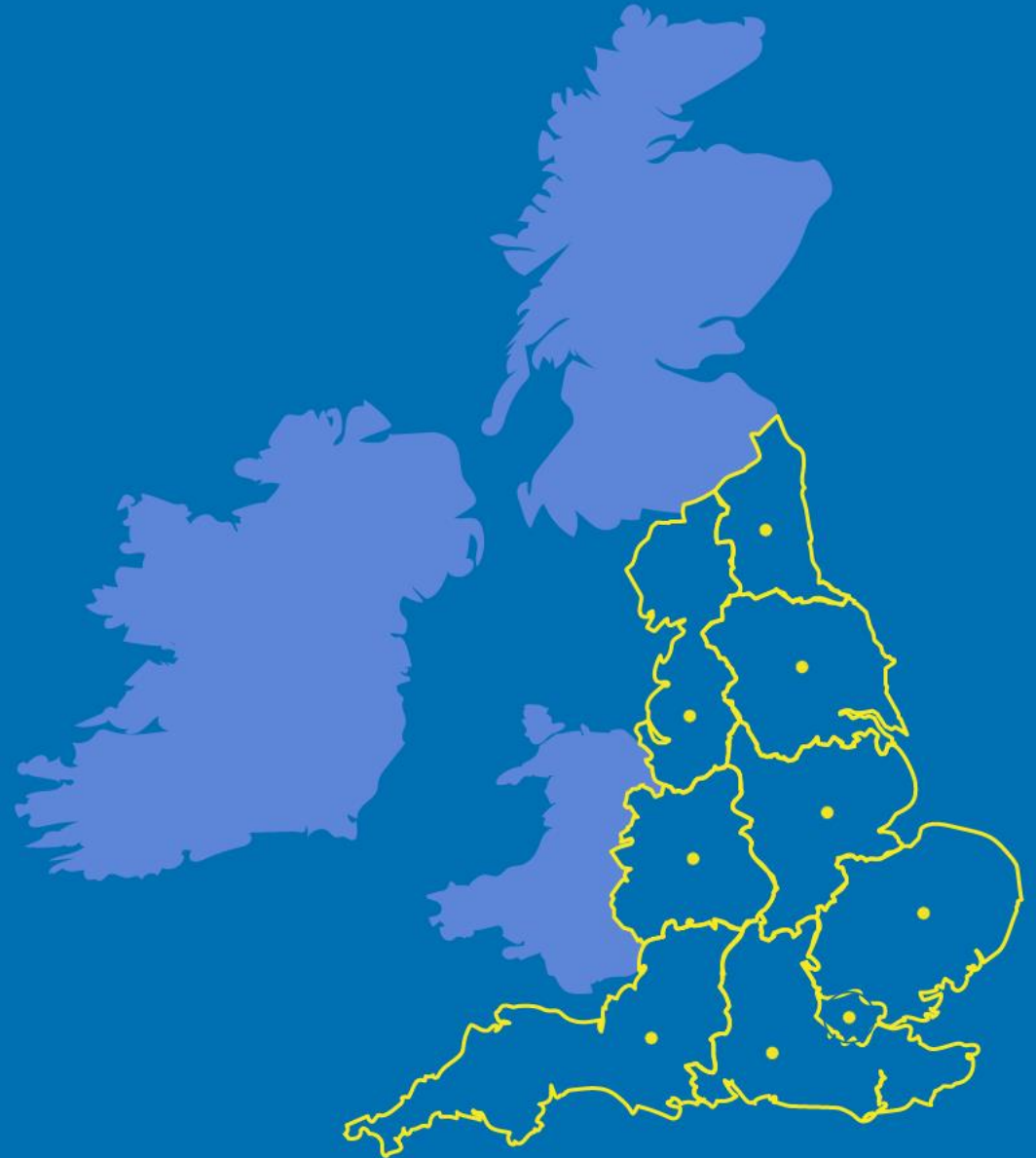


CORONAVIRUS **SITUATIONAL** **AWARENESS** Summary

date: 16 December 2020

Appendix



Contents

This situational awareness summary report appendix:

- Local authority information
 - Map Case rates
 - 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
- Acute respiratory infections
- Weekly positivity for other respiratory viruses
- Waste water
- [REDACTED]

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.

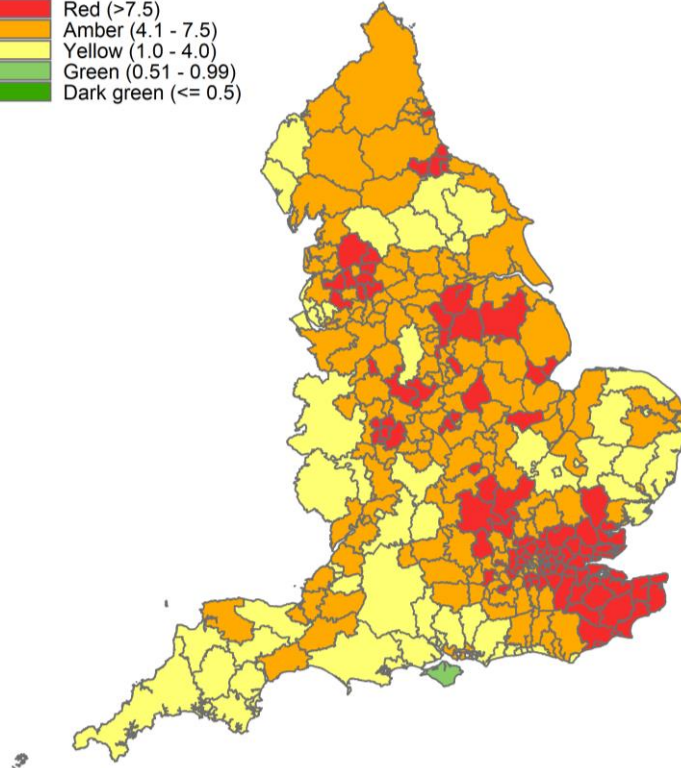
Throughout the SAR:

