Public Health England

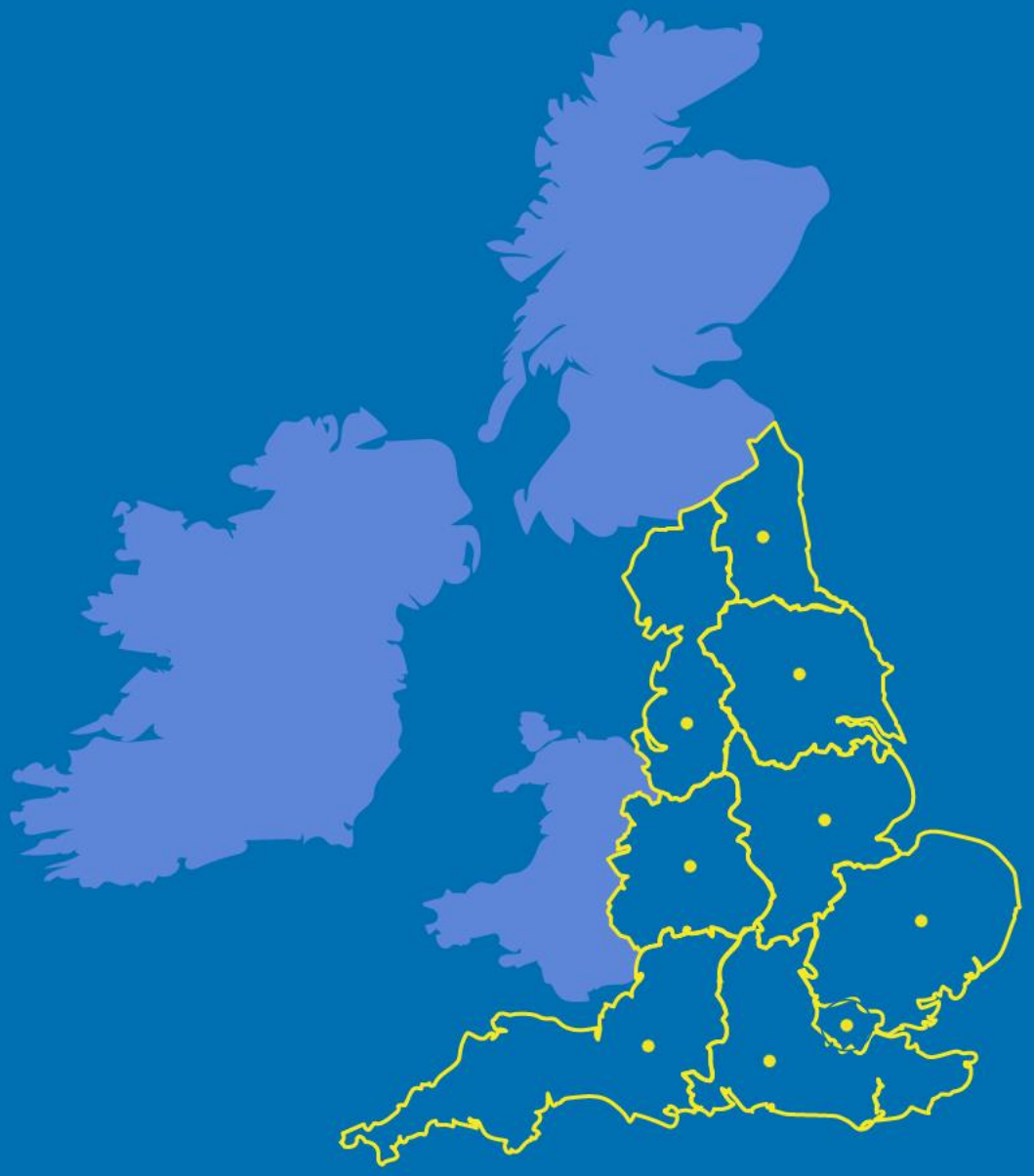
Joint Biosecurity Centre

CORONAVIRUS SITUATIONAL AWARENESS

Summary

date: 6 January 2021

Appendix



Contents

This situational awareness summary report appendix:

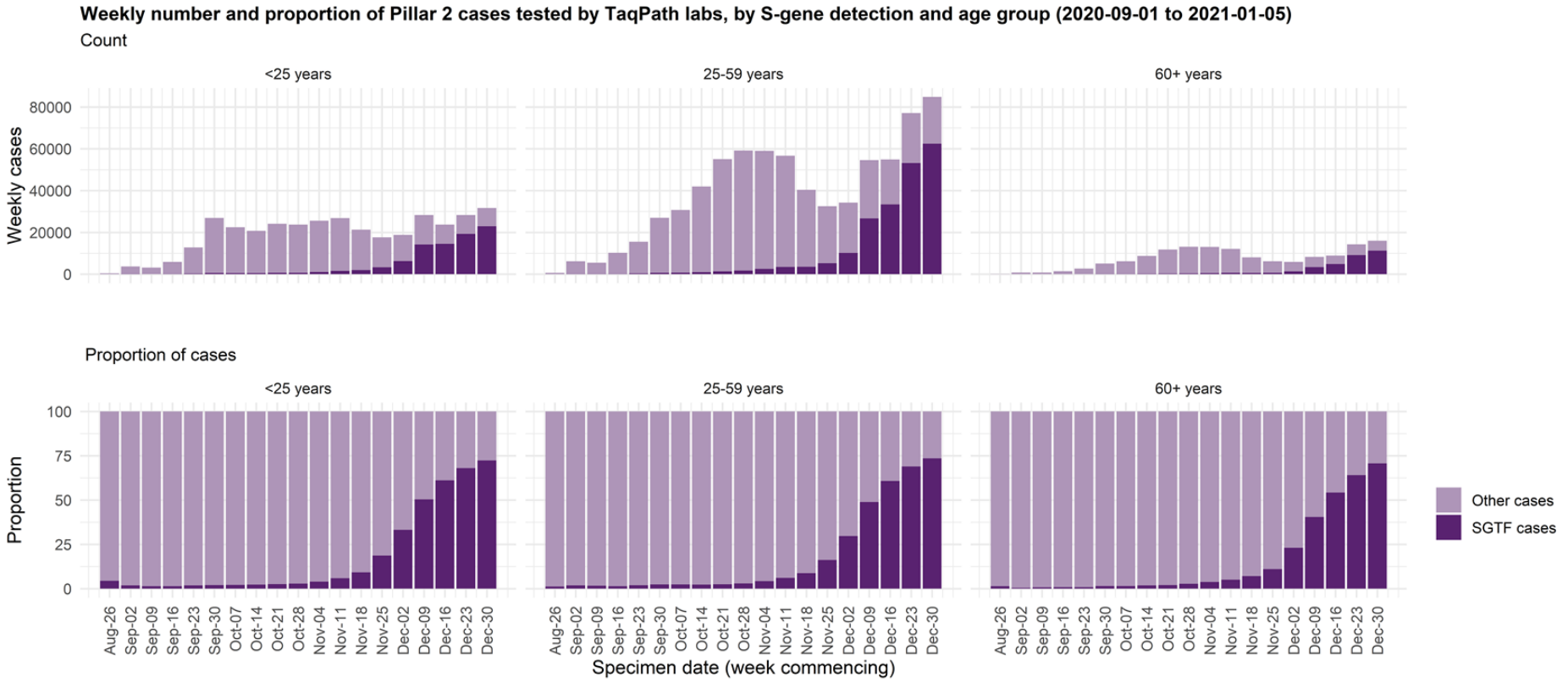
- Local authority information
  - Map of Positivity in testing
  - Map Testing rates
- Charts of case rate, Positivity and testing across selected age groups
- [redacted]
- [redacted]
- Hospitalisation
- Mortality
- [redacted]
- Hospitalisation
- Contact tracing
- [redacted]
- Outbreak reports
  - Overall by geography
  - [redacted]
  - [redacted]
  - [redacted]
  - Other settings
- [redacted]
- Weekly positivity for other respiratory viruses
- Waste water
- [redacted]

Please note:
13/10/20 - 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.

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

Tracking SARS-COV-2 S-Gene Target Failure – epidemiology of SGTF

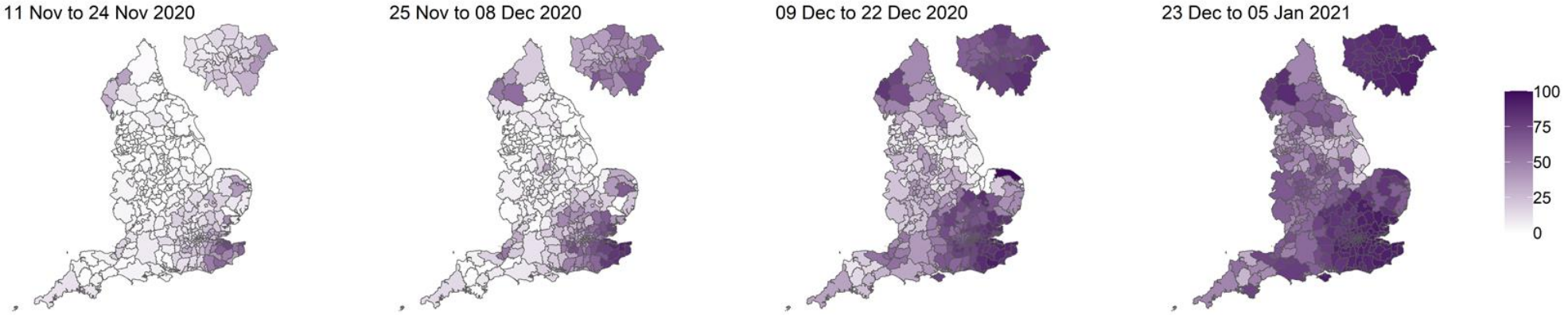


VOC-202012/01 is confirmed through whole genome sequencing. SGTF is a surveillance proxy based on PCR CT values and may include other variants, especially before Dec 2020.
SGTF = Positive test with non-detectable S gene and <=30 CT values for N and ORF1ab genes respectively
TaqPath labs = Alderley Park, 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. Age missing in 50 persons, excluded from figure.

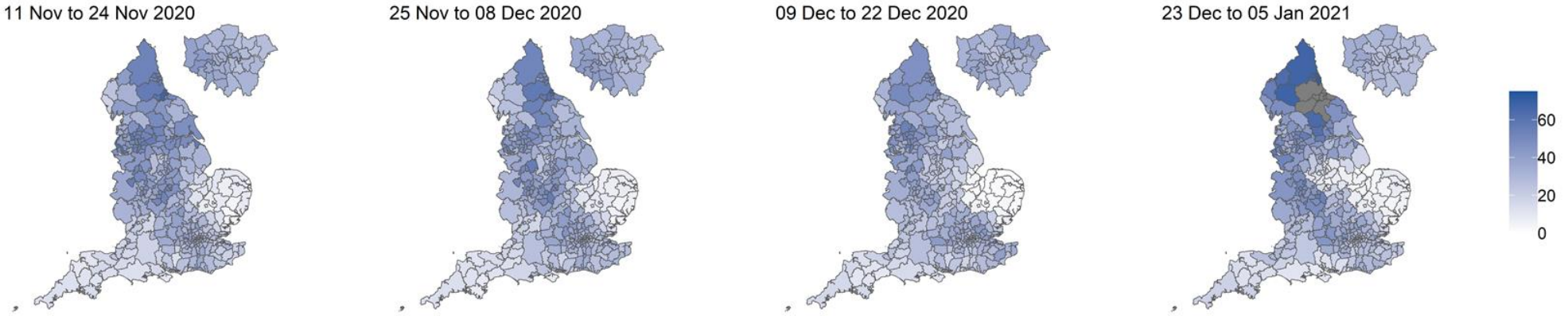
Note: Daily routing of samples through the Pillar 2 laboratory network is complex and largely driven by geographical proximity and daily capacity to maximise turn-around time. There is no known systematic bias in the settings from which SGTF lab samples are sent but important to note that bulk testing from satellite channels (such as care homes) have less pressure on turn-around windows and are routinely processed outside of the SGTF lab network, meaning there may be some under-representation of SGTF in care home residents. NHS-hosted testing (e.g. of staff) is not represented in this data as processed through Pillar 1.

Appendix – geographical spread over time (underlying TaqPath lab coverage fairly stable)

Proportion of Pillar 2 COVID-19 cases with SGTF among those tested in TaqPath Labs, by Local Authority



Proportion of specimens tested in TaqPath Labs, by Local Authority



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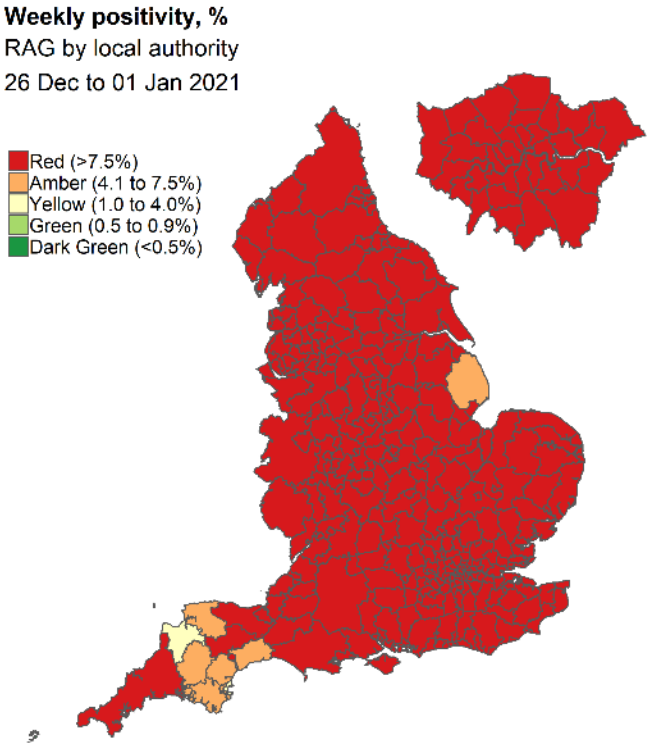
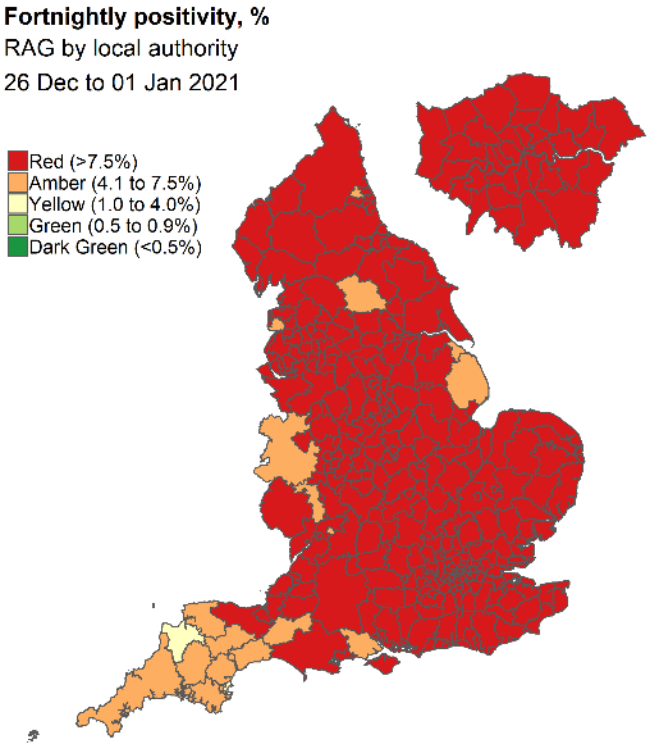
SGTF = Positive test with non-detectable S gene and <=30 CT values for N and ORF1ab genes respectively.
TaqPath labs = Alderley Park, Milton Keynes and Glasgow Lighthouse Labs.
Cases deduplicated to one positive test for entire time period, prioritising SGTF tests where individuals test positive multiple times.
Data source: SGSS.

