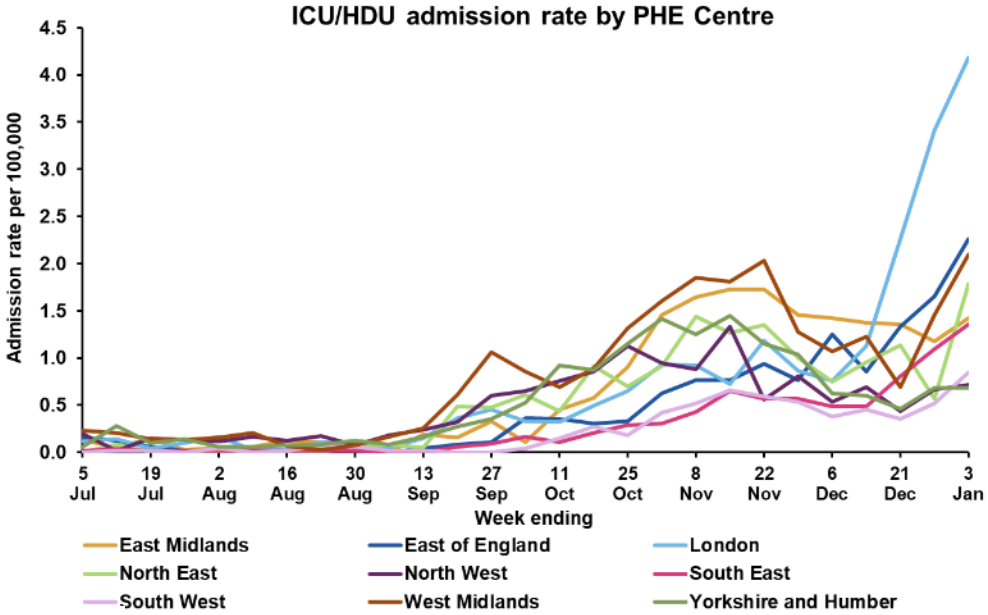
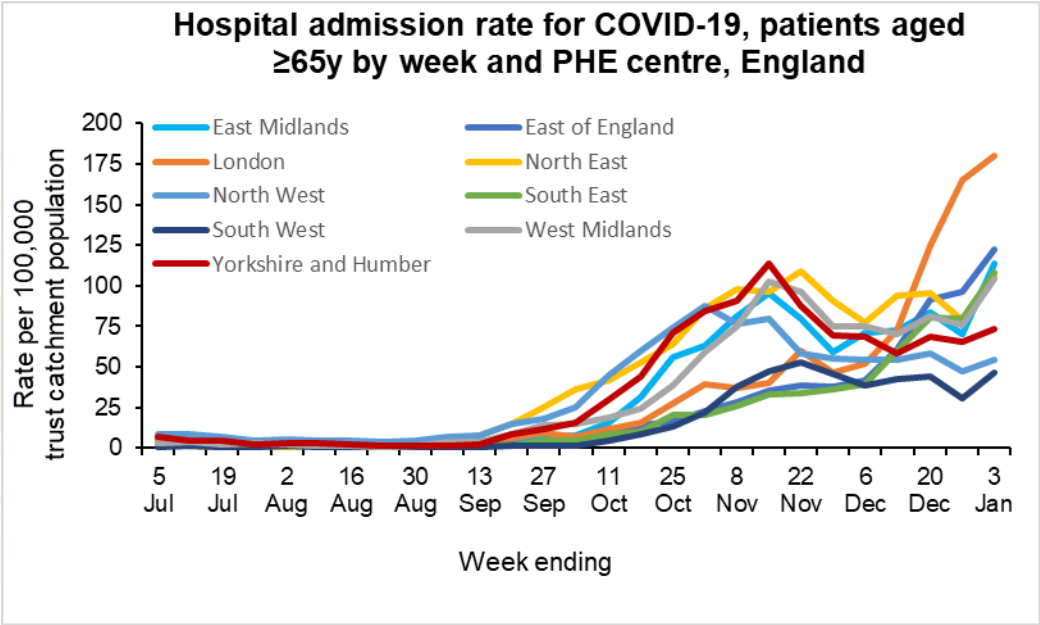
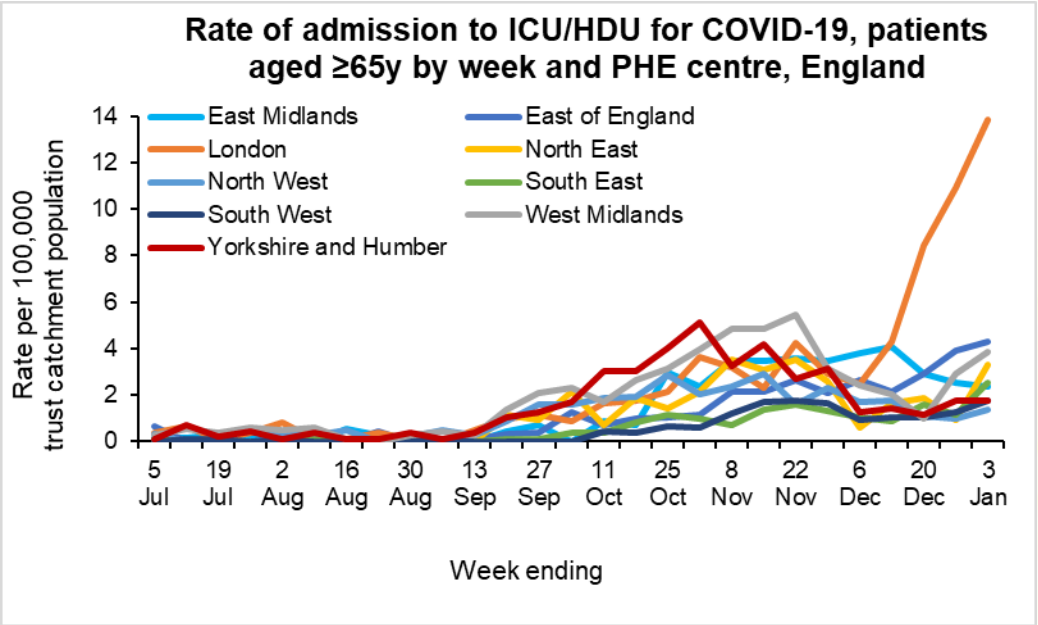
Weeks 27 to 53