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

Testing: Individuals testing positive per 100 tests

Data for specimens taken between 5 December and 11 December (7 day) and 28 November and 11 December (14 day)

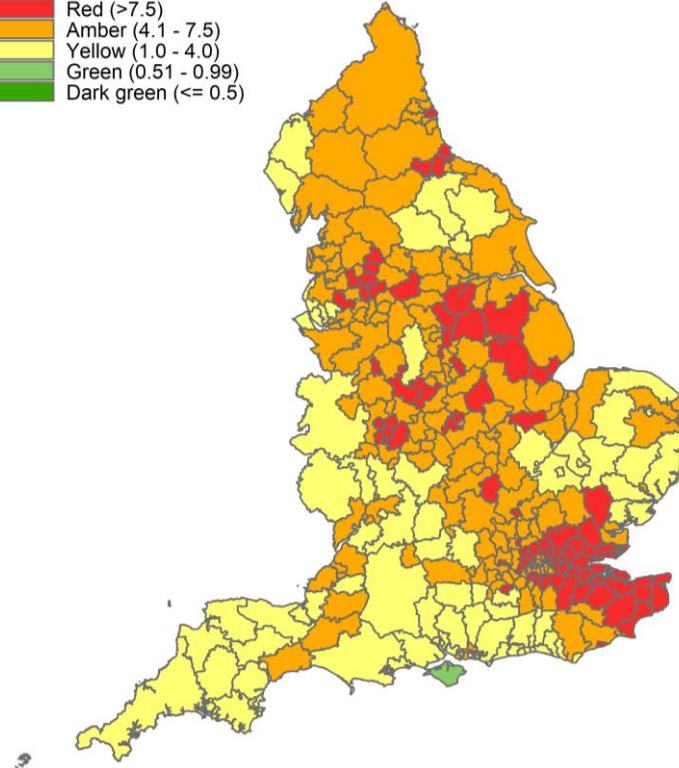
Percentage of individuals testing positive (weekly) RAG



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Contains National Statistics data © Crown copyright and database right 2020

| Local Authorities with the highest percentages | | | |
|--|------|----------------|------|
| | % | | % |
| Swale | 17.1 | Broxbourne | 15.5 |
| Havering | 17 | Thurrock | 14.9 |
| Barking and Dagenham | 16.9 | Gravesham | 14.8 |
| Redbridge | 16.6 | Waltham Forest | 14.7 |
| Newham | 16.1 | Dartford | 14.2 |

Percentage of individuals testing positive (Fortnightly) RAG



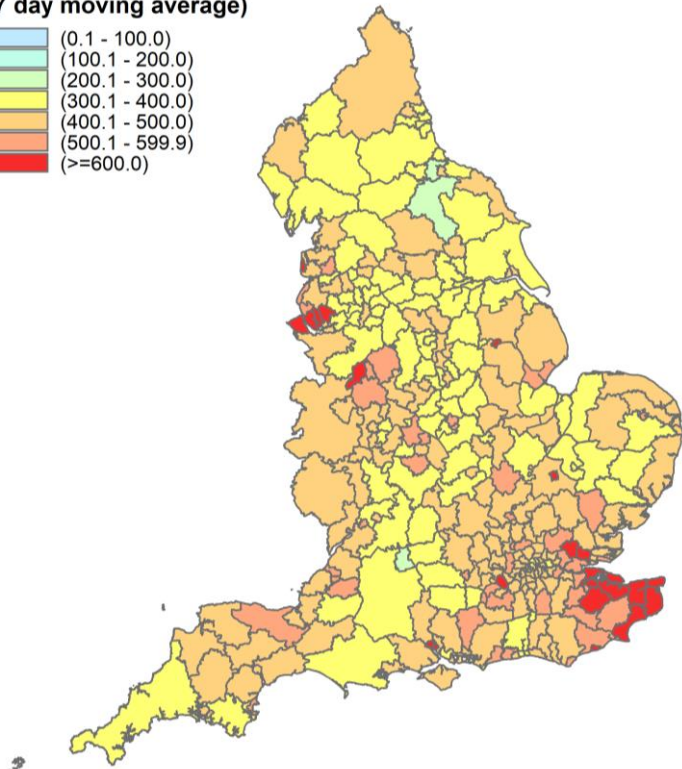
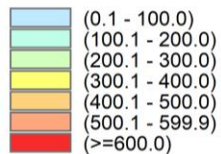
Contains Ordnance Survey data © Crown copyright and database right 2020
Contains National Statistics data © Crown copyright and database right 2020

| Local Authorities with the highest percentages | | | |
|--|------|----------------------|------|
| | % | | % |
| Swale | 16.7 | Barking and Dagenham | 14.5 |
| Havering | 15.2 | Medway | 13.8 |
| Gravesham | 15 | Waltham Forest | 13.5 |
| Newham | 14.5 | Tower Hamlets | 12.8 |
| Redbridge | 14.5 | Broxbourne | 12.8 |

Testing: Individuals tested per 100,000 population per day

Data for specimens taken between 5 December and 11 December (7 day) and 28 November and 11 December (14 day)