Testing: Individuals testing positive per 100 tests

Data for specimens taken between 26 December 2020 and 1 January 2021 (7 day) and 19 December 2020 and 1 January 2021 (14 day)





Local authorities with highest percentage positivity			
Newham	33.9%	Medway	31.3%
Tower Hamlets	32.0%	Broxbourne	30.9%
Enfield	31.8%	Bexley	30.6%
Dartford	31.6%	Brent	30.5%
Gravesham	31.3%	Redbridge	30.1%

Local authorities with highest percentage positivity			
Newham	28.8%	Medway	26.4%
Barking and Dagenham	27.0%	Gravesham	25.5%
Enfield	26.9%	Redbridge	25.4%
Broxbourne	26.8%	Dartford	25.4%
Tower Hamlets	26.5%	Bexley	24.8%

Data from SGSS: Pillar 1 and 2 testing (excludes LFD tests)

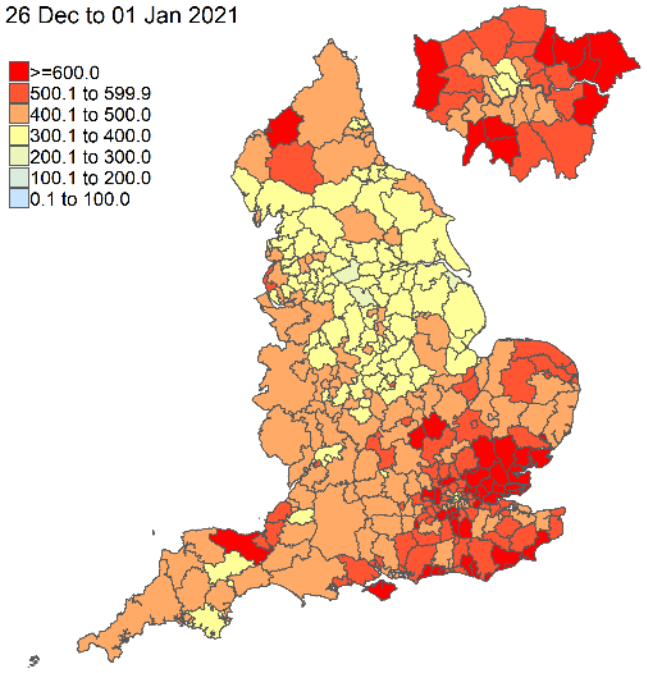
Testing: Individuals tested per 100,000 population per day

Data for specimens taken between 26 December 2020 and 1 January 2021 (7 day) and 19 December 2020 and 1 January 2021 (14 day)

Average number of individuals tested per 100,000 per day

7-day moving average by local authority

26 Dec to 01 Jan 2021

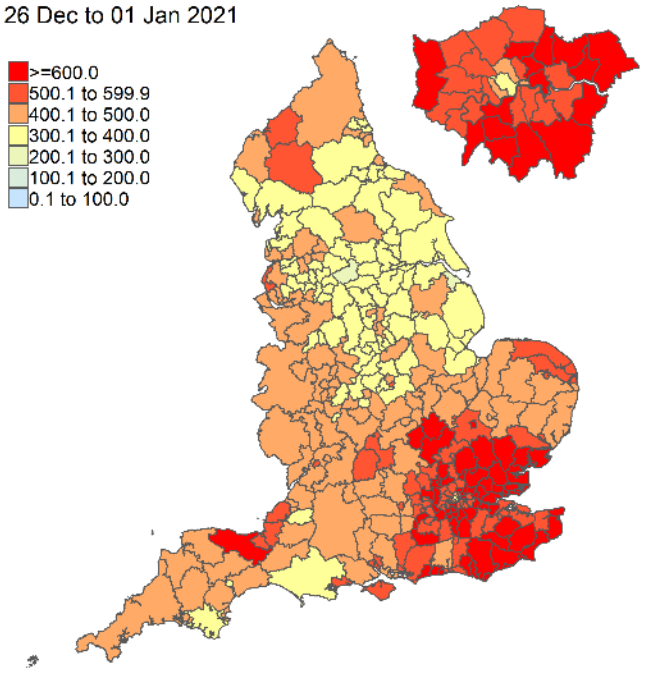


Local authorities with highest daily rate			
Southend-on-Sea	985.6	Rochford	851.6
Castle Point	910.0	Thurrock	835.0
Brentwood	880.1	Epping Forest	813.8
Sutton	872.7	Rushmoor	767.6
Harlow	858.3	Barking and Dagenham	767.2

Average number of individuals tested per 100,000 per day

14-day moving average by local authority

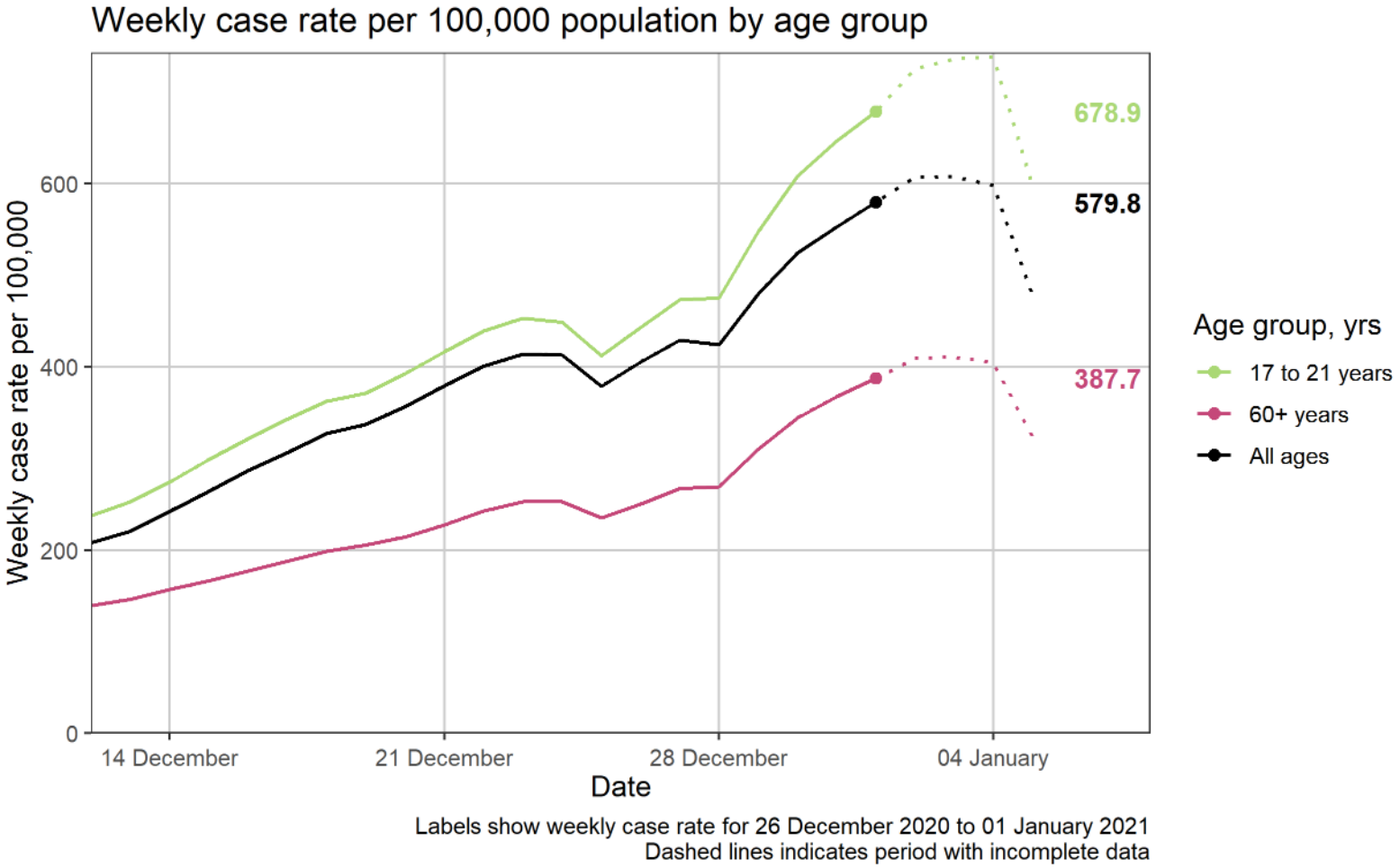
26 Dec to 01 Jan 2021



Local authorities with highest daily rate			
Southend-on-Sea	1241.7	Thurrock	921.1
Brentwood	1145.5	Bedford	865.8
Castle Point	1038.5	Harlow	864.9
Rochford	979.6	Havering	849.6
Epping Forest	967.6	Waltham Forest	831.3

Data from SGSS: Pillar 1 and 2 testing (excludes LFD tests)

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



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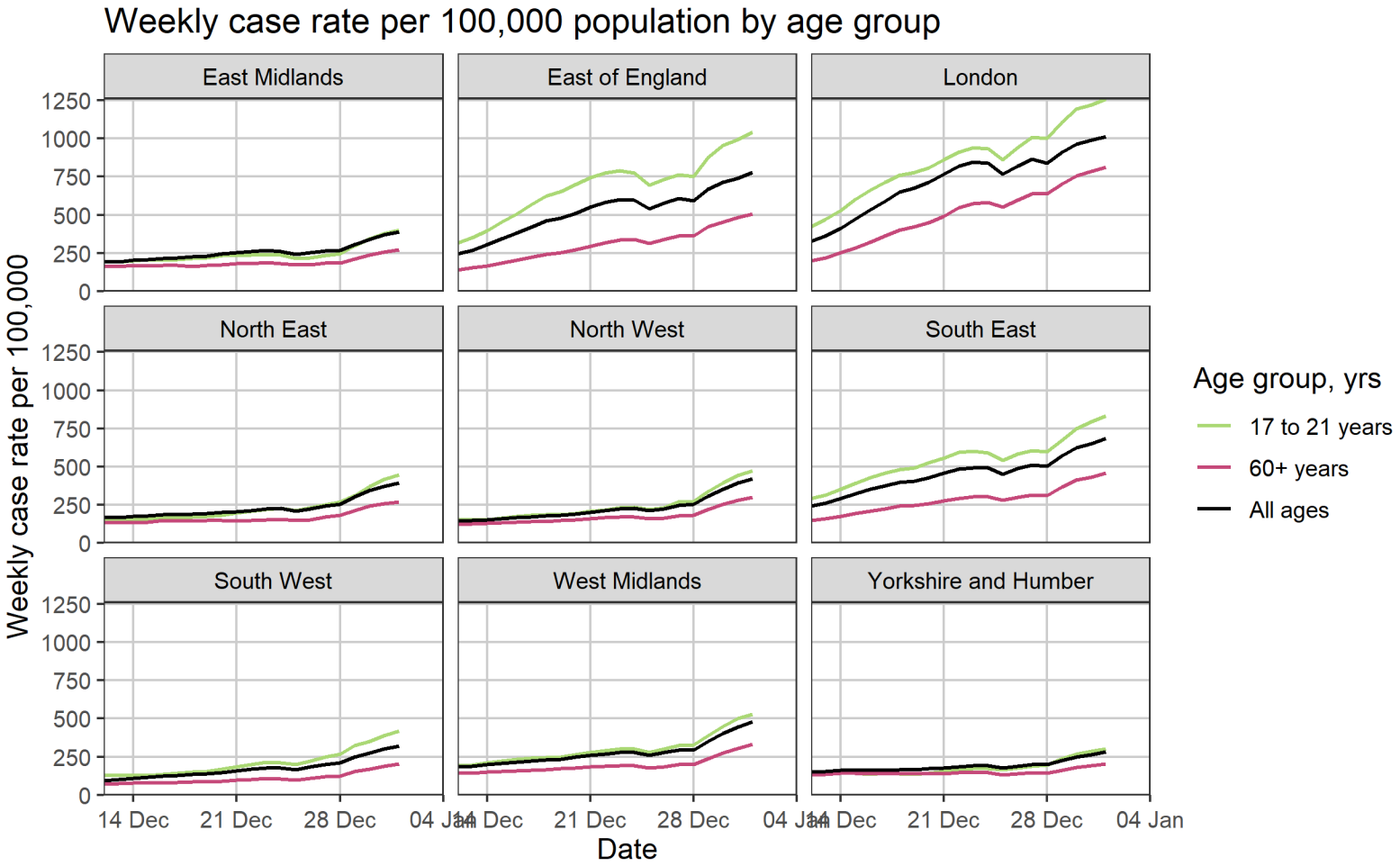
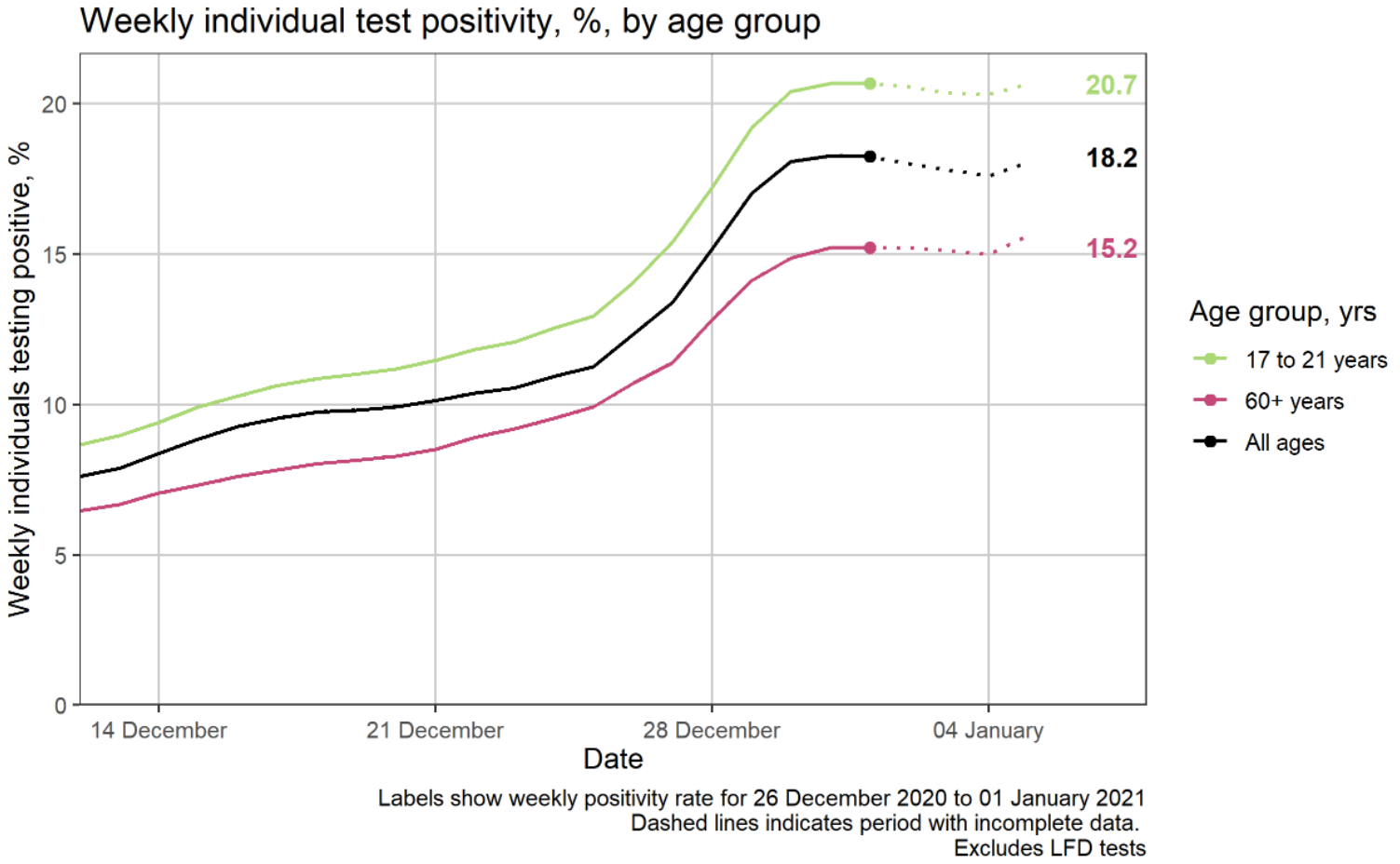


Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – selected ages
Data up to the 1 January 2021