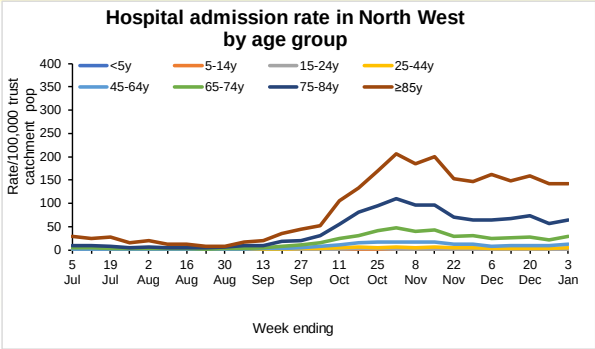


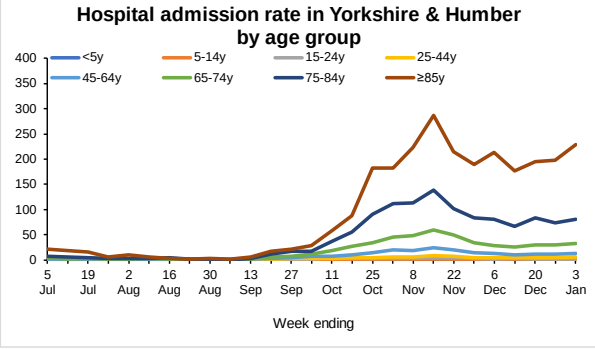
Hospitalisations by PHE Centre and age 65 years and over