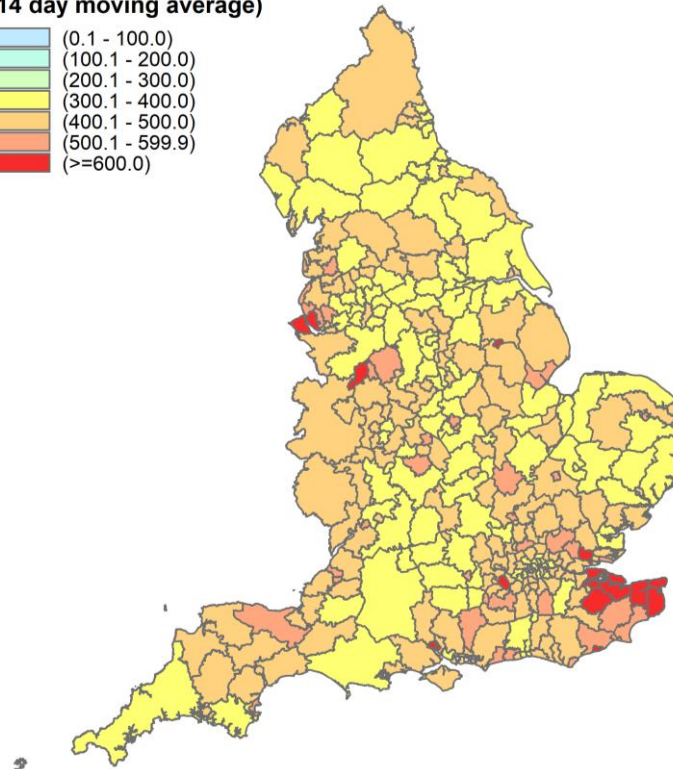
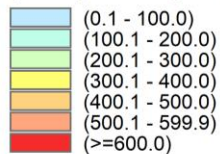
Average number of individuals tested per 100,000 per day
(7 day moving average)



Contains Ordnance Survey data © Crown copyright and database right 2020
Contains National Statistics data © Crown copyright and database right 2020

| Local Authorities with the highest rate | | | |
|---|-------|------------|-------|
| | Rate | | Rate |
| Medway | 948.6 | Dover | 722.6 |
| Basildon | 831.4 | Lincoln | 691.1 |
| Wirral | 790.8 | Hastings | 690.2 |
| Liverpool | 789 | Canterbury | 689.1 |
| Southampton | 758.6 | Cambridge | 680 |

Average number of individuals tested per 100,000 per day
(14 day moving average)

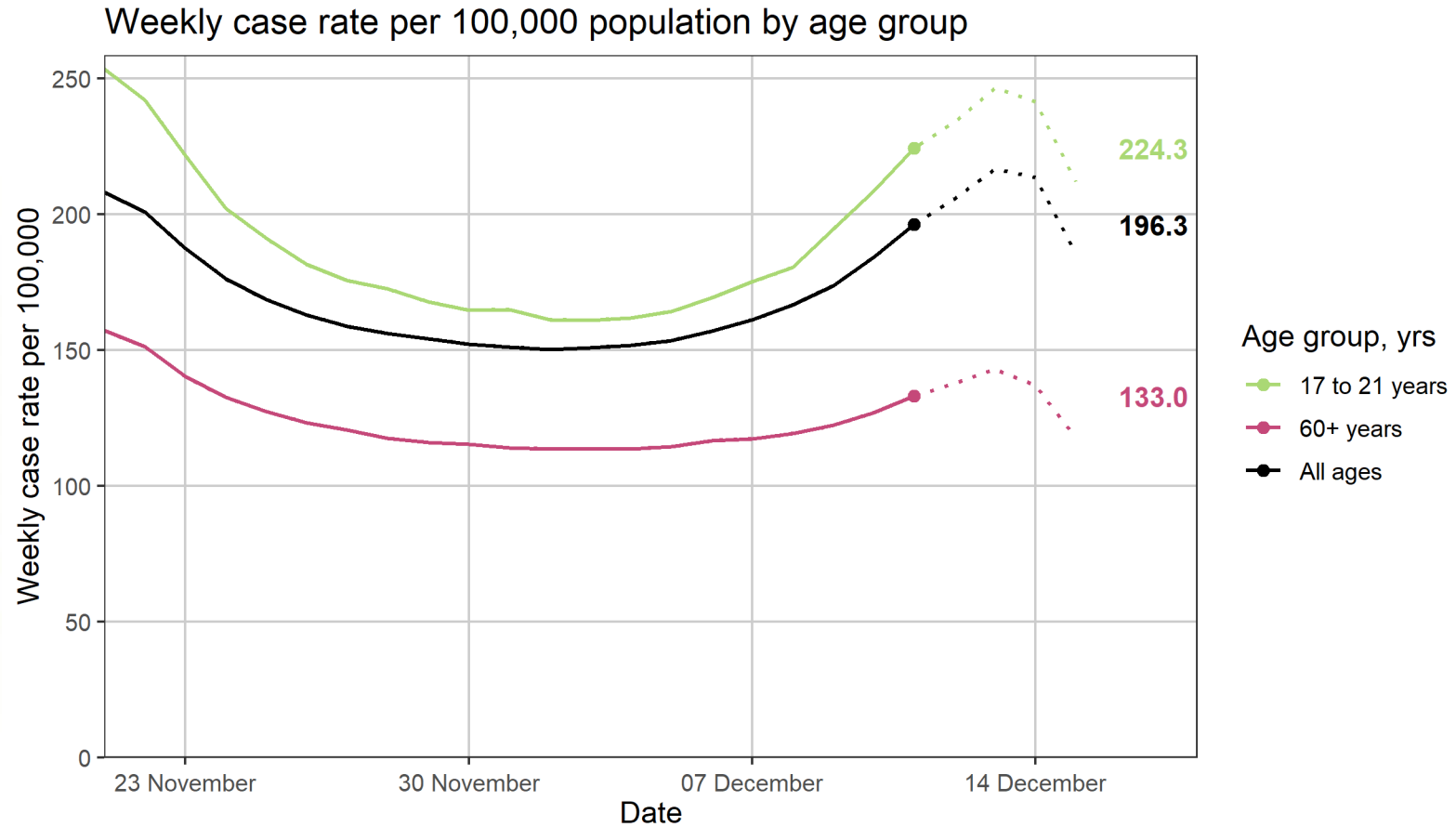


Contains Ordnance Survey data © Crown copyright and database right 2020
Contains National Statistics data © Crown copyright and database right 2020

| Local Authorities with the highest rate | | | |
|---|-------|------------|-------|
| | Rate | | Rate |
| Liverpool | 873.5 | Basildon | 663.3 |
| Southampton | 769 | Canterbury | 663.1 |
| Medway | 746.1 | Swale | 624.8 |
| Lincoln | 725.9 | Hastings | 621.2 |
| Dover | 664.7 | Runnymede | 614.1 |