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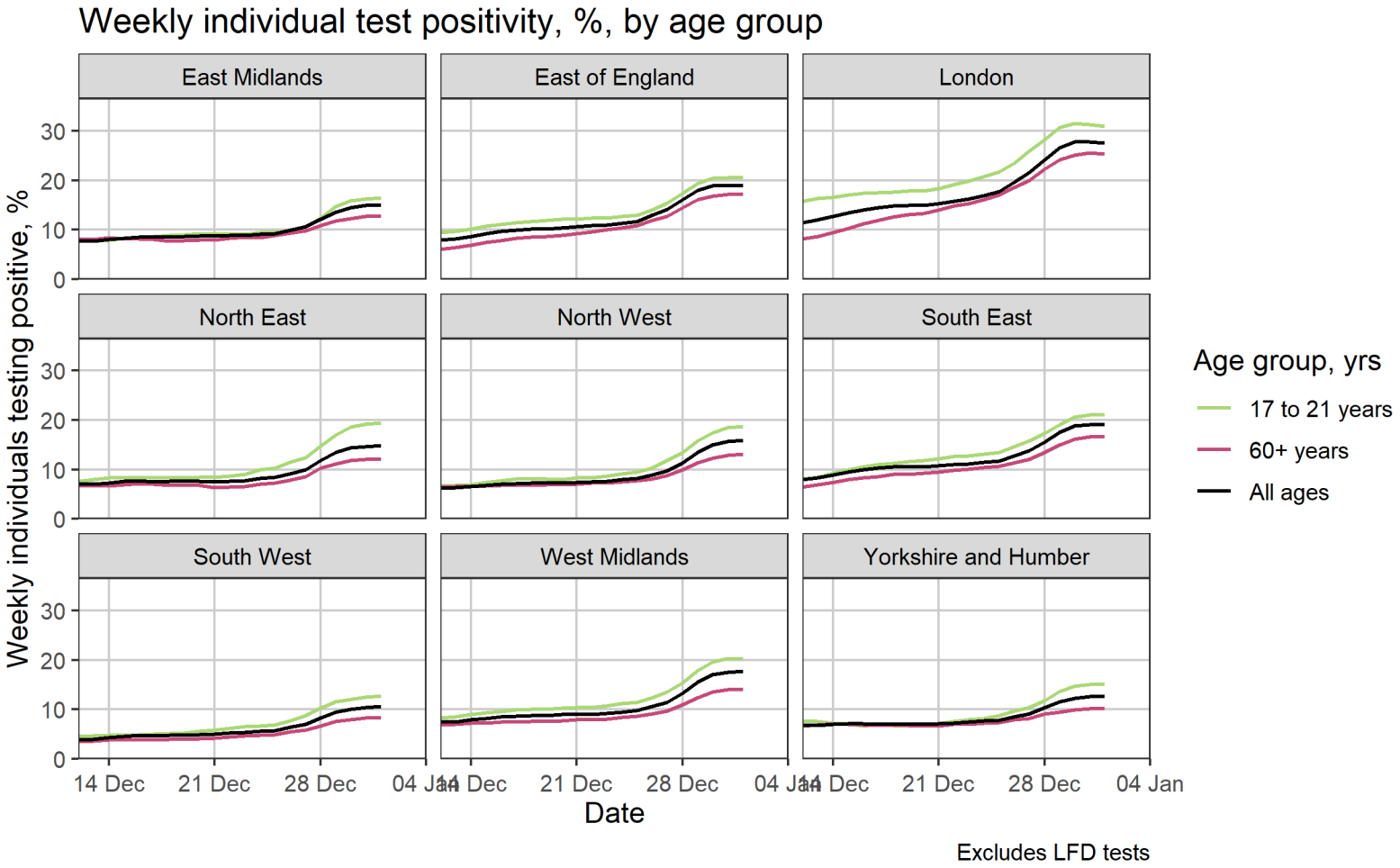
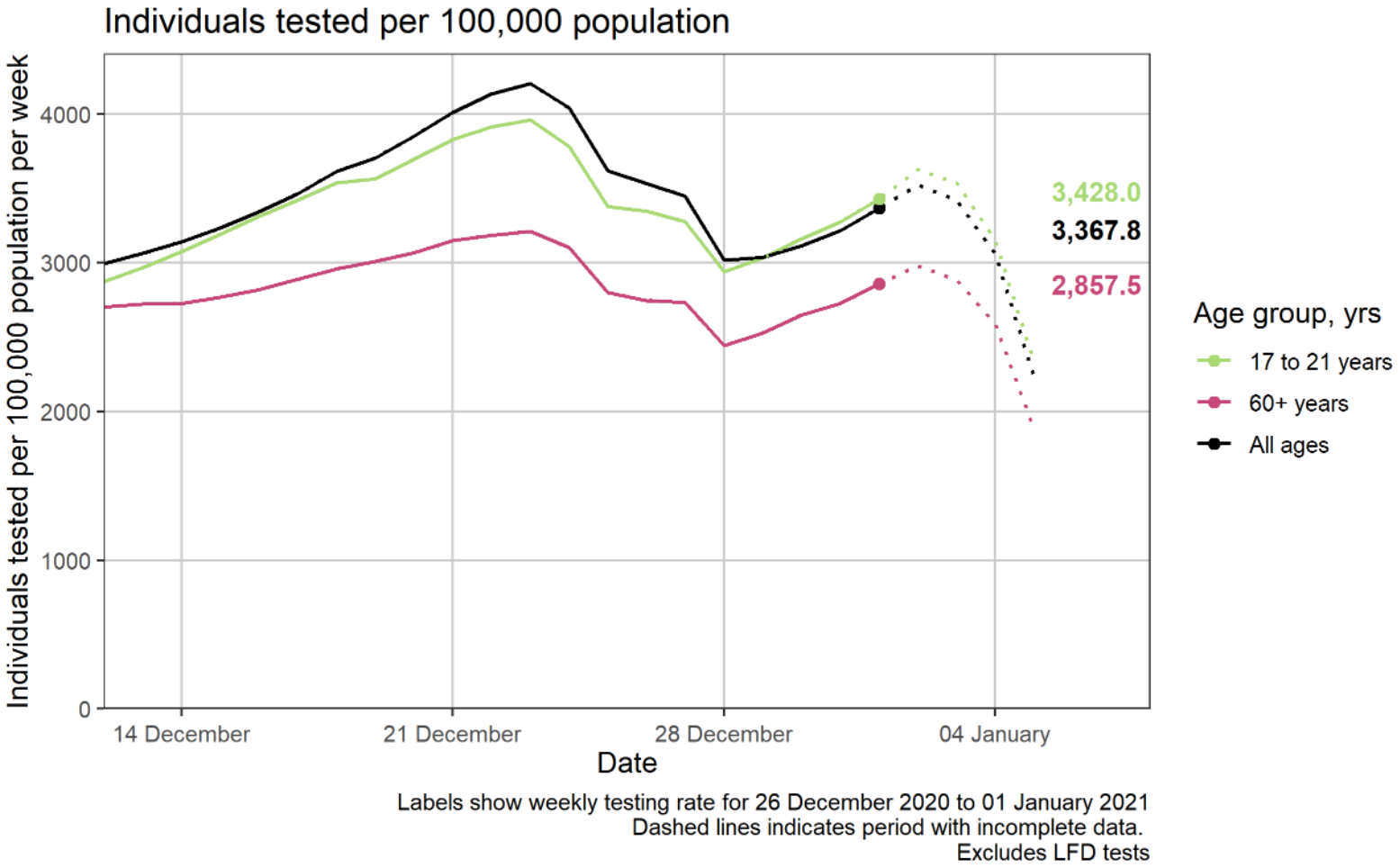
16/11/20 *- PHE has updated the way it records the location of people and now prioritises addresses given at the point of testing. See Content Sheet for further details*

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) – selected ages
Data up to the 1 January 2021



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



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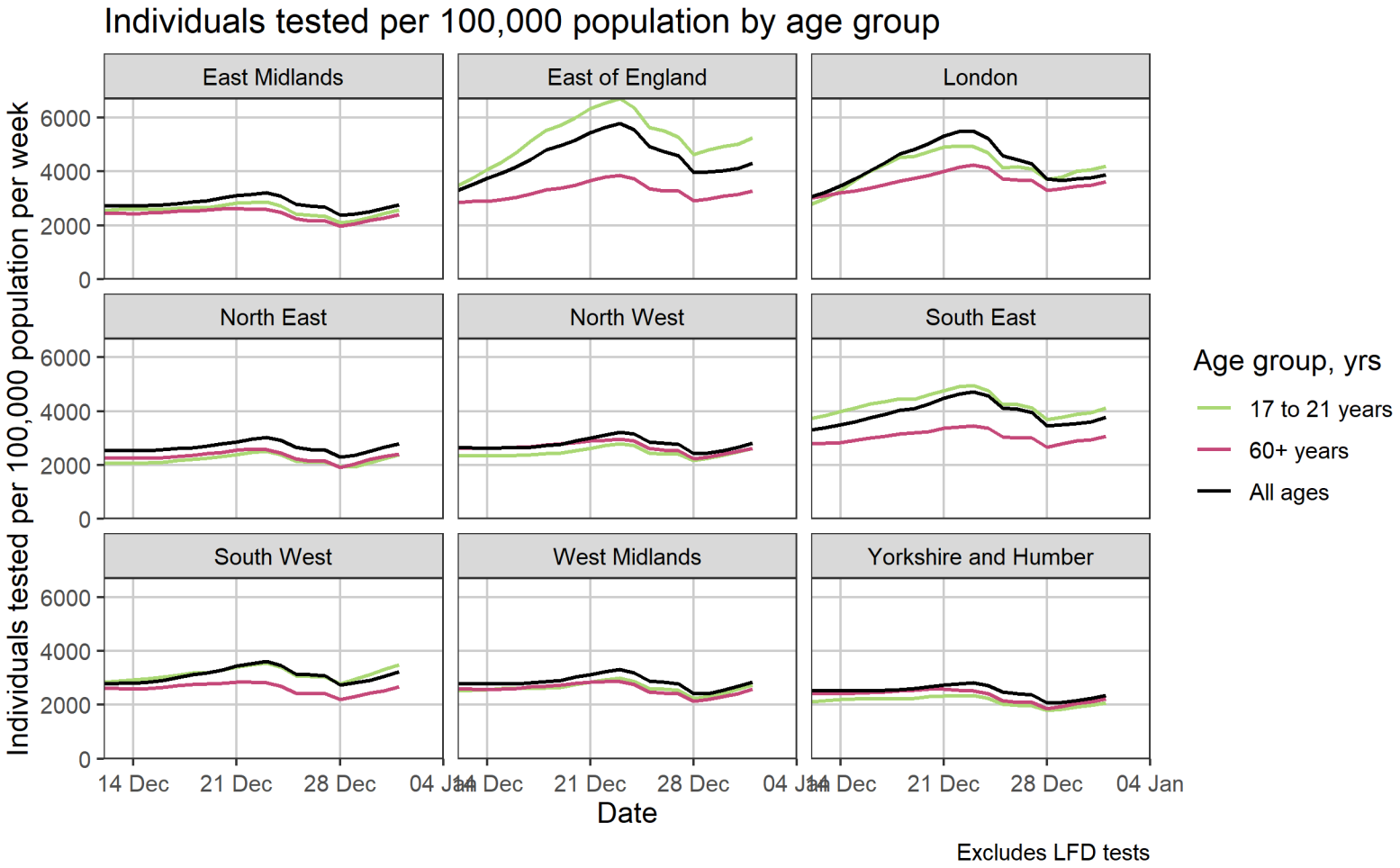
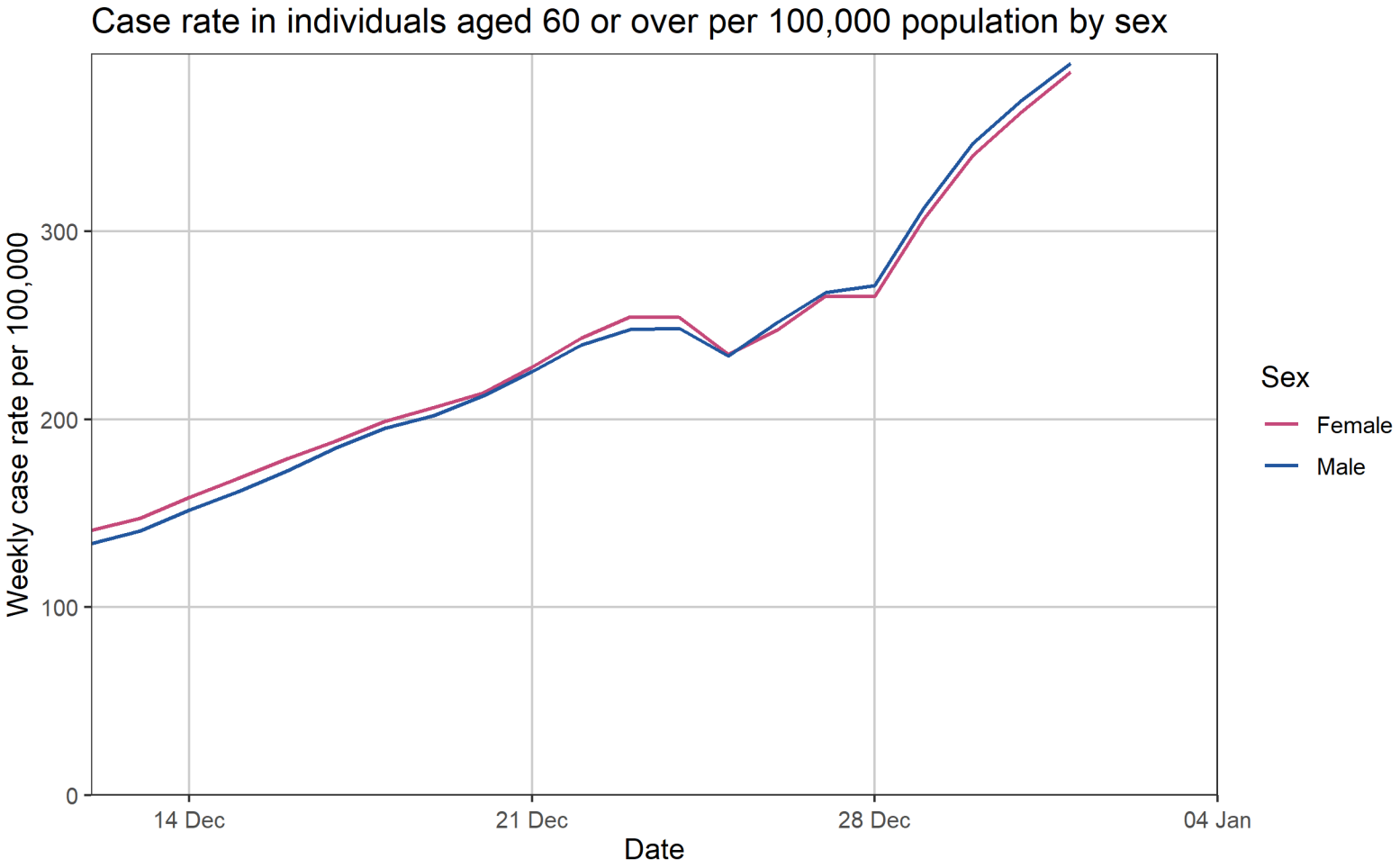
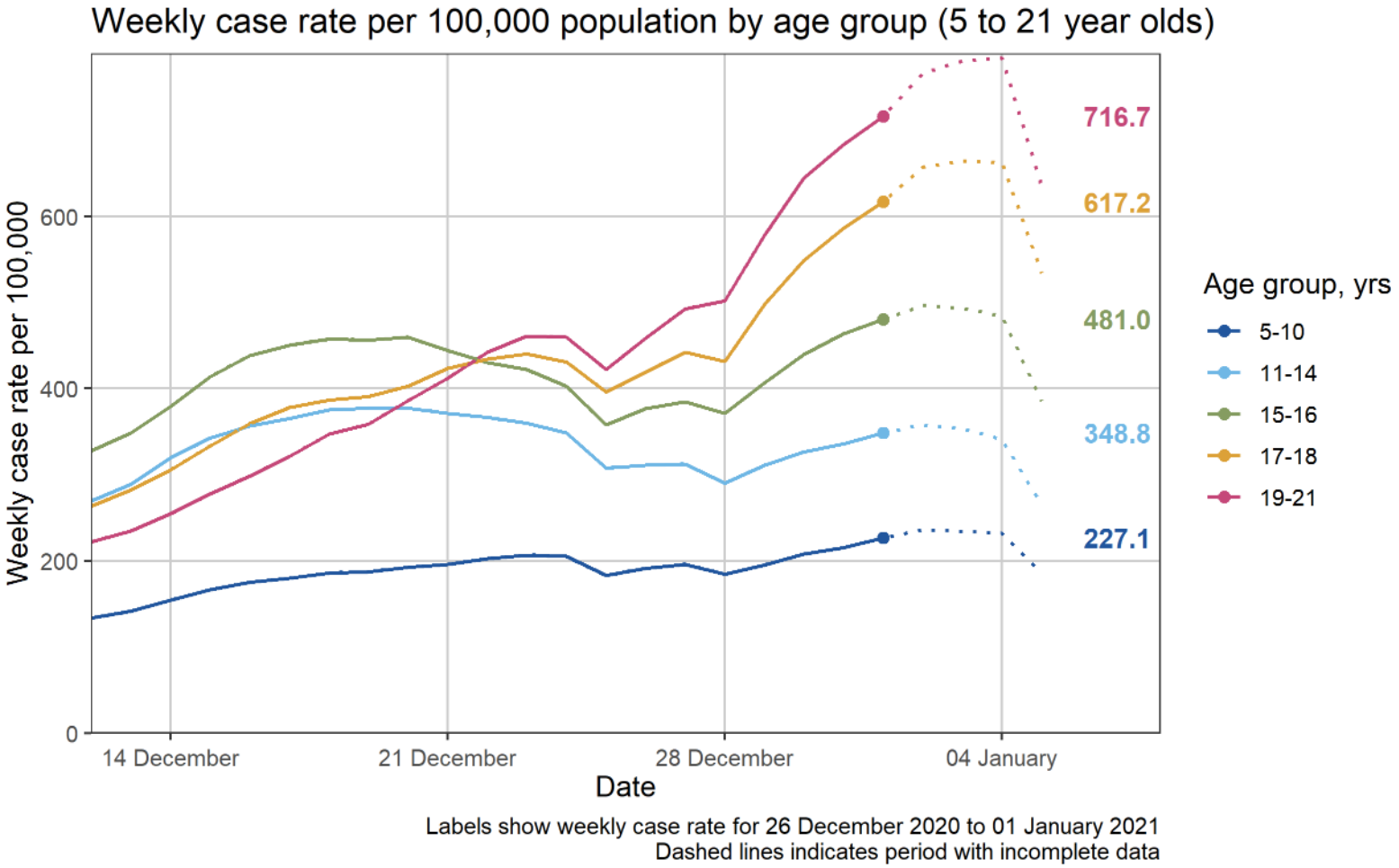
Data up to the 1 January 2021