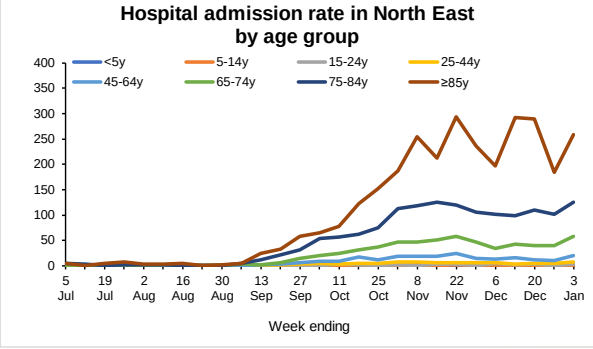


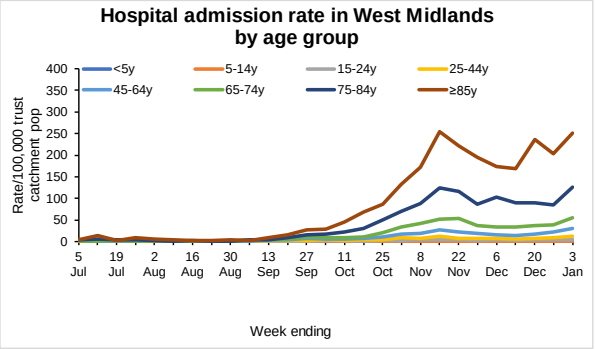


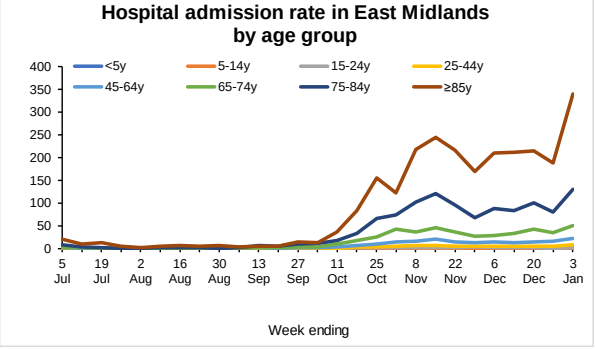
Hospitalisations by PHE Centre and age

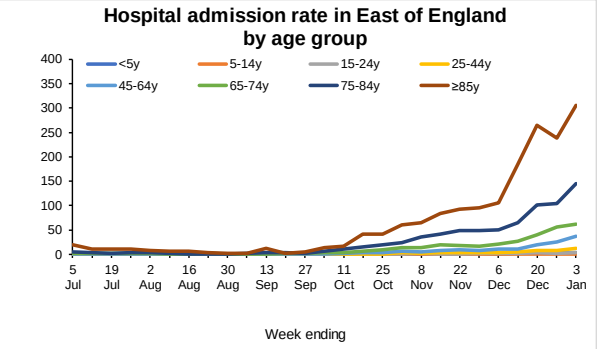


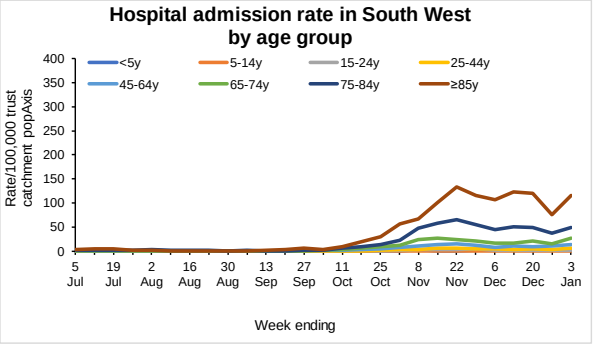


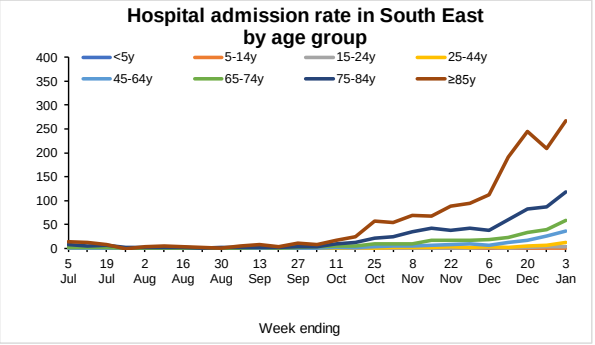


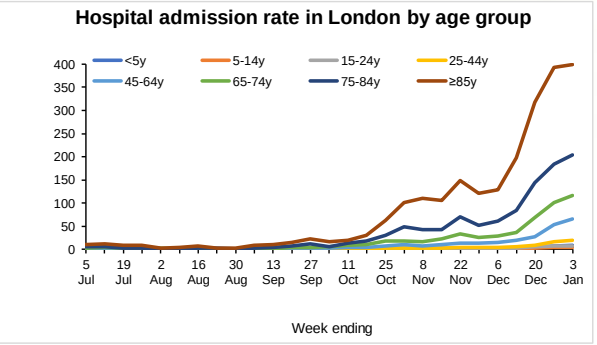