Case rate across both pillars 1 and 2 (weekly) – selected ages

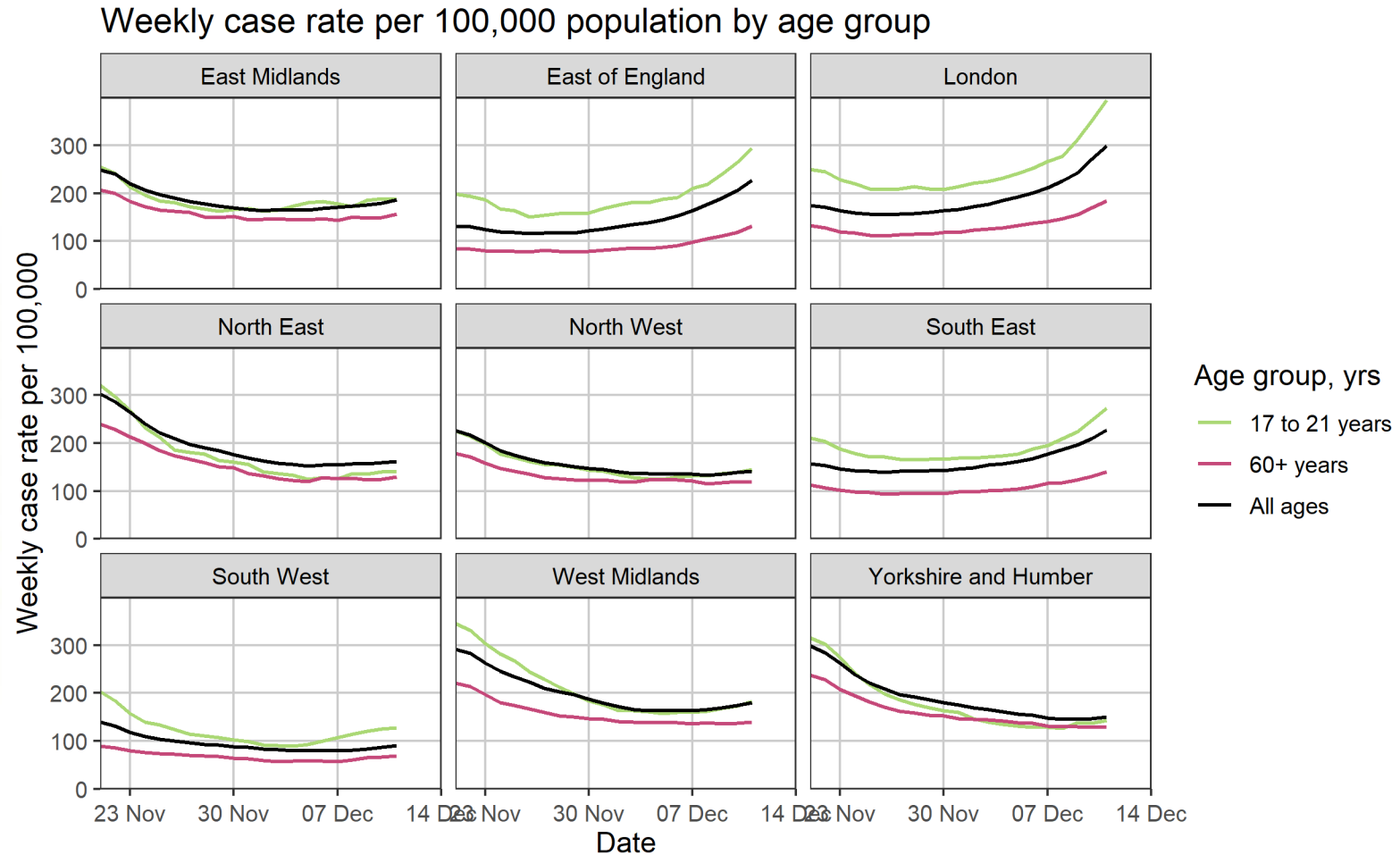
Data up to the 11 December 2020



Labels show weekly case rate for 05 December 2020 to 11 December 2020
Dashed lines indicates period with incomplete data