Case rate across both pillars 1 and 2 (weekly) – aged 60 or over
Data up to the 1 January 2021



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



Case rate across both pillars 1 and 2 (weekly) – young people
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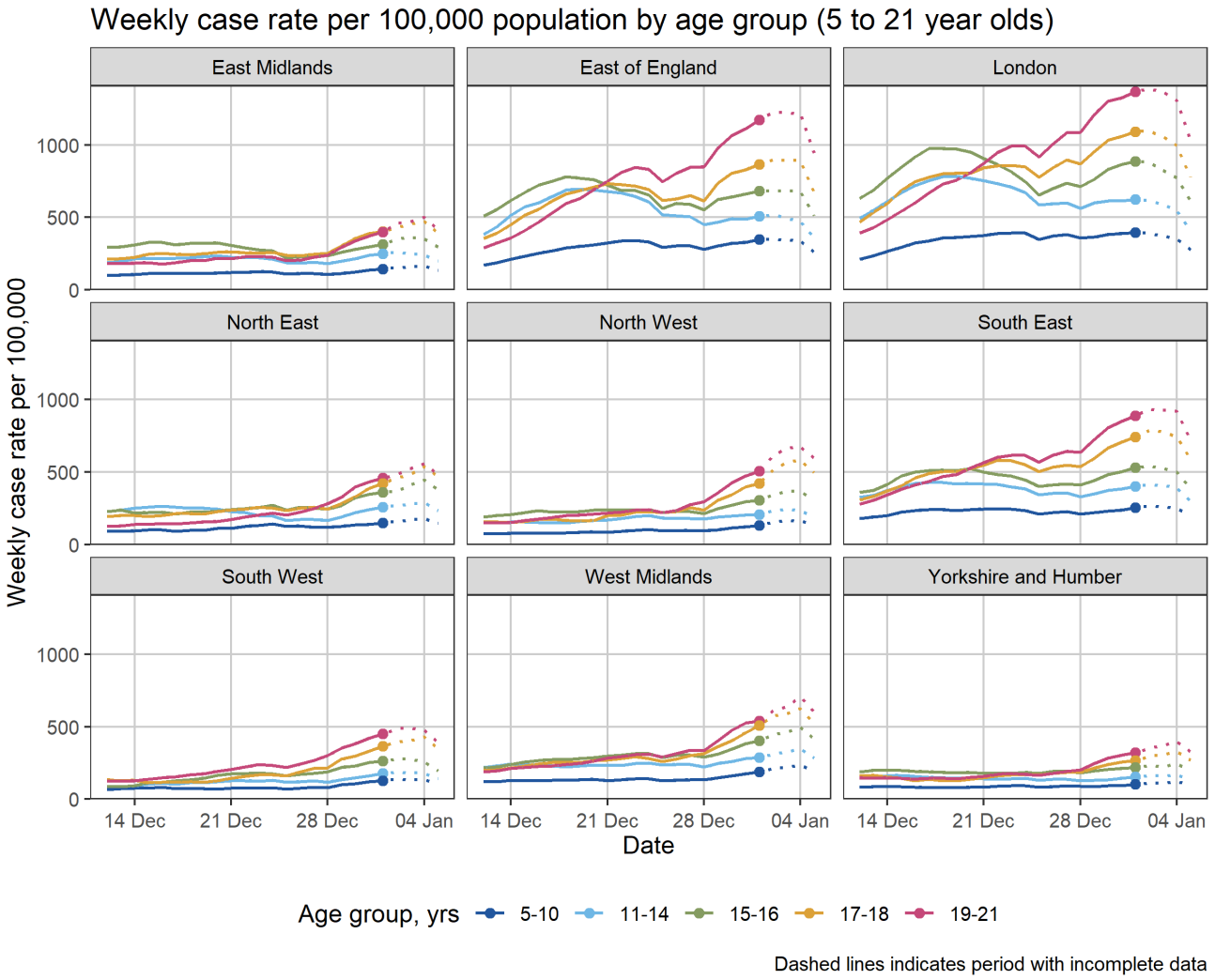
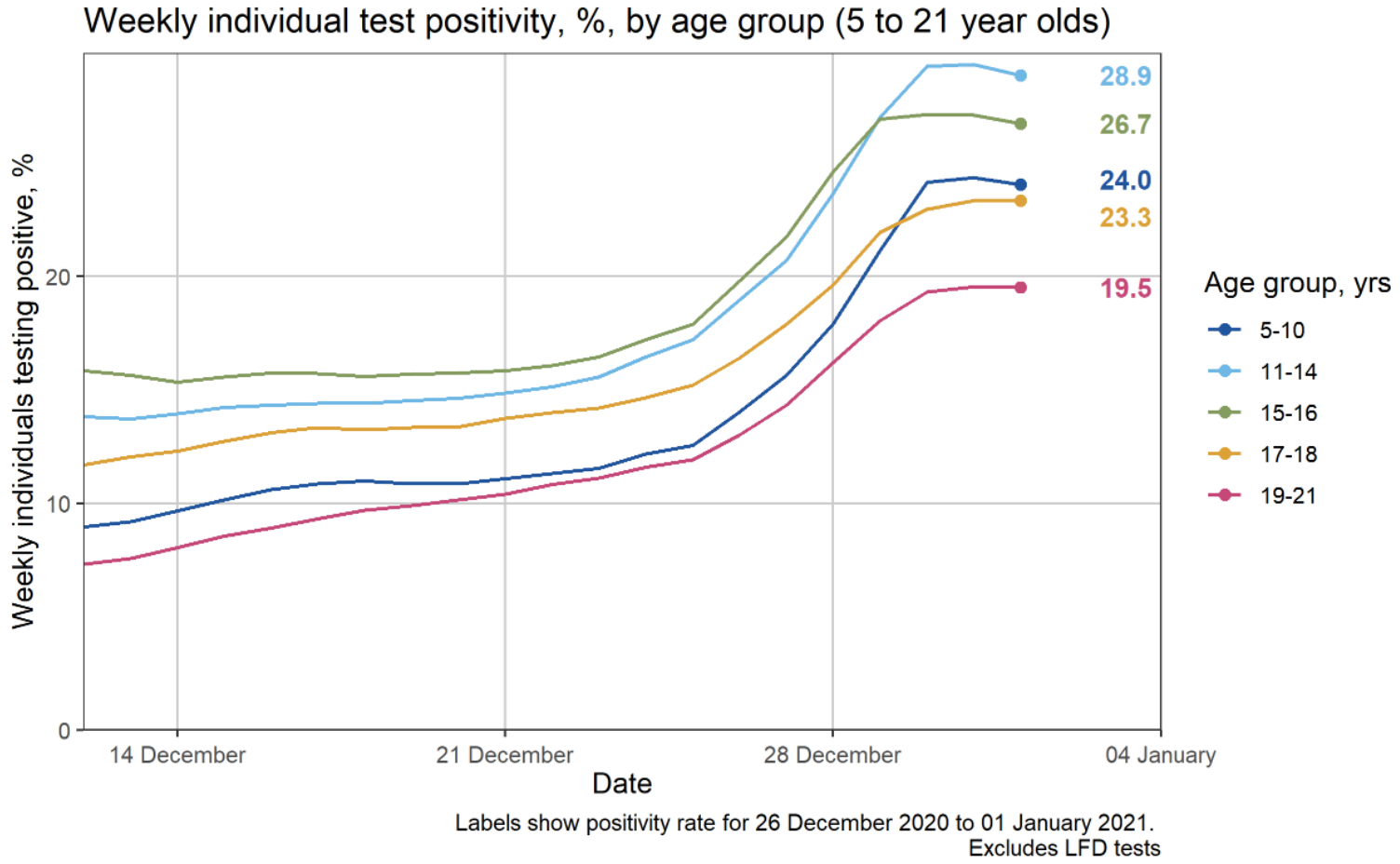


Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – young people
Data up to the 1 January 2021



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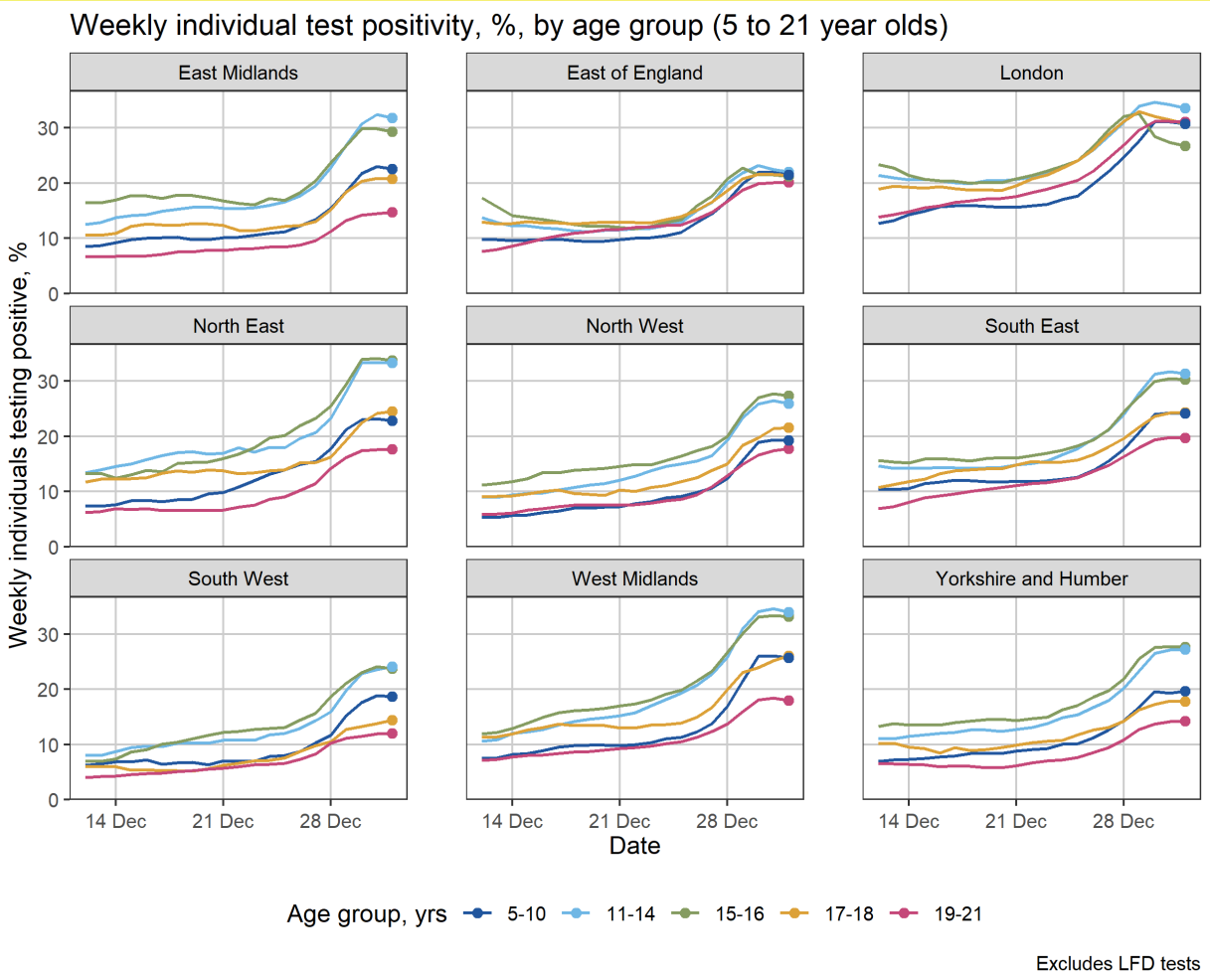

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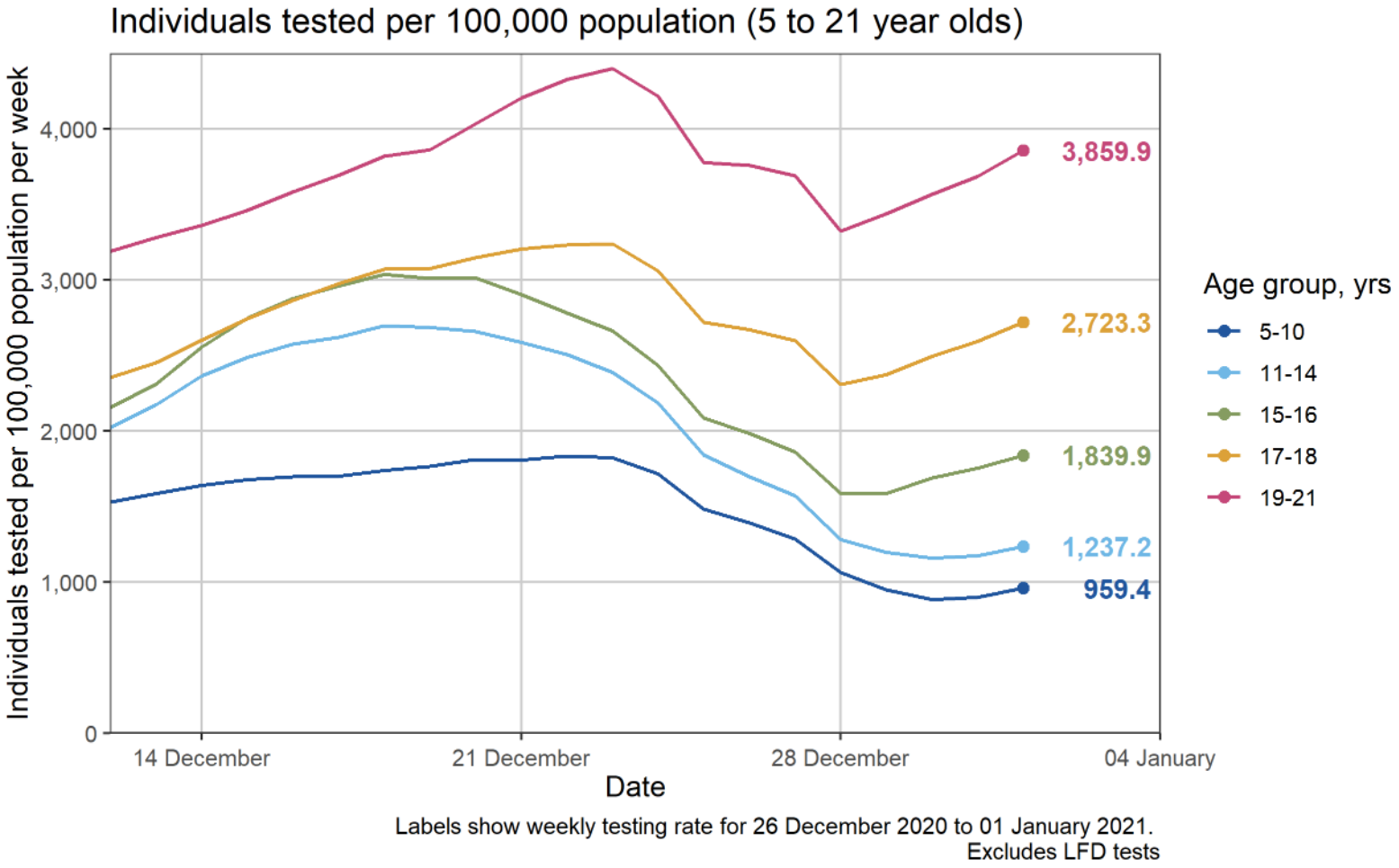