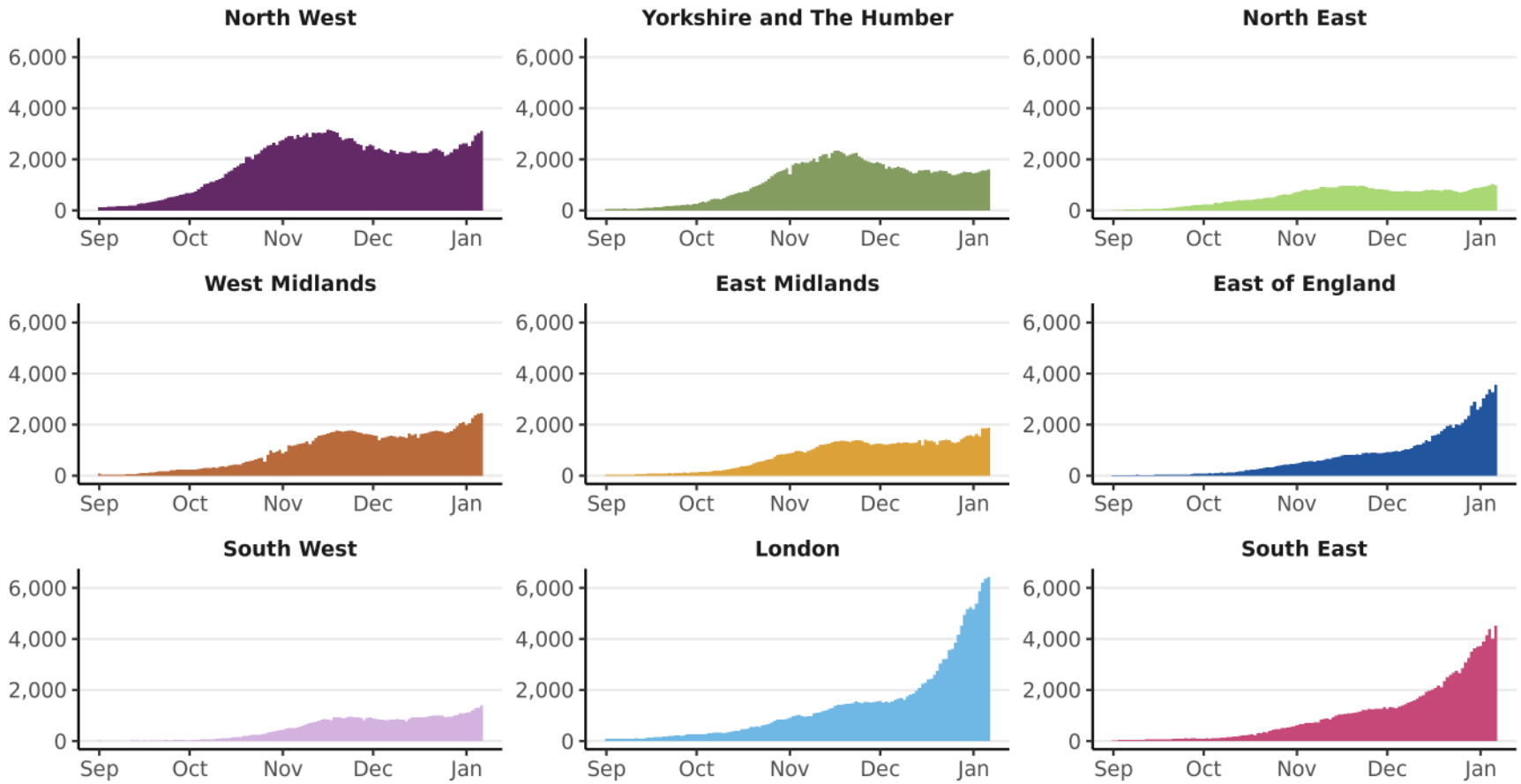






Patients in hospital by region

Daily count of confirmed COVID-19 patients in hospital at 8am by region



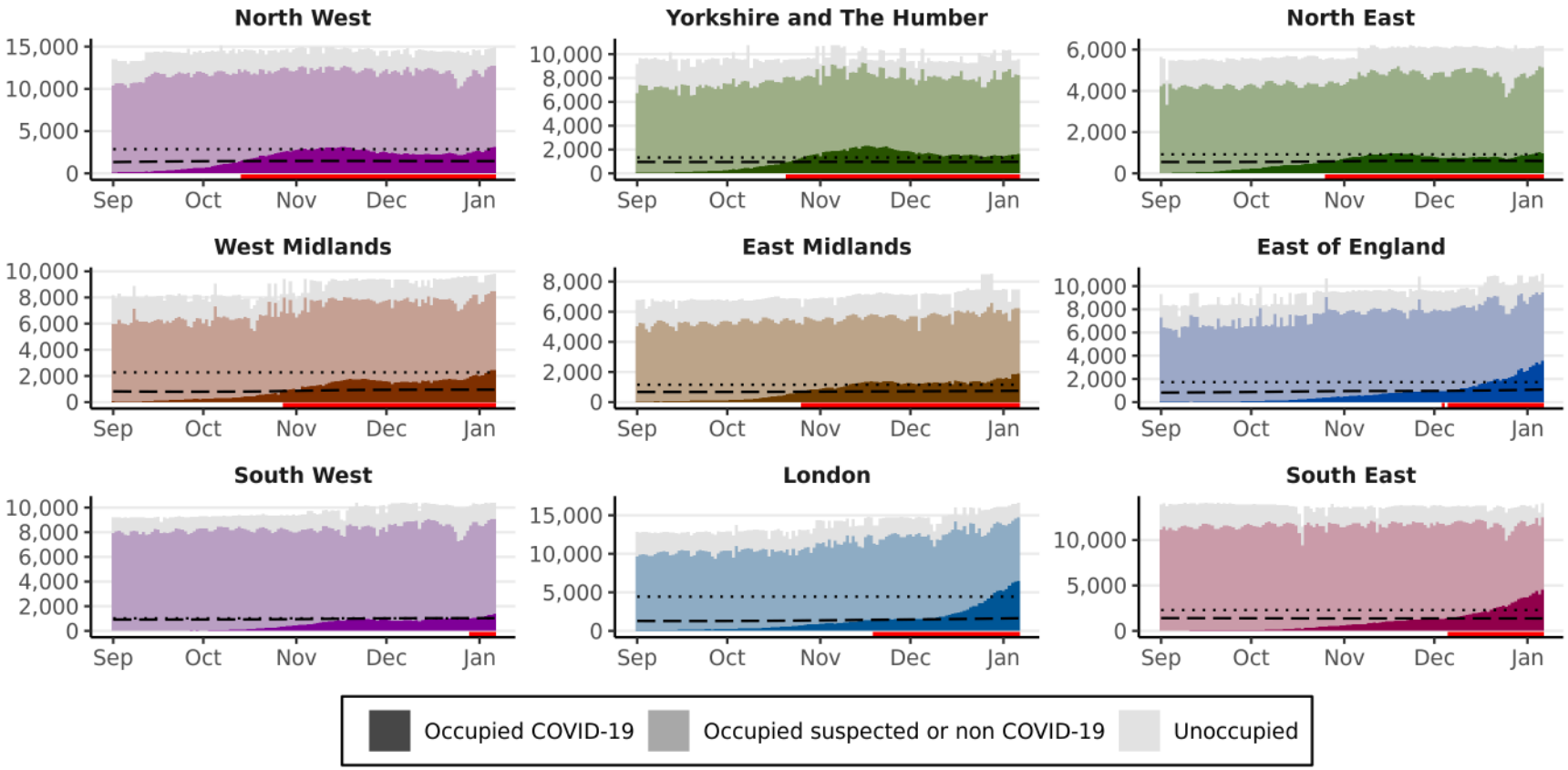
Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 01 September 2020 to 06 January 2021. Produced by Joint Biosecurity Centre.