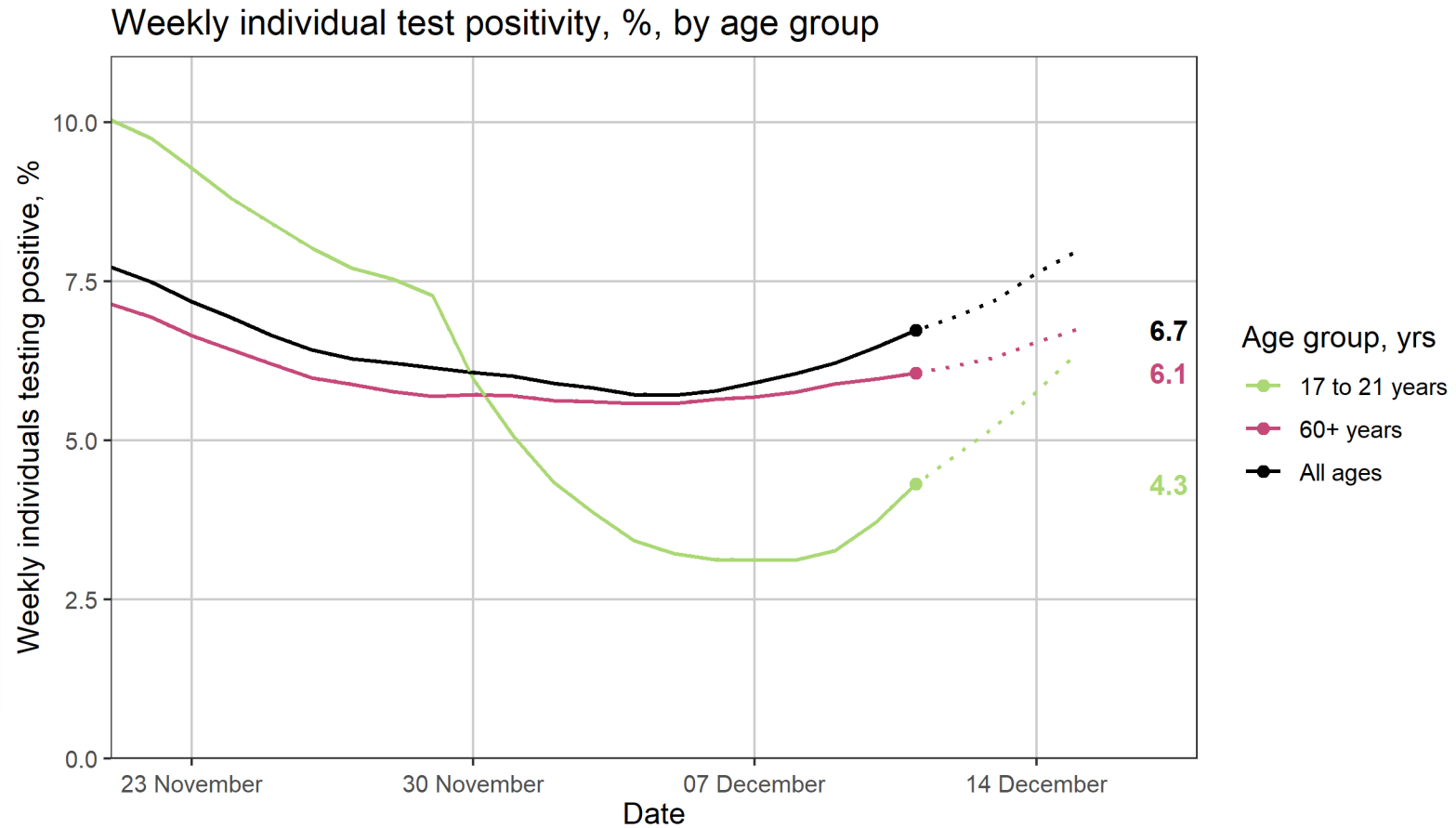
Case rate across both pillars 1 and 2 (weekly) – selected ages