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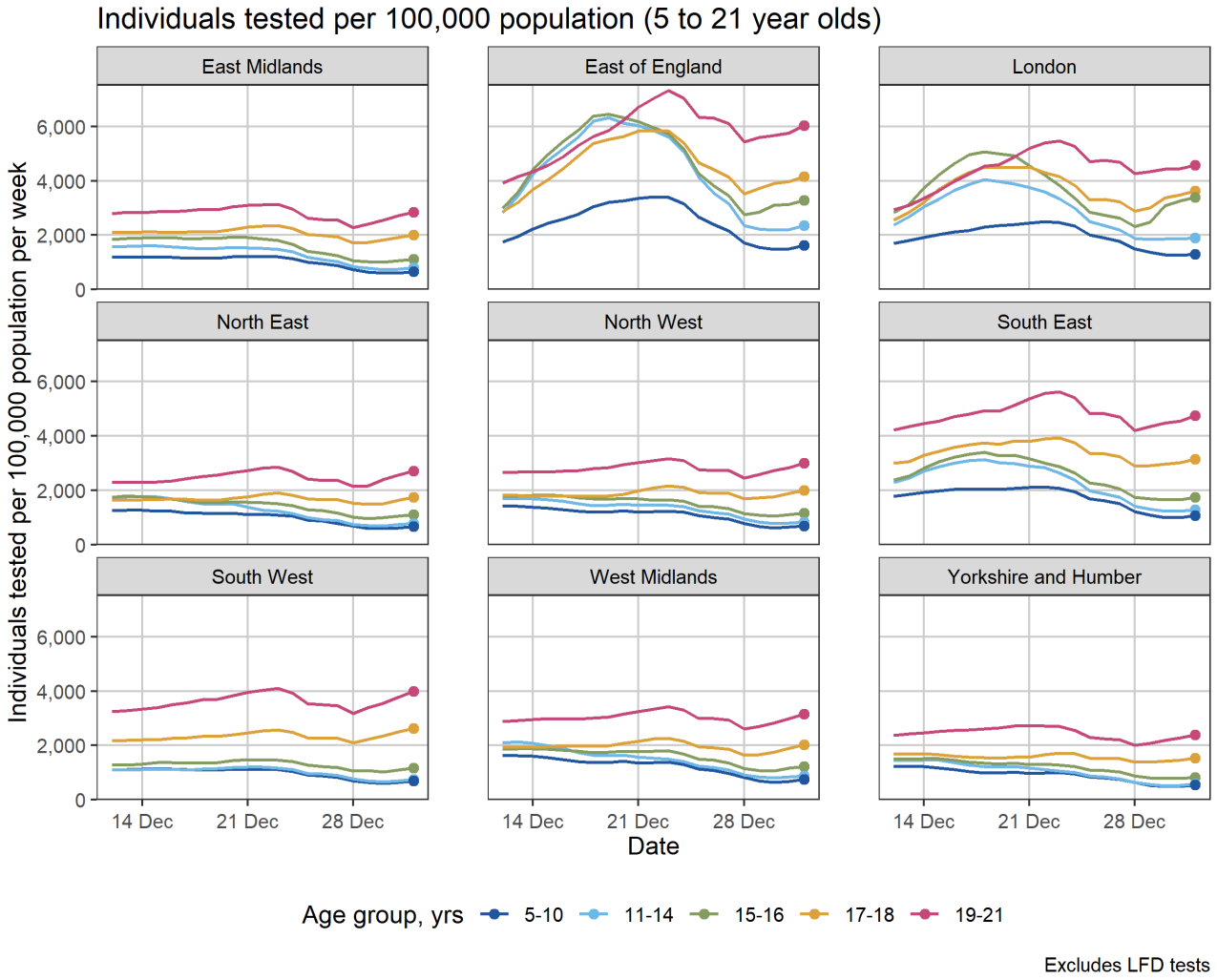
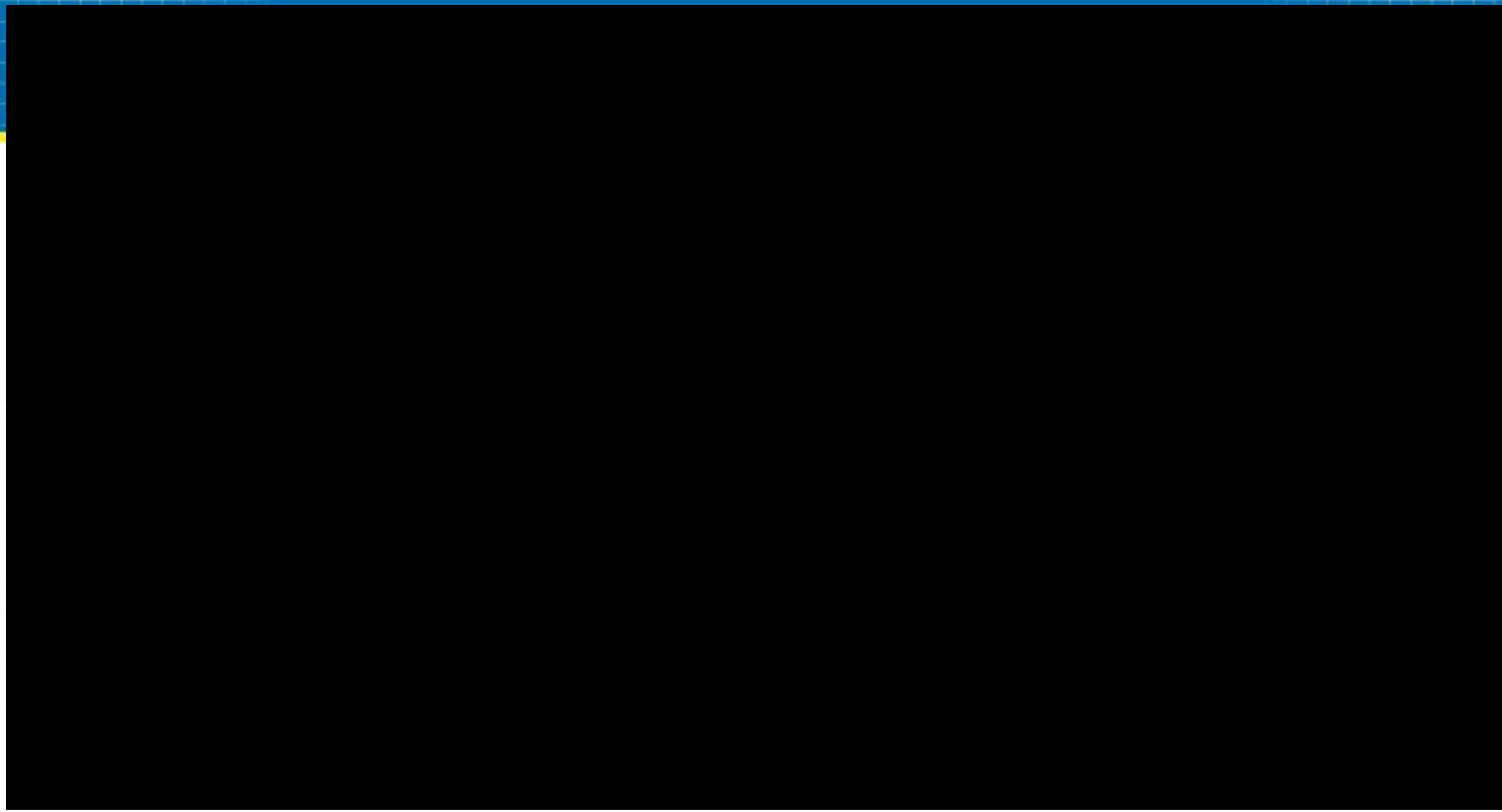
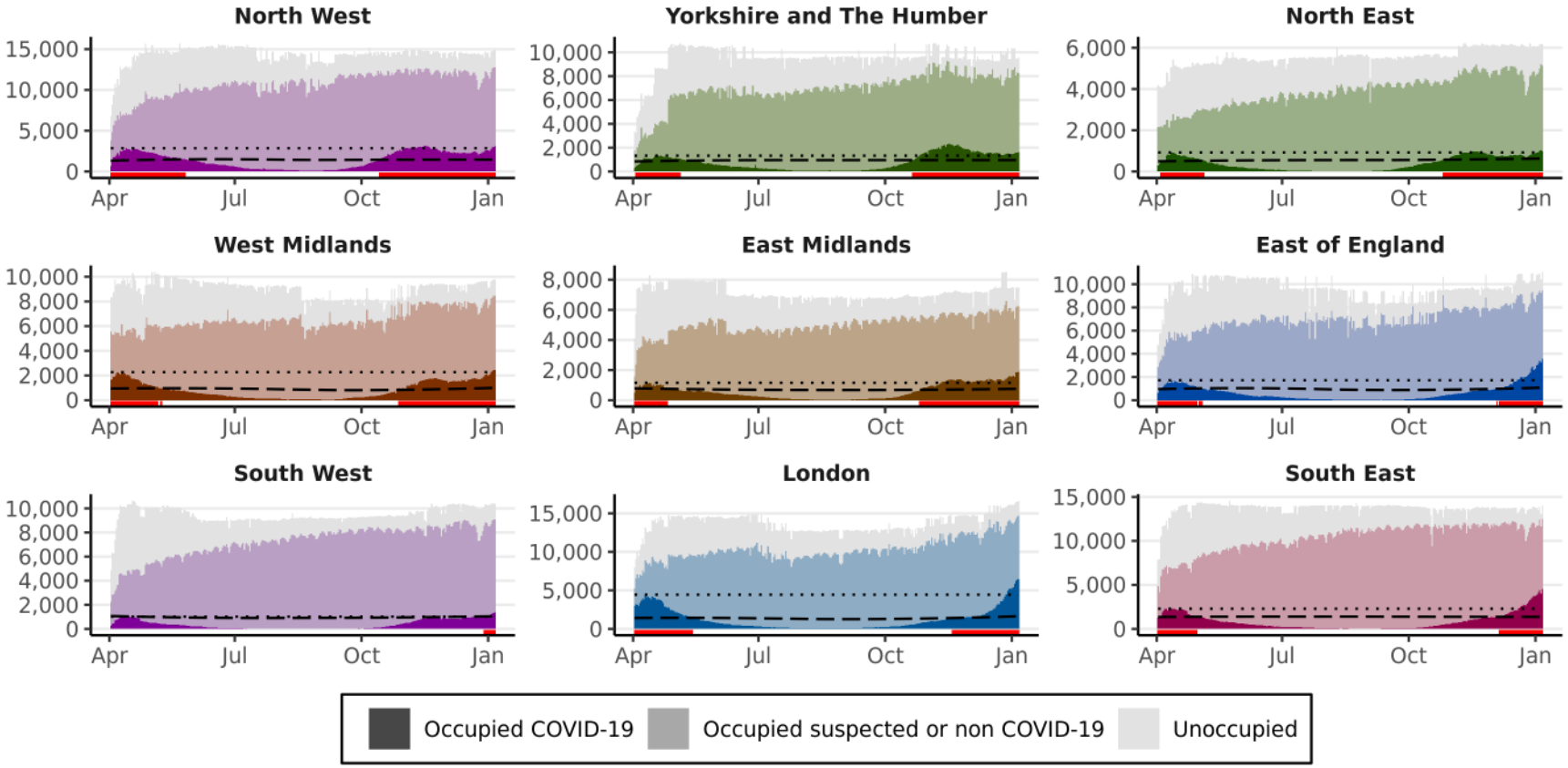




Bed occupancy and capacity by region - general and acute beds

Total bed occupancy and capacity by region

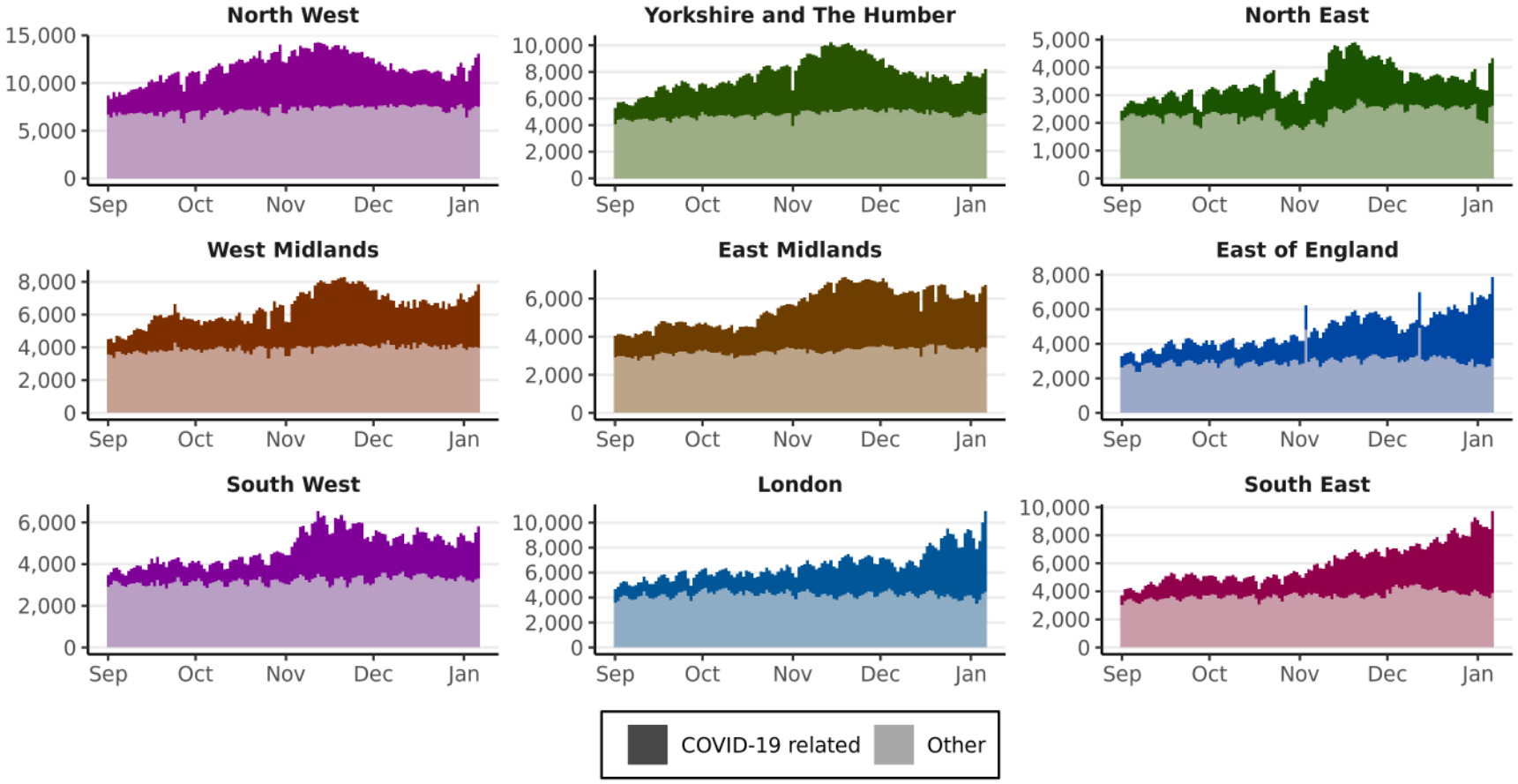
Dotted line shows 'spring peak value', i.e. highest daily COVID-19 bed occupancy recorded between 02 April 2020 and 01 June 2020. Solid bar above axis indicates when daily recorded COVID-19 bed occupancy is above 10% of daily available capacity, which is approximately shown by the dashed line.