NOTE: slide shows bed occupancy, not new admissions.

Bed occupancy and capacity by region - general and acute beds

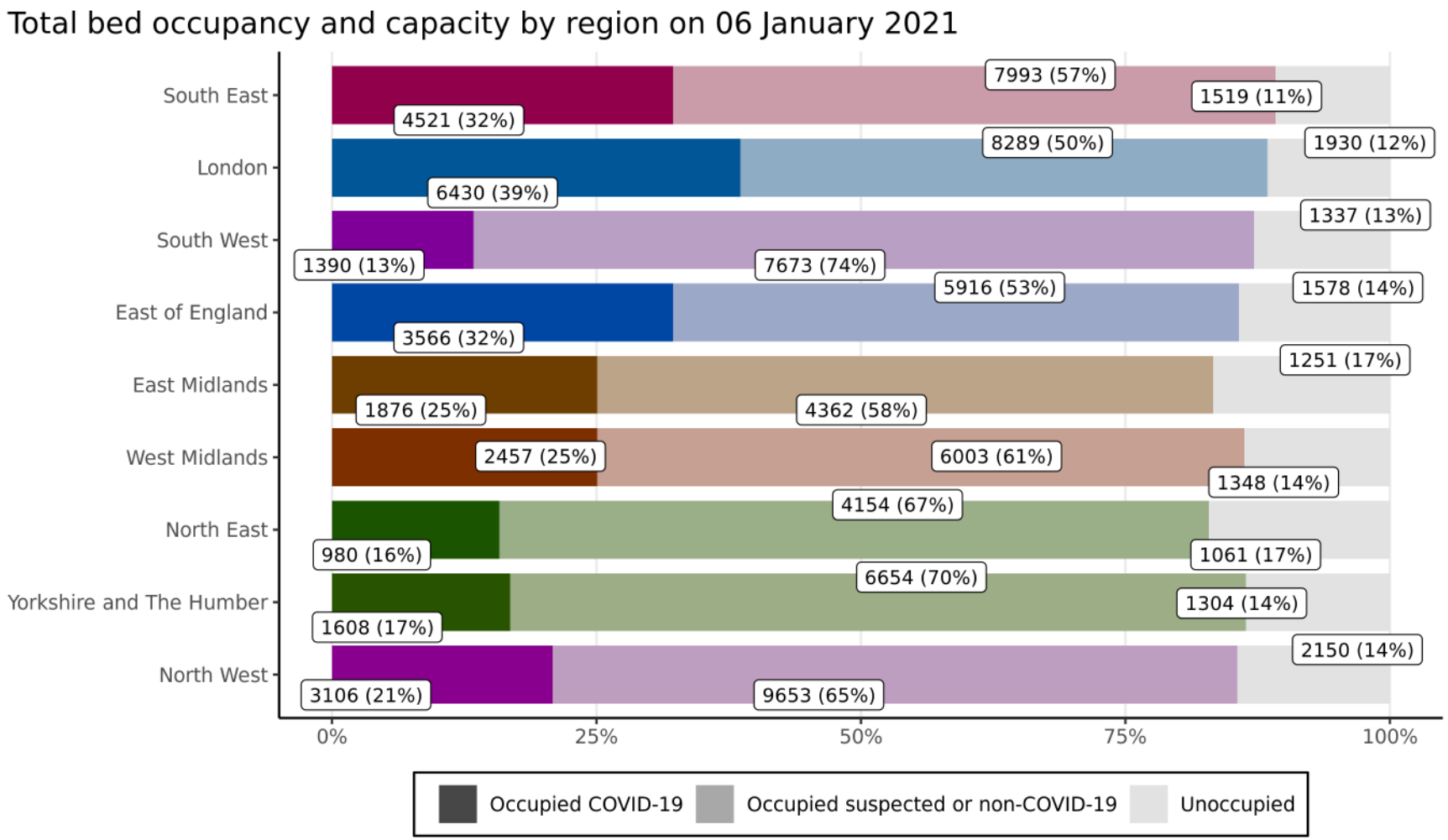
Total bed occupancy and capacity by region