Data up to the 11 December 2020



Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – selected ages

Data up to the 11 December 2020

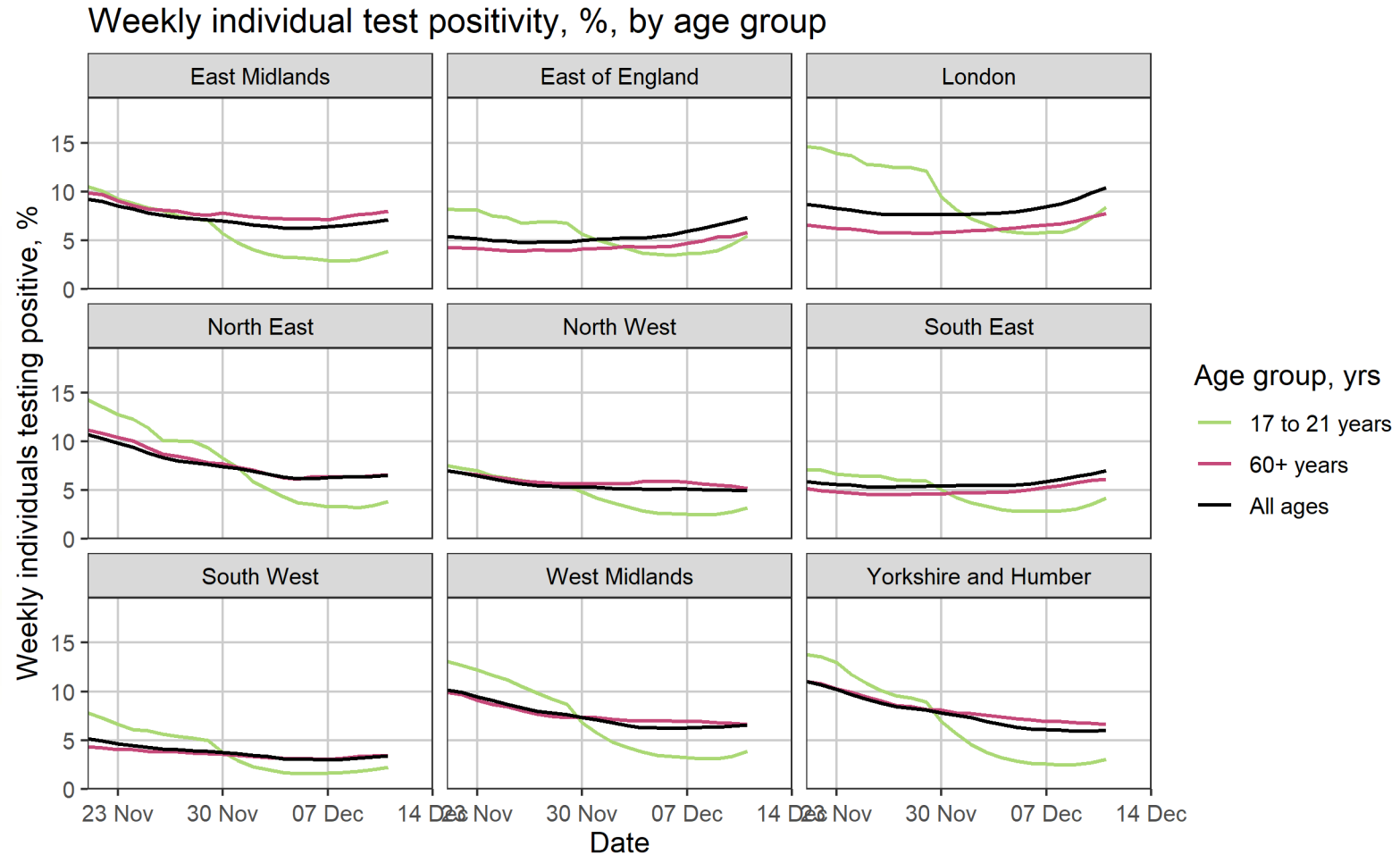


Labels show weekly positivity rate for 05 December 2020 to 11 December 2020
Dashed lines indicates period with incomplete data

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

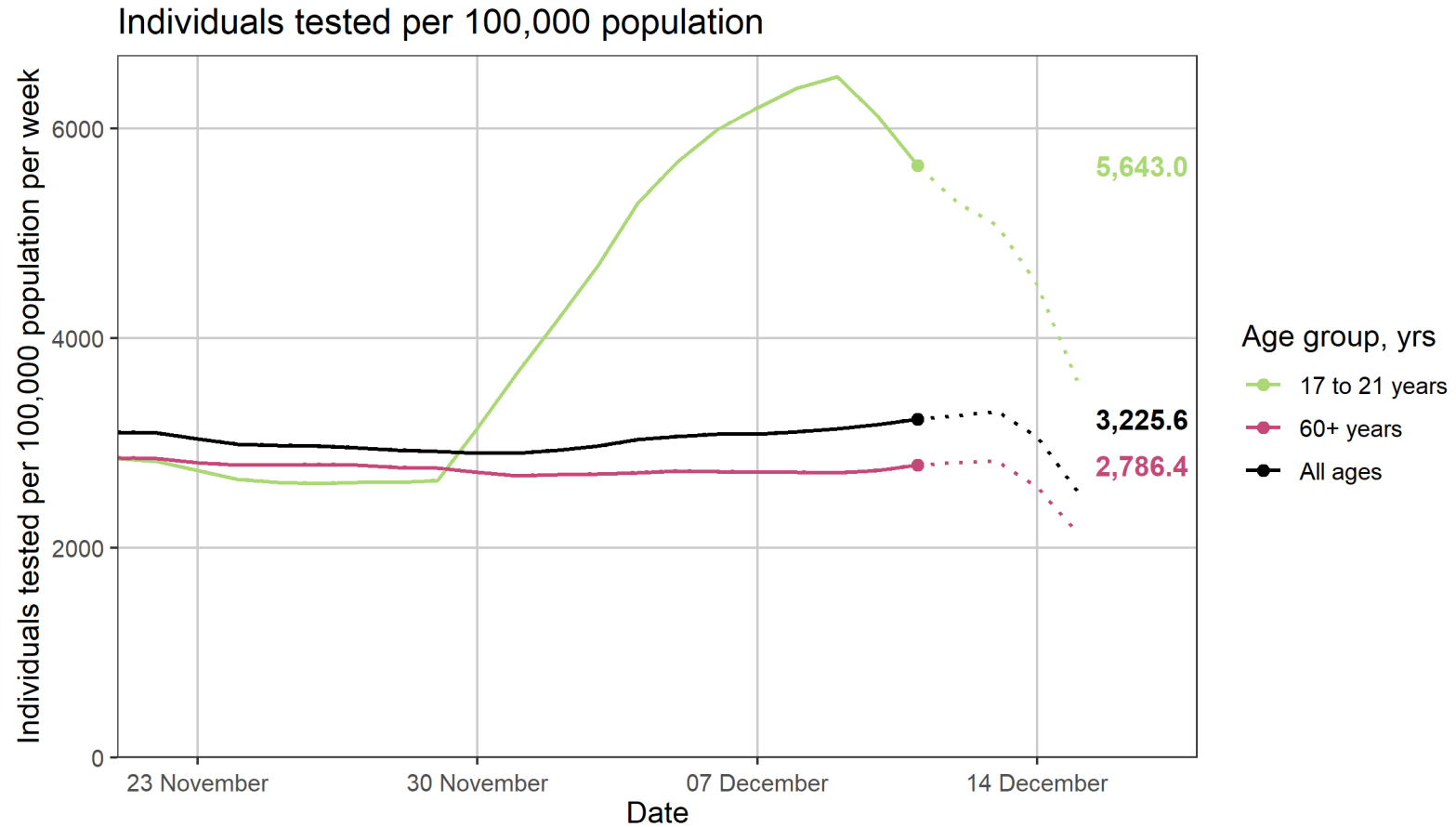
Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – selected ages