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

NHS staff absences by region (COVID-19 related and other)

Daily NHS staff absences by region



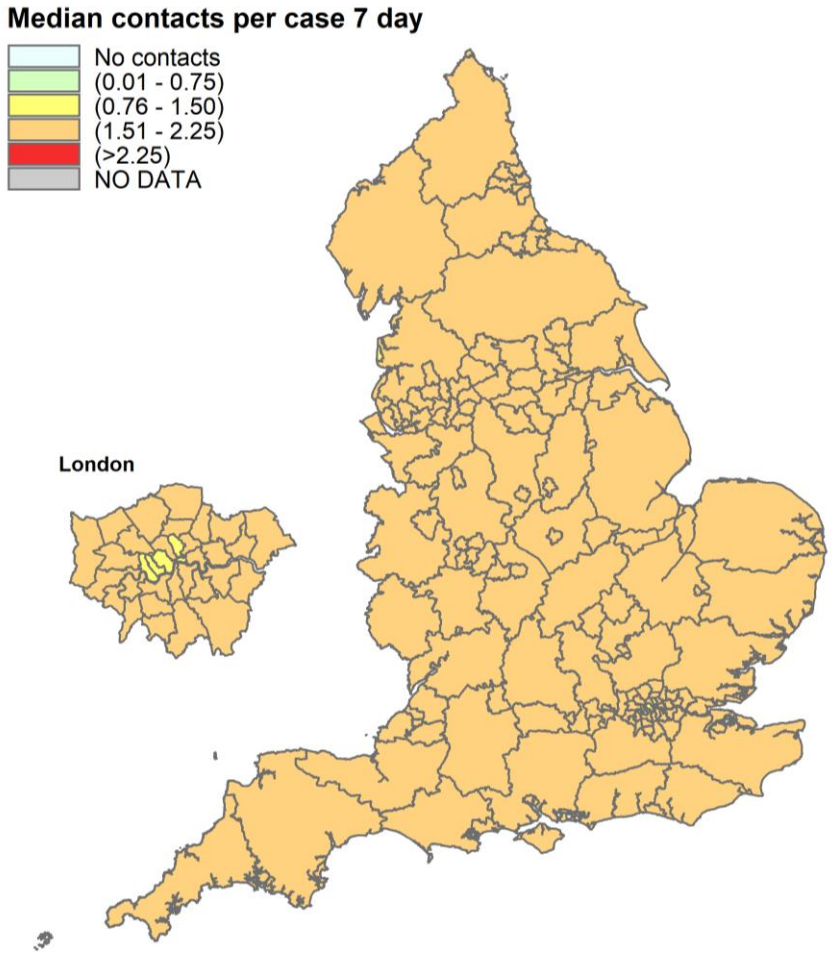
Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 01 September 2020 to 06 January 2021. Produced by Joint Biosecurity Centre.

Contact tracing – 7 day

Data extracted 4 January 2021 – data up to 3 January 2021

Median number of individual contacts per case by lower-tier local authority, England, overall from **28 December 2020** to **3 January 2021** (NHS Test and Trace).

Note this excludes contacts identified as part of complex situations managed by Level 1.

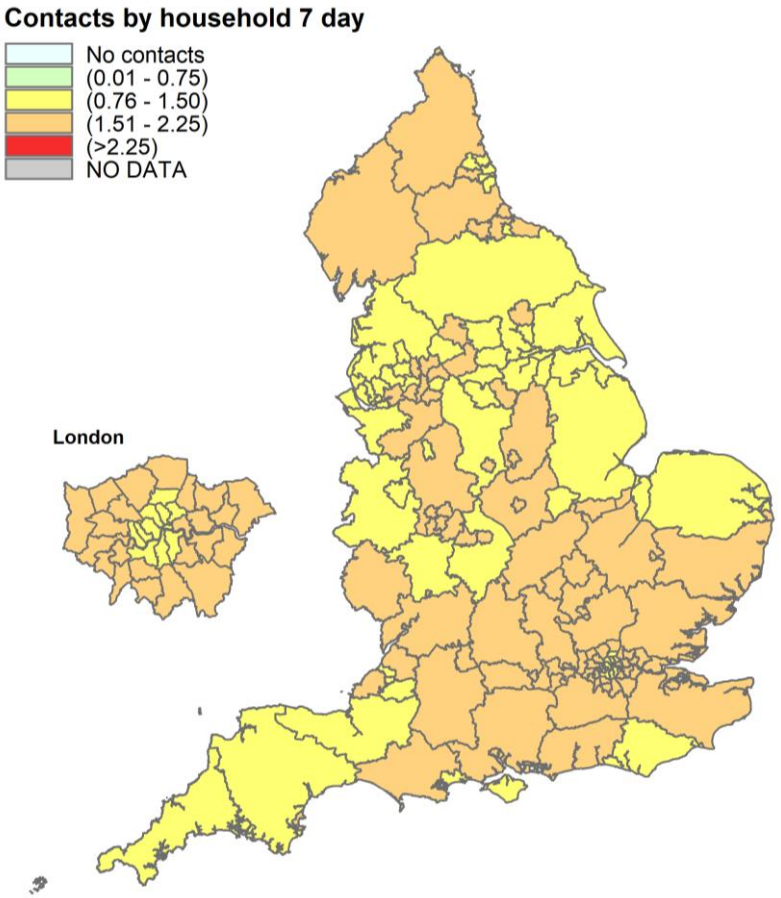


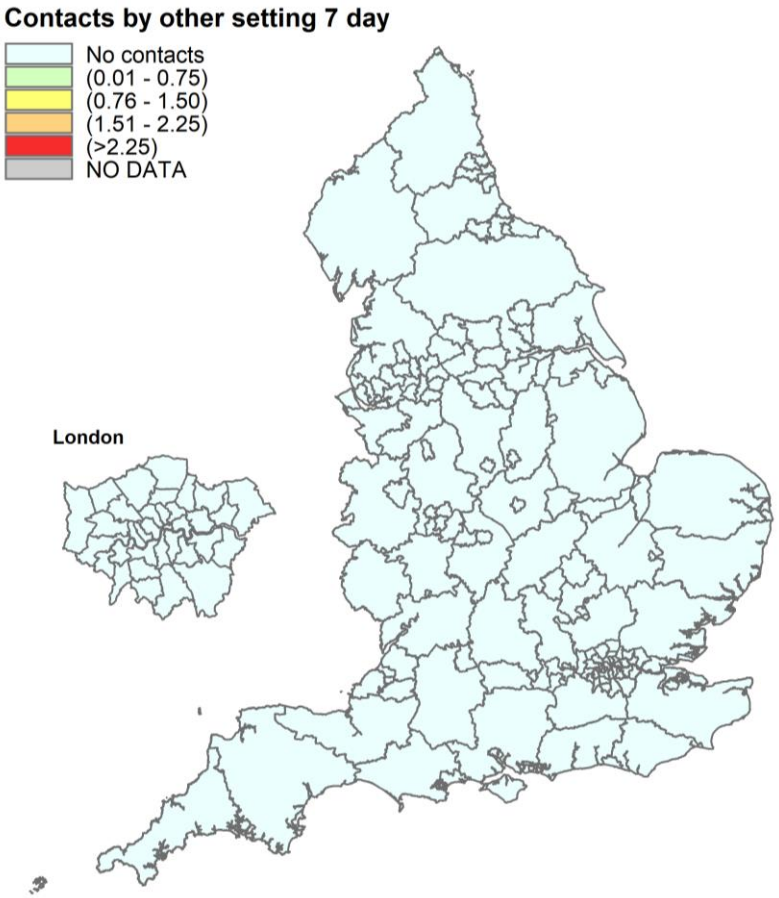
Contact tracing – 7 day

Data extracted 4 January 2021 – data up to 3 January 2021

Median number of contacts per case by setting (household or other) by lower-tier local authority, England, overall from **28 December 2020** to **3 January 2021** (NHS Test and Trace).

Note that contacts with unknown geography are assigned to the upper-tier local authority of the case that identified them.



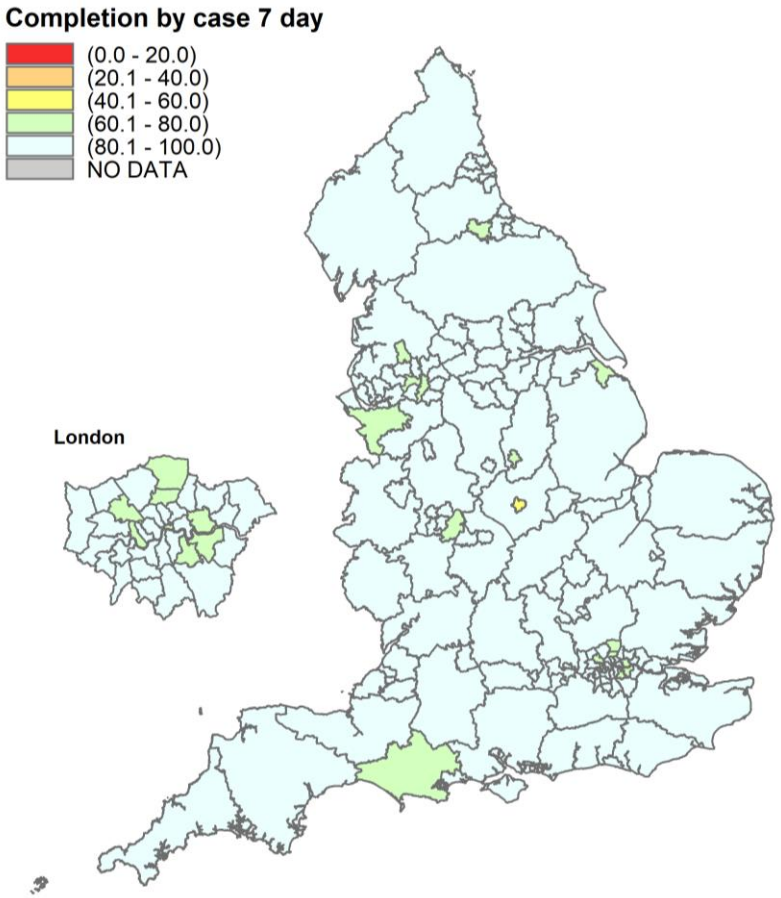


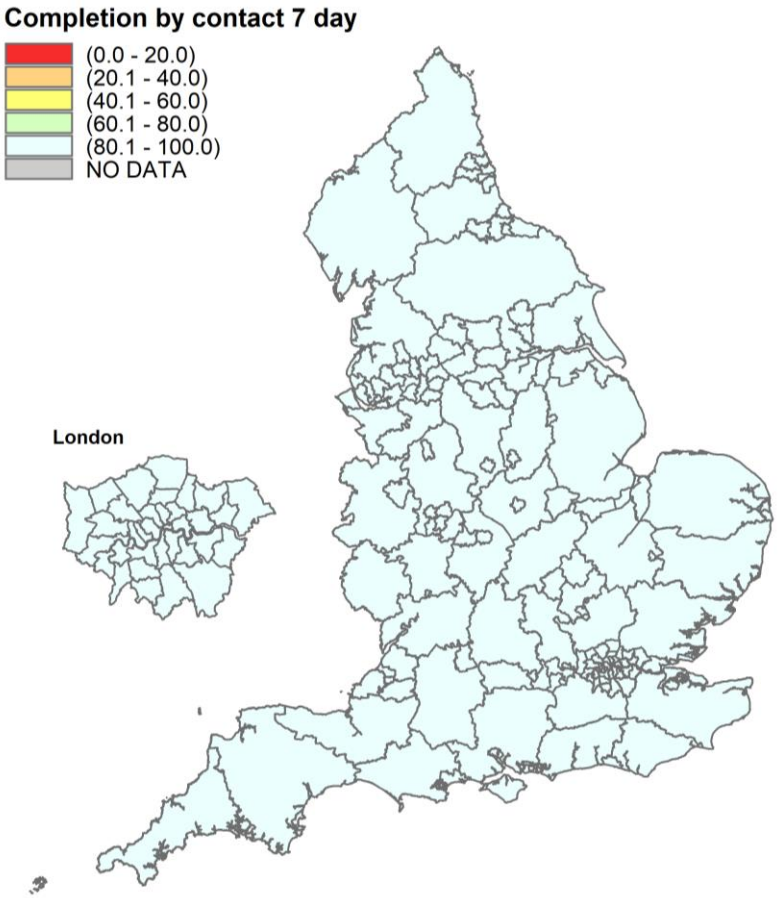
Contact tracing – 7 day

Data extracted 4 January 2021 – data up to 3 January 2021

Proportion of cases and contacts completing contact tracing by lower-tier local authority, England, overall from **28 December 2020** to **3 January 2021** (NHS Test and Trace).

Note that contacts with unknown geography are assigned to the upper-tier local authority of the case that identified them.



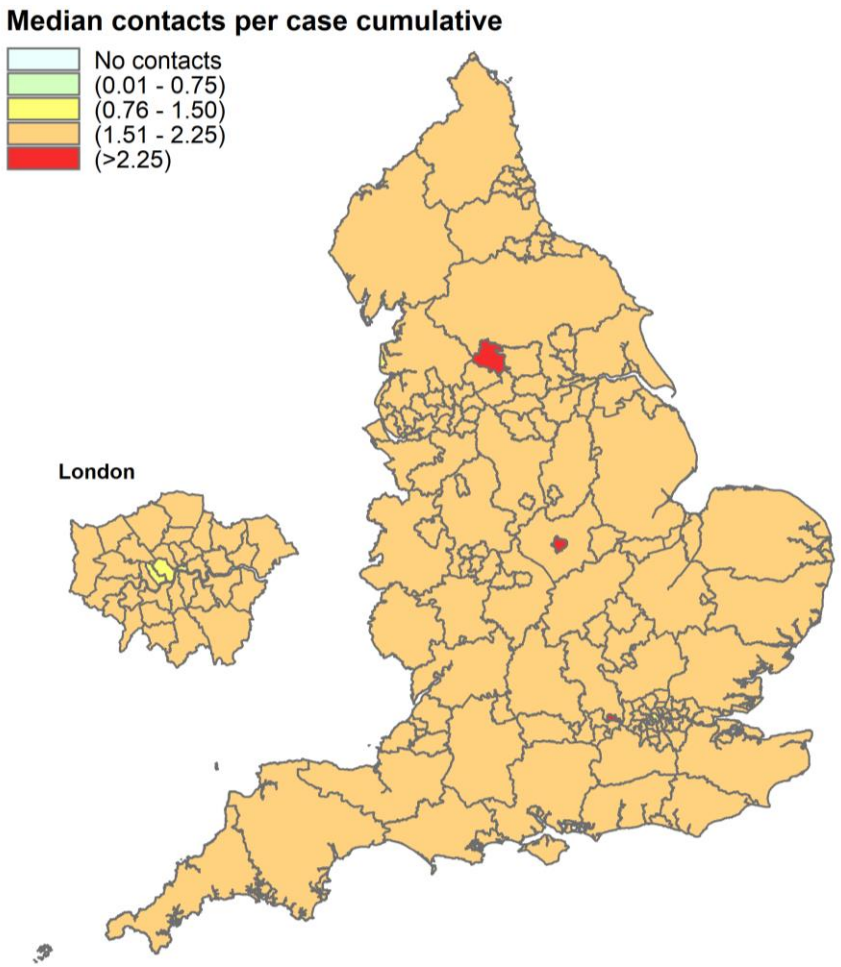


Contact tracing – cumulative

Data extracted 4 January 2021 – data up to 3 January 2021

Median number of individual contacts per case by lower-tier local authority, England, overall from **28 May 2020** to **3 January 2021** (NHS Test and Trace).

Note this excludes contacts identified as part of complex situations managed by Level 1.