Dotted line shows 'spring peak value', i.e. highest daily COVID-19 bed occupancy recorded between 02 April 2020 and 01 June 2020. Solid bar above axis indicates when daily recorded COVID-19 bed occupancy is above 10% of daily available capacity, which is approximately shown by the dashed line.



Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 02 April 2020 to 06 January 2021. Produced by Joint Biosecurity Centre.

Bed occupancy and capacity by region - general and acute beds



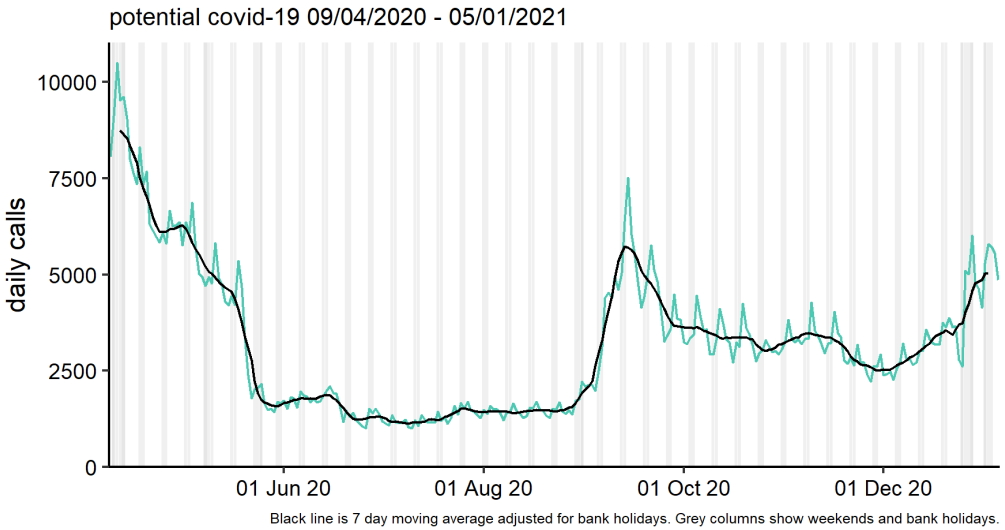
Source: NHS England & Improvement COVID-19 Hospital Activity Data. Produced by Joint Biosecurity Centre.

NHS 111 ‘potential COVID-19’ calls

NHS 111 ‘potential COVID-19’ calls, alarms over the past 7 days (30 Dec 2020 to 5 Jan 2021)