Data up to the 11 December 2020



Individuals tested across both pillars 1 and 2 (weekly) – selected ages

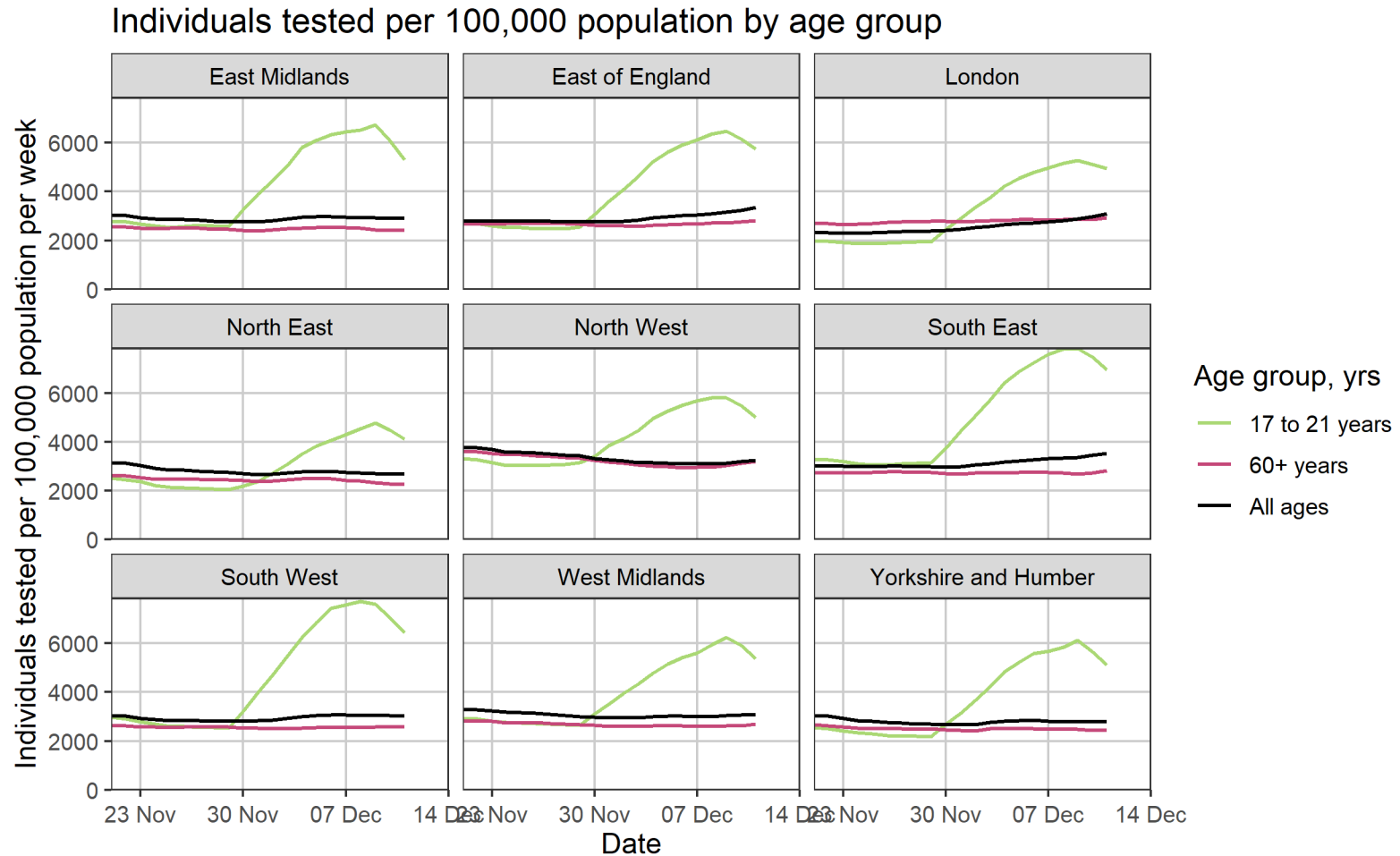
Data up to the 11 December 2020



Labels show weekly testing rate for 05 December 2020 to 11 December 2020
Dashed lines indicates period with incomplete data

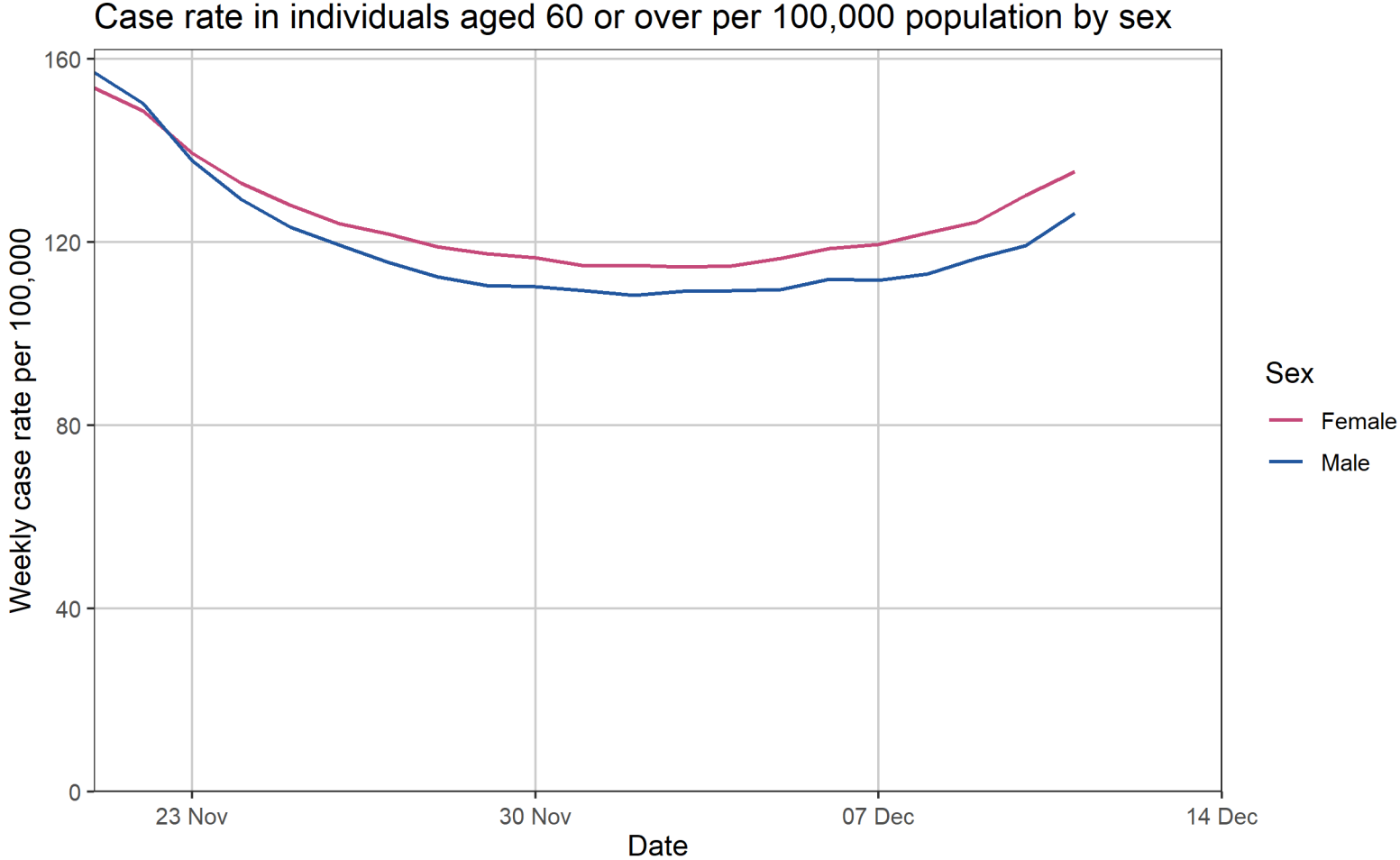
Individuals tested across both pillars 1 and 2 (weekly) – selected ages