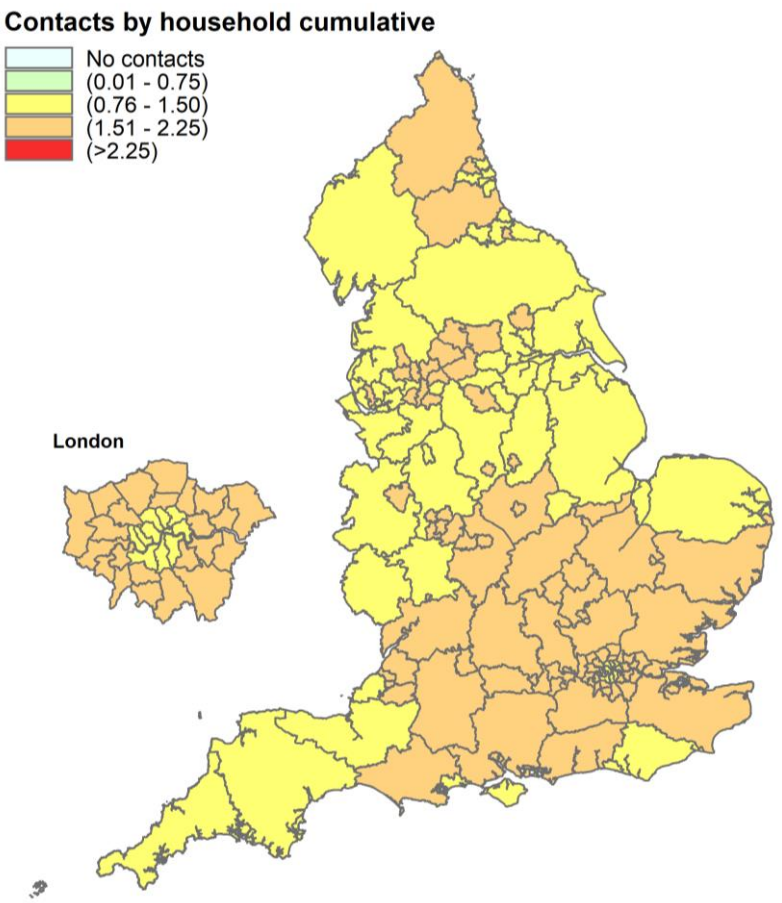


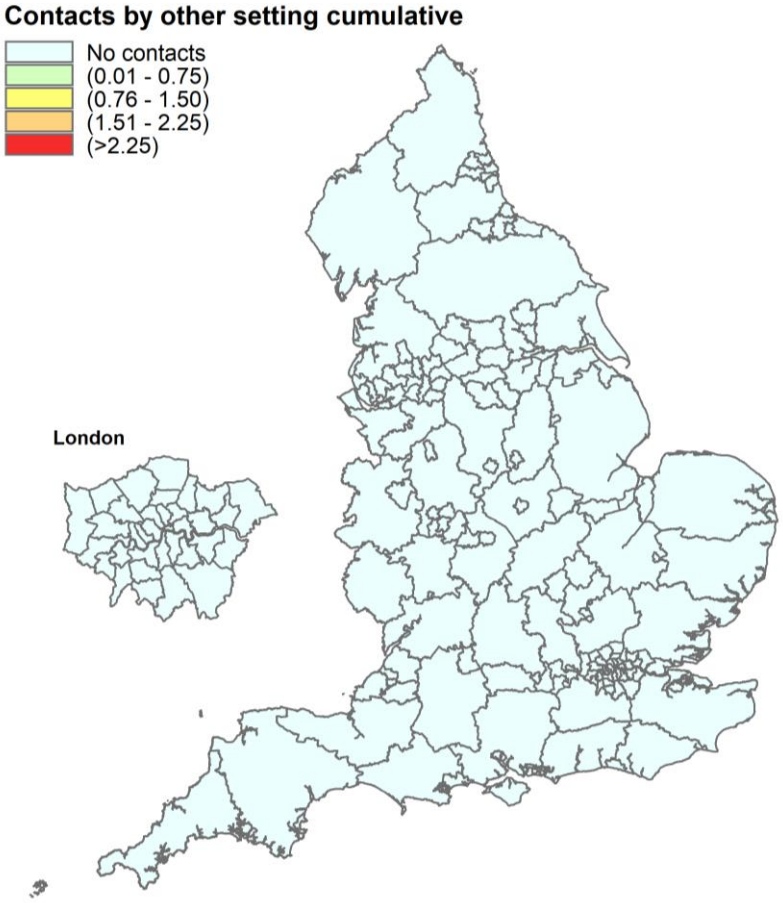
Contact tracing – cumulative

Data extracted 4 January 2021 – data up to 3 January 2021

Median number of contacts per case by setting (household or other) by lower-tier local authority, England, overall from **28 May 2020** to **3 January 2021** (NHS Test and Trace).

Note that contacts with unknown geography are assigned to the upper-tier local authority of the case that identified them.





Contact tracing – cumulative

Data extracted 4 January 2021 – data up to 3 January 2021

Proportion of cases and contacts completing contact tracing by lower-tier local authority, England, overall from **28 May 2020** to **3 January 2021** (NHS Test and Trace).

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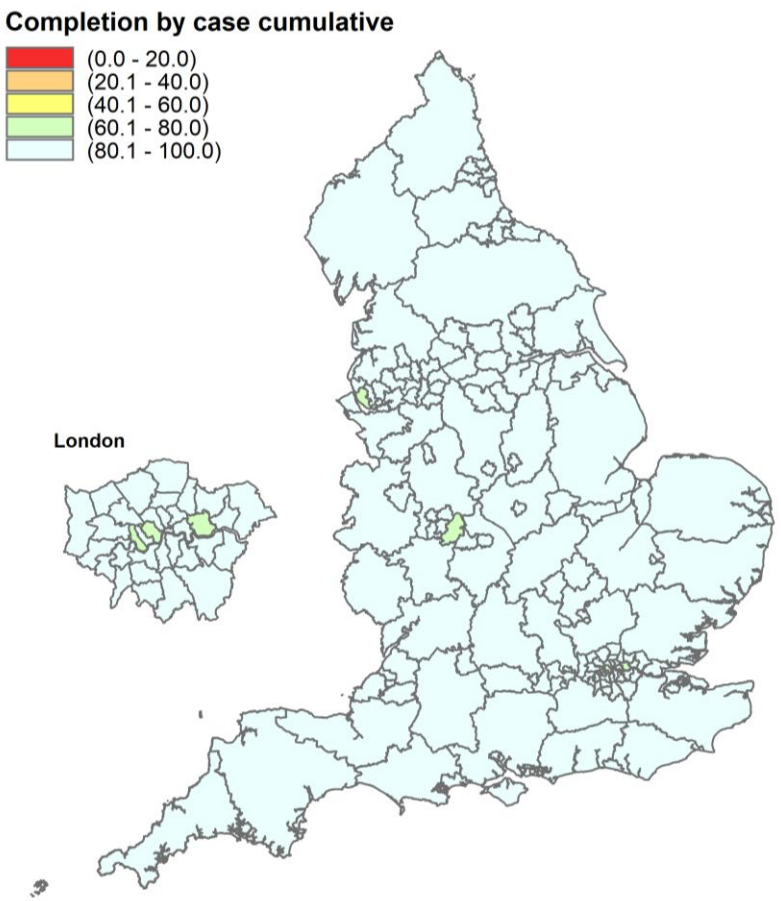
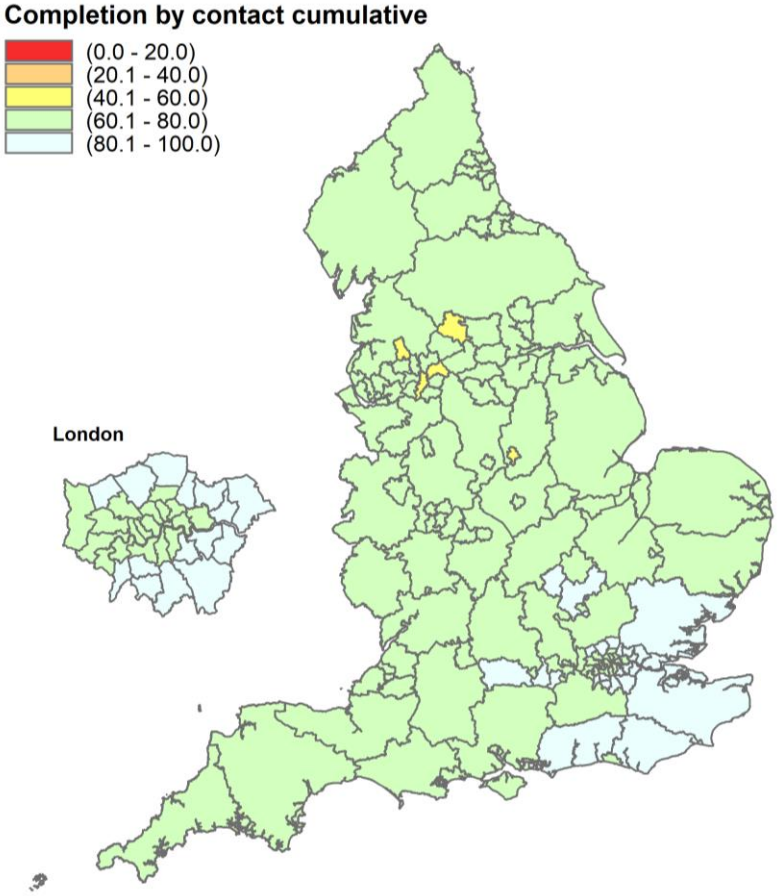
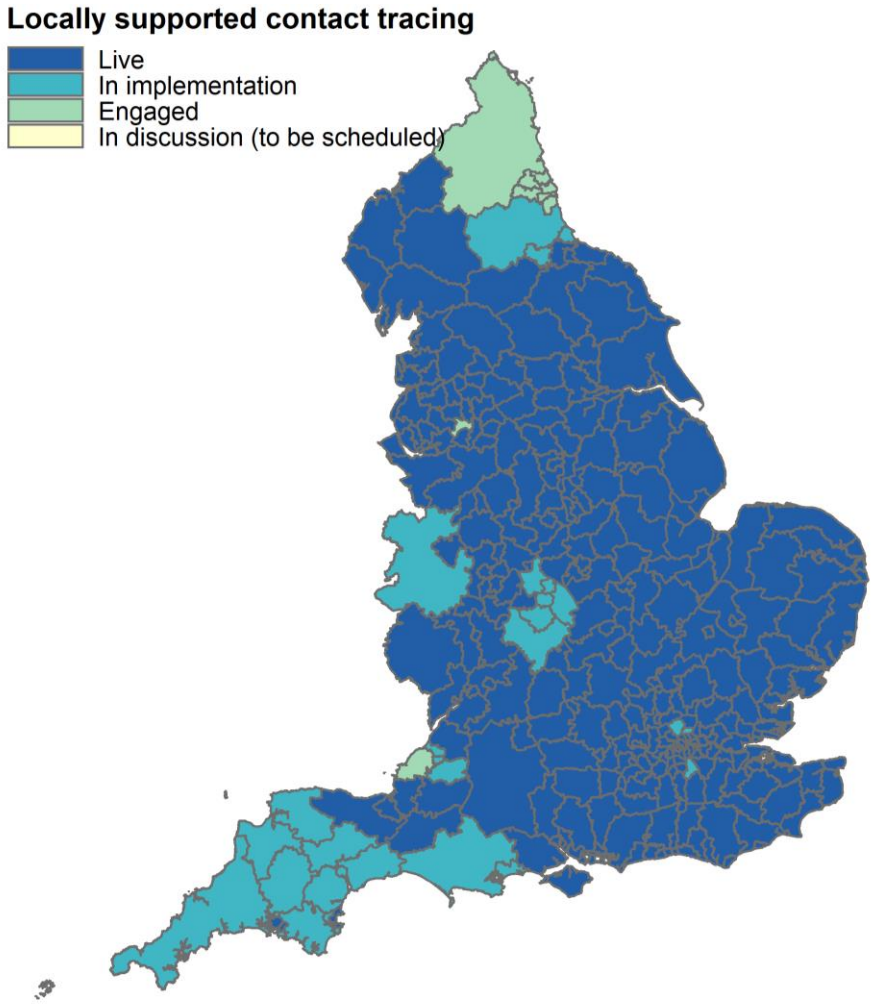




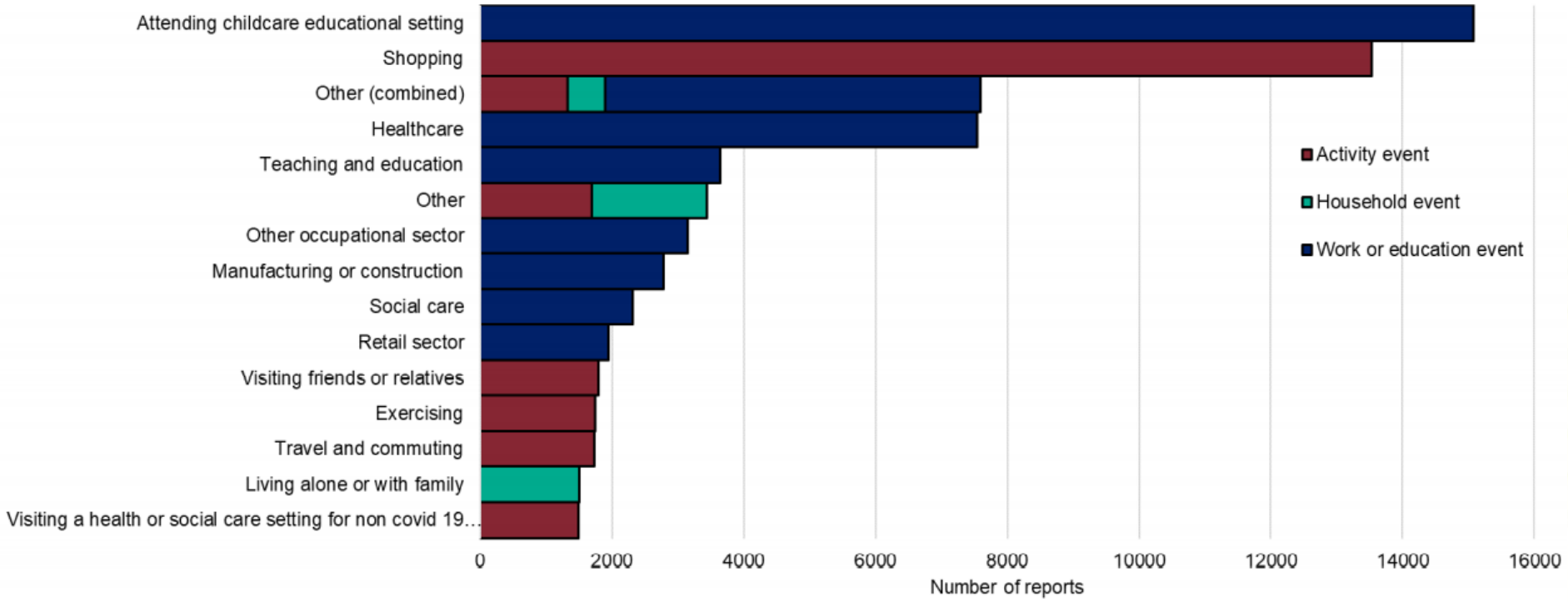
Locally supported contact tracing

Data extracted 6 January 2021



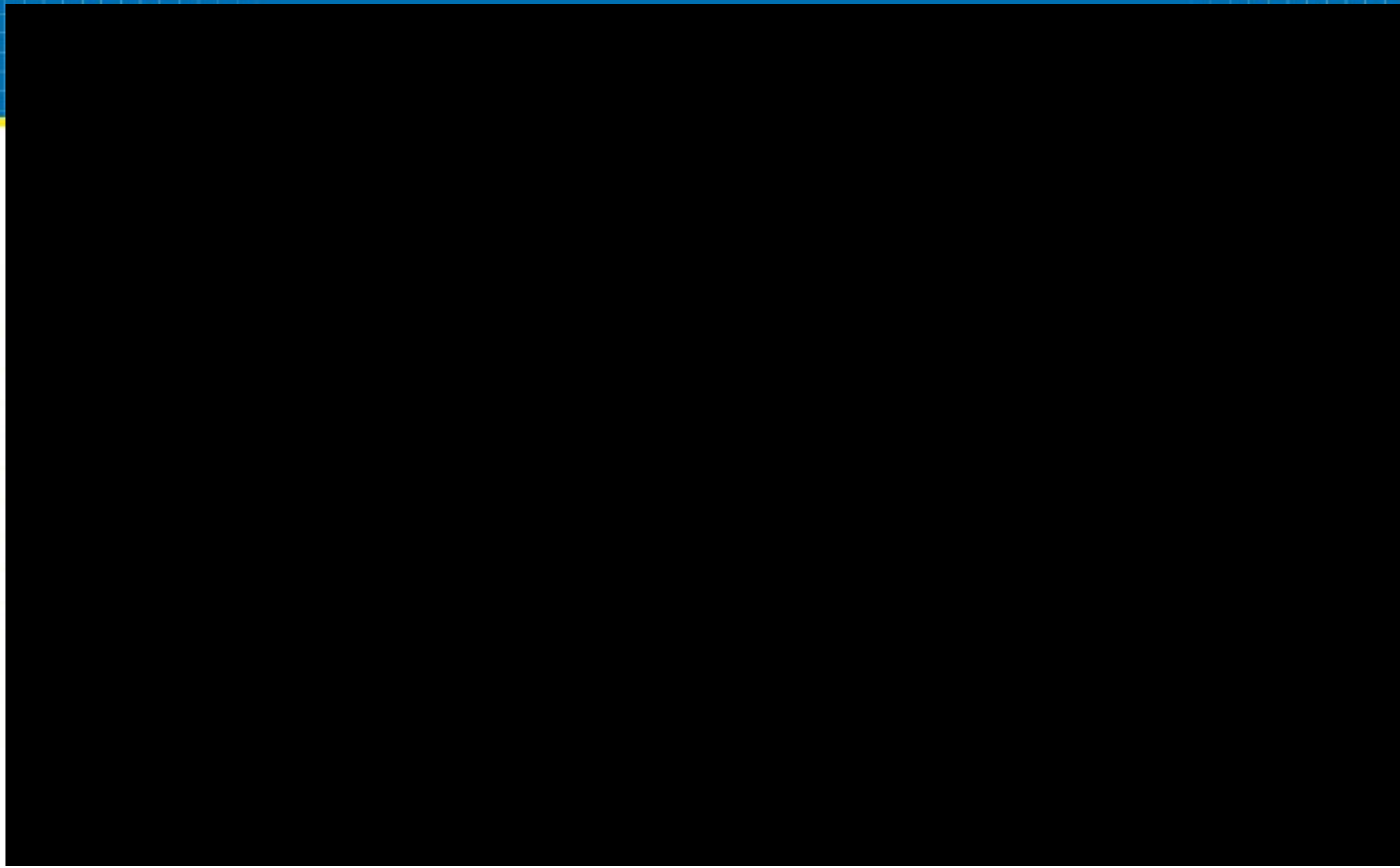
Enhanced contact tracing
Exposure setting for all reported contacts
(Data source: NHS Test and Trace)

Events and activities reported by people testing positive, prior to symptom onset in week 50, England



Note: 'Other' includes a wide range of different activities and settings, each of which has small numbers of individuals, as well as activities which did not fit any specific category and were added as Other by the case. This includes: (all within 'activities': Arts entertainment or recreation; Civil service or government; Close contact services; Community and charity activities; Critical national infrastructure; Emergency services; Financial services; Food production; Hospitality; Immigration border services; Information and communication; Military; Personal care; Prison; Private events and celebrations; Public events and mass gathering; event within a shared household; Sport events; Supported living; Teaching and education; Transport; 'Other (combined)' includes all exposure group types that have small counts such as "went to church", "went to the zoo" within that event type.