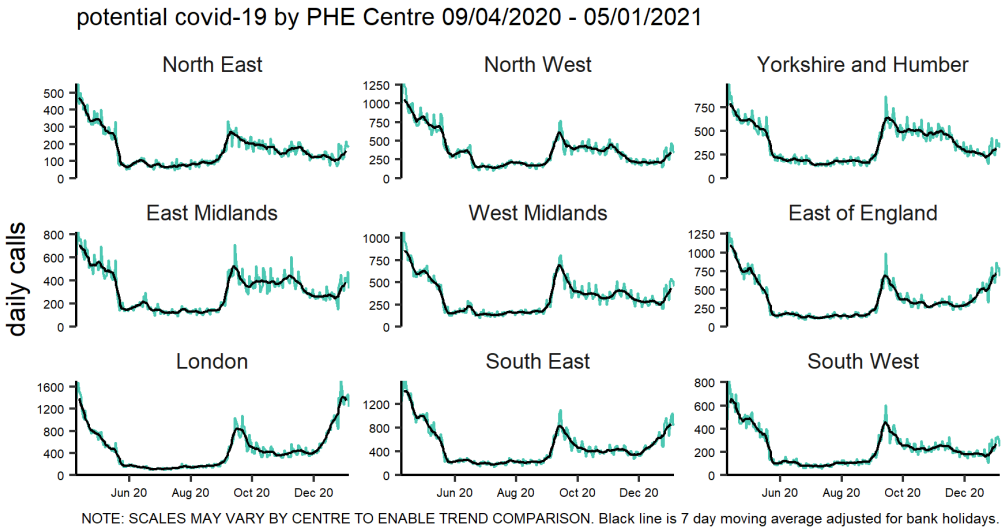
NHS 111 'potential COVID-19' calls

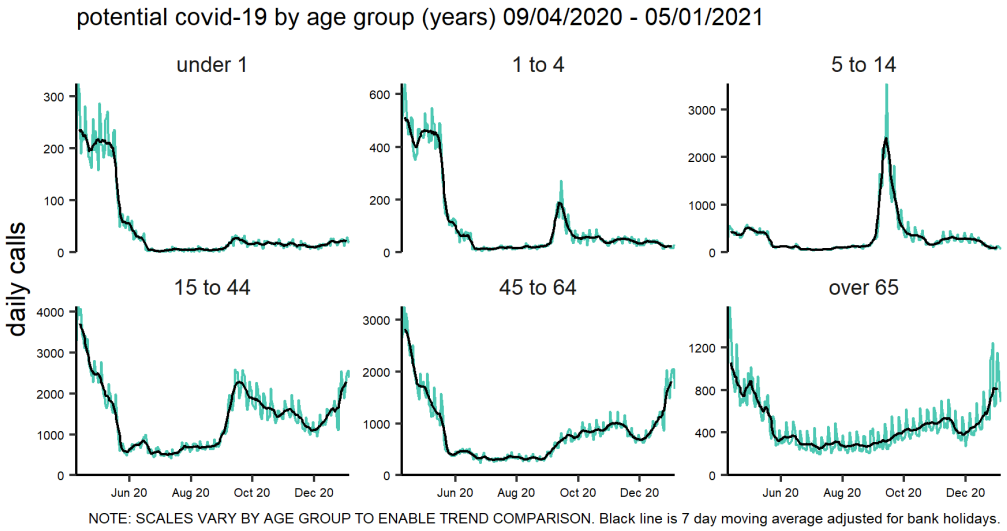
Trends in daily NHS 111 'potential COVID-19' calls, national, PHE Centre and by age (to 5 Jan)



NHS 111 'potential COVID-19' calls

- These data are based on 'potential COVID-19' symptoms reported by callers
- These data are not based on outcomes of tests for coronavirus
- Charts should be used to monitor trends (not the actual number of people symptomatic in the community)
- Daily and 7-day moving averages are shown in all charts
- PHE Centre charts should only be compared for trend, not number of calls (PHE Centre population size varies). Please note the different scales on these charts.



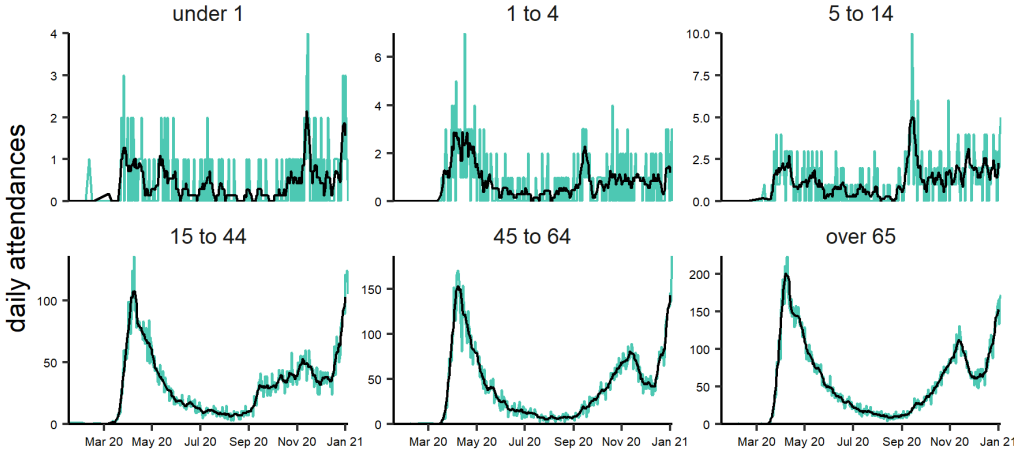


Further information and weekly NHS 111 reports containing potential COVID-19 call and online assessment surveillance data is available from the PHE Remote Health Advice bulletin.