Data extracted 17 December 2020



Weekly report on Acute Respiratory Infection (ARI) Situations reported to PHE
Methodology, data sources and limitations

- We report on new acute respiratory infection (ARI) situations reported to Health Protection Teams (HPTs) and entered on HPZone in the previous reporting week by setting and locality.
- Daily and weekly aggregated surveillance reports are extracted from HPZone to generate the line listing.
- The weekly extracts include situations reported in the previous epidemiological week (Monday to Sunday) by locality and context (setting e.g. school)
- Situations associated with Educational settings and Workplaces undergo further investigation. Individual case notes are reviewed by an epidemiologist and an assessment made about whether the criteria for a confirmed COVID-19 cluster or outbreak are met. See definitions.
- Situations associated with Educational settings, Workplaces, Other settings and Food Outlets/ Restaurants are also further classified into sub-categories by review of individual records.
- It is important to note that many of these situations remain live and so the description presented here may not necessarily be final.
- Of note a national school helpline started operating on 17 September 2020 and a Universities helpline started operating on 7 October. This is likely to have had an impact on the number of situations/outbreaks being reported to HPTs in these settings.
- The denominator (the overall number of settings in each category) will differ by the setting category, for example there are fewer hospitals than workplaces, as will the propensity to report incidents to PHE. Therefore these data are more useful for monitoring trends over time than making comparisons across setting categories.
- Schools in England were closed for half-term during weeks 43 or/ and 44.
- The situations captured on HPZone represent a subset of all ongoing clusters and outbreaks in England rather than an exhaustive listing. A variety of arrangements are in place with local authorities and other stakeholders supporting HPTs, however data are not routinely documented on HPZone. As a result, the number of outbreaks reported for some of the regions are underestimates.

Methodology, data sources and limitations

Definitions

Cluster: two or more test-confirmed cases of COVID-19 among individuals associated with a specific non-residential setting with illness onset dates within a 14-day period (in the absence of detailed information about the type of contact between the cases).

Outbreak: two or more test-confirmed cases of COVID-19 among individuals associated with a specific non-residential setting with illness onset dates within 14 days, and one of:

- Identified direct exposure between at least 2 of the test-confirmed cases in that setting (for example under one metre face to face, or spending more than 15 minutes within 2 metres) during the infectious period of one of the cases
- When there is no sustained local community transmission - absence of an alternative source of infection outside the setting for the initially identified cases

Wastewater Summary Board with 5 Highest Values until 22 November 2020

Figure 1: 7 day rolling average

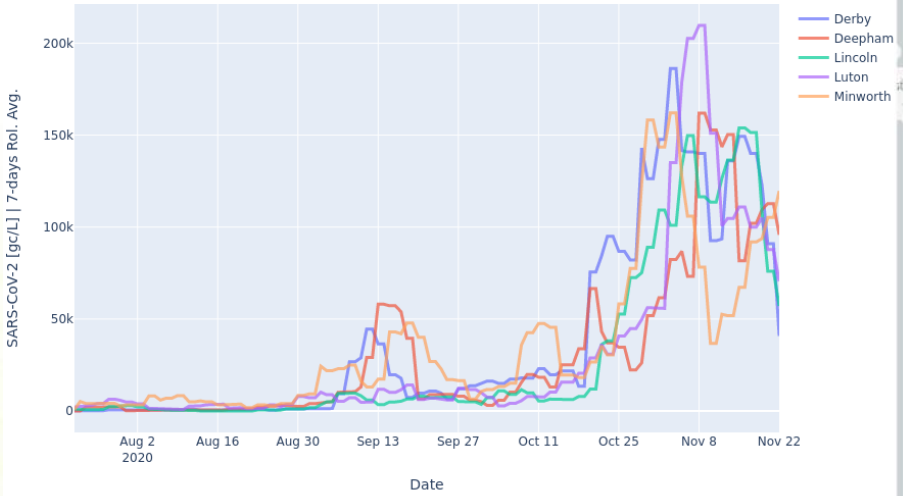


Figure 2: 7 day average of levels of SARS-CoV-2 RNA

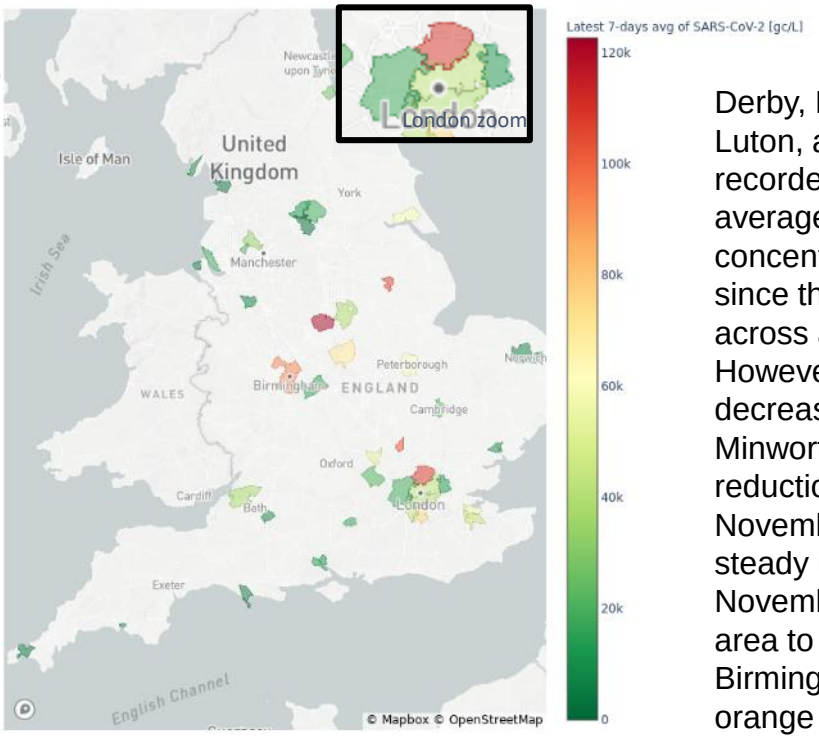


Table 1: areas sampled with highest levels of SARS-CoV-2 over the last week

Site Name	Latest 7-days avg of SARS-CoV-2 [gc/L]	Rank
Derby	122669	1
Deepham	109555	2
Lincoln	108013	3
Luton	105070	4
Minworth	93757	5

Derby, Deepham, Lincoln, Luton, and Minworth have recorded the highest 7-day average of SARS-CoV-2 concentrations in Wastewater since the 22nd November across all of England. However, all are now decreasing apart from Minworth, which saw an initial reduction in the first week of November, but has now seen a steady increase since November 11th. Minworth is an area to the North-East of Birmingham, highlighted in orange in Figure 2, and will be an area of increased vigilance going forward.

Updated 4 December 2020

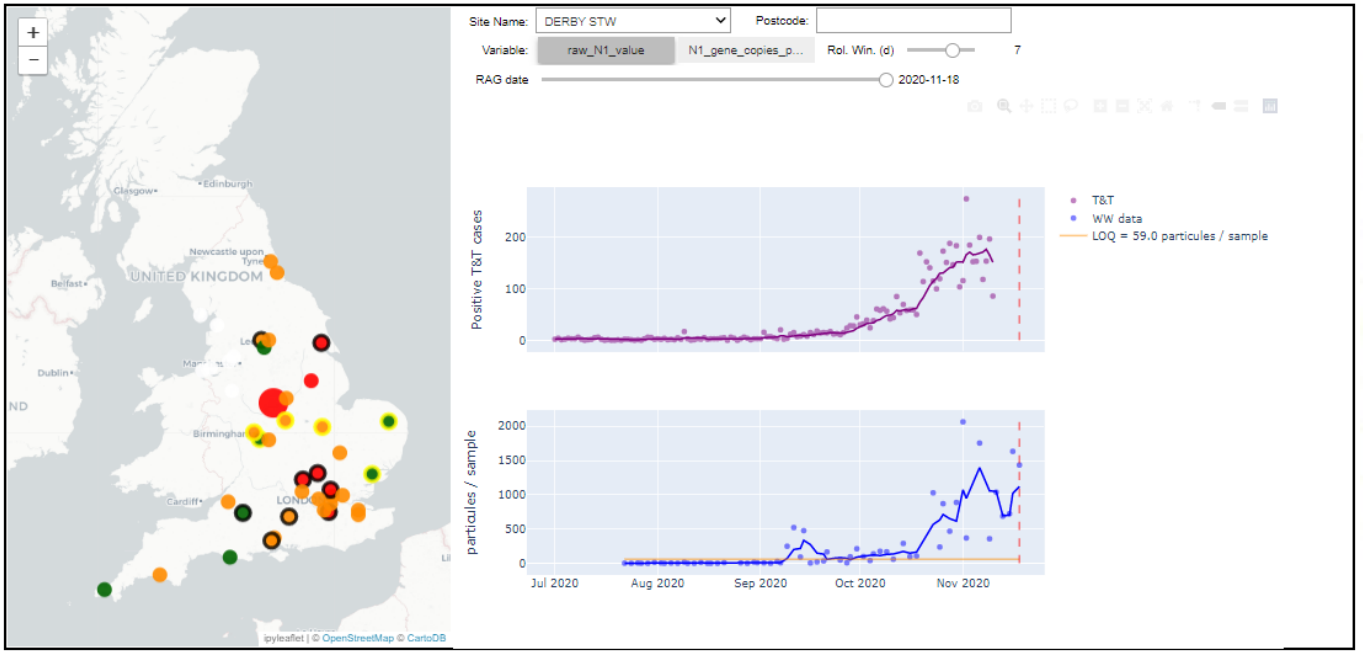
Dashboard View of WW Levels of SARS-CoV-2 for Derby contrasted against Pillar 2 Data

There is a strong association between SARS-CoV-2 levels in WW and Pillar 2 data.

This relationship is represented across the majority of sites.

The timeseries shows high levels in Derby, which are starting to decline.

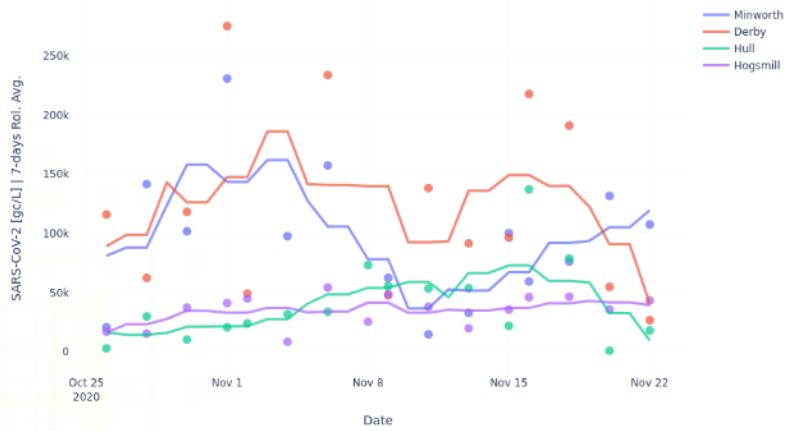
Figure 3: dashboard extract for Derby



Top 4 Areas Increasing and Decreasing Levels of SARS-CoV-2 RNA in Wastewater

Top 4 Areas with Increasing Levels of SARS-CoV-2 RNA in WW over the last 2 weeks

Figure 4: top 4 areas increasing

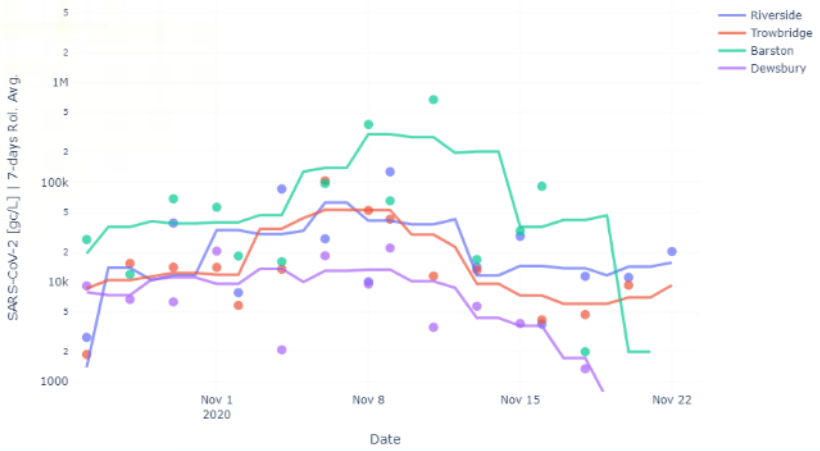


Site Name	7 day Percent Change
Minworth	78.3
Derby	31.1
Hull	27.2
Hogsmill	20.9

Minworth, Derby, Hull, and Hogsmill are ranked as the top 4 areas with increasing levels of SARS-CoV-2 RNA in wastewater over the last 2 weeks as defined by percentage change between the two last weekly-averaged values. However, it should be noted that Derby and Hull, since around the 18th and 19th are starting to experience a decline over their 7 day averages. Hogsmill appears to be levelling off, but Minworth, at the North-East of Birmingham, as noted previously, is sharply increasing.

Top 4 Areas with Decreasing Levels of SARS-CoV-2 RNA over the last 2 weeks

Figure 5: top 4 areas decreasing



Site Name	7 day Percent Change
Riverside	-72.7
Trowbridge	-73
Barston	-76.3
Dewsbury	-92.3

Riverside, Trowbridge, Barston, and Dewsbury are ranked as the top 4 areas with decreasing levels of SARS-CoV-2 RNA in wastewater over the last 2 weeks as defined by percentage change between the two last weekly-averaged values. Dewsbury has fallen so much so since November 6th, the instigation of the National Lockdown, that its SARS-CoV-2 RNA levels have fallen below the limit of detection (the threshold for detecting SARS-CoV-2 RNA via wastewater), indicating low prevalence in the area. Barston also demonstrates a steep decrease in SARS-CoV-2 RNA levels. Finally, Trowbridge and Riverside have also seen significant decreases since the 6th November. Together these data demonstrating the effectiveness of Lockdown measures.

Sources of data and signposting

Internal reports/updates

- Weekly COVID19_Epidemiological Internal Update report
- COVID-19 Exceedance Daily Review
- All regions PHE Situations of Interest daily update
- PHE NHS Test and Trace: Weekly Contact Tracing Report
- PHE Daily Care Home Report
- PHE Educational settings weekly report for NERVTAG
- COVID-19: nowcast and forecast

Published reports

- National flu and COVID-19 surveillance reports
- Weekly Coronavirus Disease 2019 (COVID-19) Surveillance Report
- ONS - Coronavirus (COVID-19) Infection Survey, UK
- REACT-1 round 7 updated report

Data sources

Second Generation Surveillance System (SGSS)

Data as of 5 January 2021 00:00hrs

Laboratory-confirmed cases reported to PHE. SGSS data is further de-duplicated and cleaned by the PHE ICC Epidemiology Cell. The dataset includes all positive COVID-19 cases reported through both Pillar 1 and Pillar 2 testing. Numbers in most recent days may rise due to potential delays to data reporting and validation. The number of confirmed cases reflects both the case rate of infection and testing rates.

PHE Unified Sample Dataset (USD)

Data as of 6 January 2021 00:00hrs

Data on individuals testing negative for SARS-CoV2 in both Pillar 1 and 2. This data is deduplicated to only include one record for any individual who has had only negative samples

HPZone case and incident management system

Data as of 6 January 2021 08:00hrs

Only outbreaks reported to PHE are included. Absolute numbers should be interpreted with caution. Reporting practice is known to vary with time and geography. Community outbreaks exclude outbreaks reported from secondary care and care home settings.