Emergency Department Syndromic Surveillance System COVID-19-like attendances

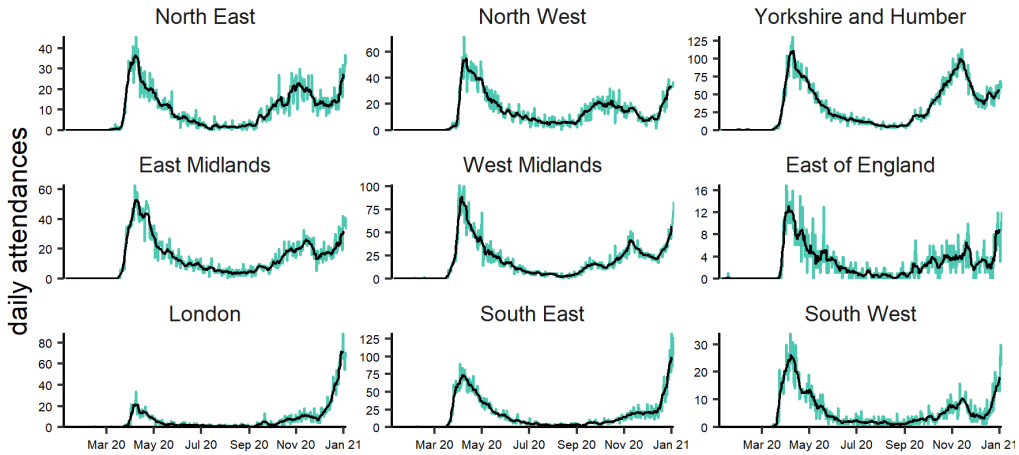
Trends in daily ED COVID-19-like attendances, national, PHE Centre and by age (to 4 Jan)

covid-19-like by age group (years) 17/01/2020 - 04/01/2021



NOTE: SCALES VARY BY AGE GROUP TO ENABLE TREND COMPARISON. Black line is 7 day moving average adjusted for bank holidays.

covid-19-like by PHE Centre 06/01/2020 - 04/01/2021

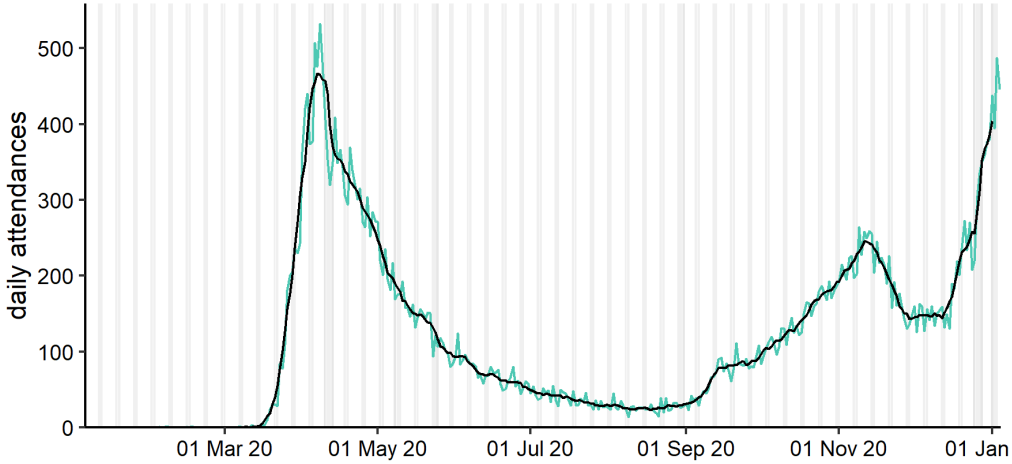


NOTE: SCALES MAY VARY BY CENTRE TO ENABLE TREND COMPARISON. Black line is 7 day moving average adjusted for bank holidays.

Emergency Department Syndromic Surveillance System (EDSSS) COVID-19-like attendances.

- EDs are included in surveillance based on the speed and frequency of reporting in the most recent 7 days
    - EDs included can change on a day by day basis
- These data are based on COVID-19-like primary diagnoses (patients may have multiple diagnoses listed)
- These data are not based on outcomes of tests for coronavirus
- Charts are an underestimation of the actual number of COVID-19-like attendances (as alternative diagnoses may have been entered)
- Charts should be used to monitor trends
- PHE Centre charts should only be compared for trend, not number of attendances (PHE Centre population size and number of EDs included varies)
    - Please note the different scales on the charts.
- Daily and 7-day moving averages are shown in all charts

covid-19-like 06/01/2020 - 04/01/2021



Black line is 7 day moving average adjusted for bank holidays. Grey columns show weekends and bank holidays.

Further information and weekly EDSSS reports containing COVID-19-like attendance surveillance data is available from the PHE EDSSS bulletin.

Care homes
report changes from 17 November 2020

- **From the 17 November 2020, this report now includes all incidents** (HPZone situation types exposure and issue in addition to ‘outbreak’ and ‘cluster’) in care homes reported to PHE local teams. This is necessitated by a change in recording practice by PHE local teams. In addition the analysis now matches reported incidents to positive laboratory test results in order to show the number of incidents with confirmed COVID-19 in residents.
- Some outbreaks are recorded in HPZone as being in care homes when in fact they are in another similar institution. The report **now only includes those we recognise are in CQC-registered care homes;** this is now possible due to changes in data entry at a local level