Data up to the 11 December 2020



Case rate across both pillars 1 and 2 (weekly) – aged 60 or over

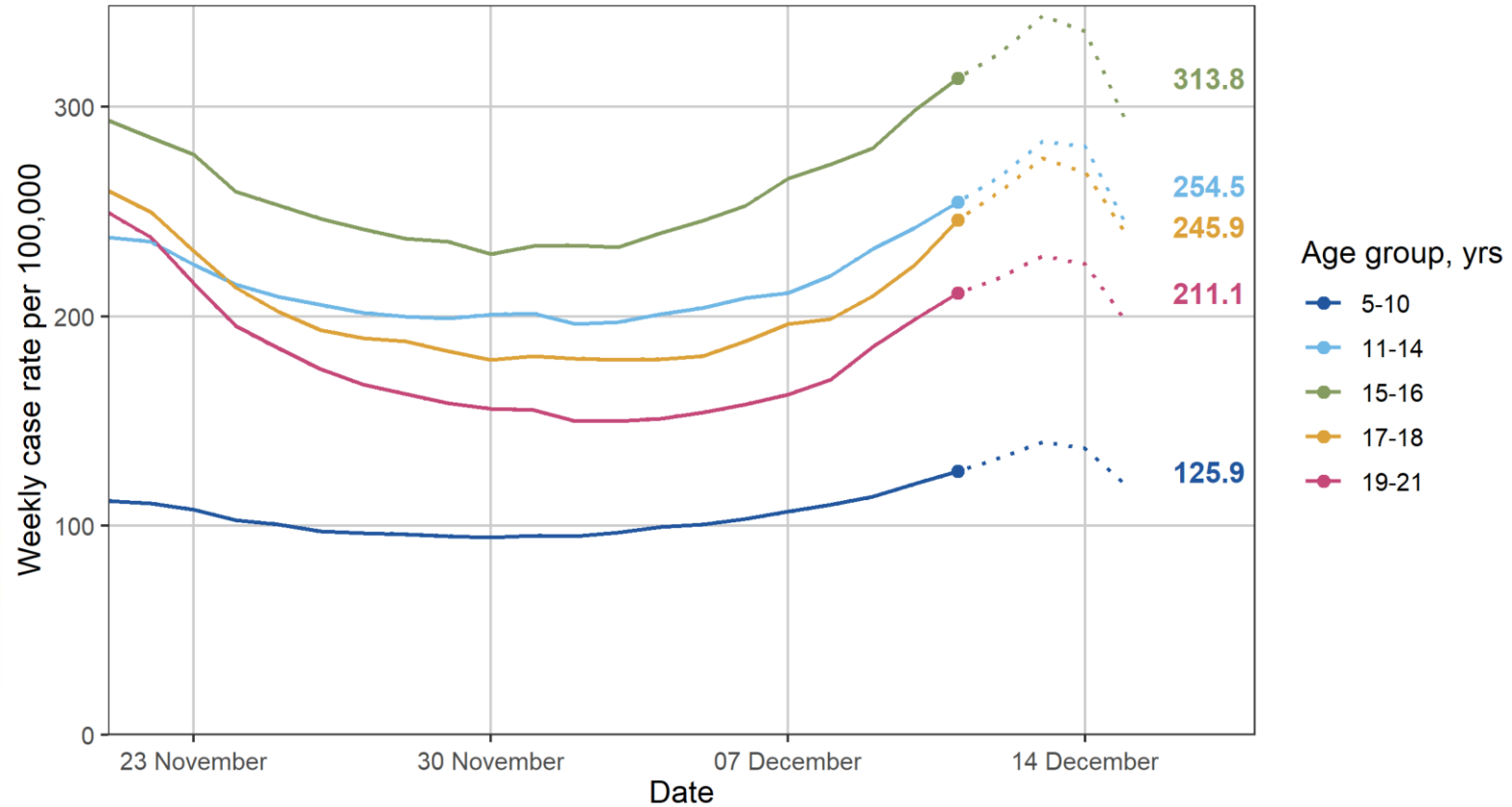
Data up to the 11 December 2020



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

Data up to the 11 December 2020

Weekly case rate per 100,000 population by age group (5 to 21 year olds)

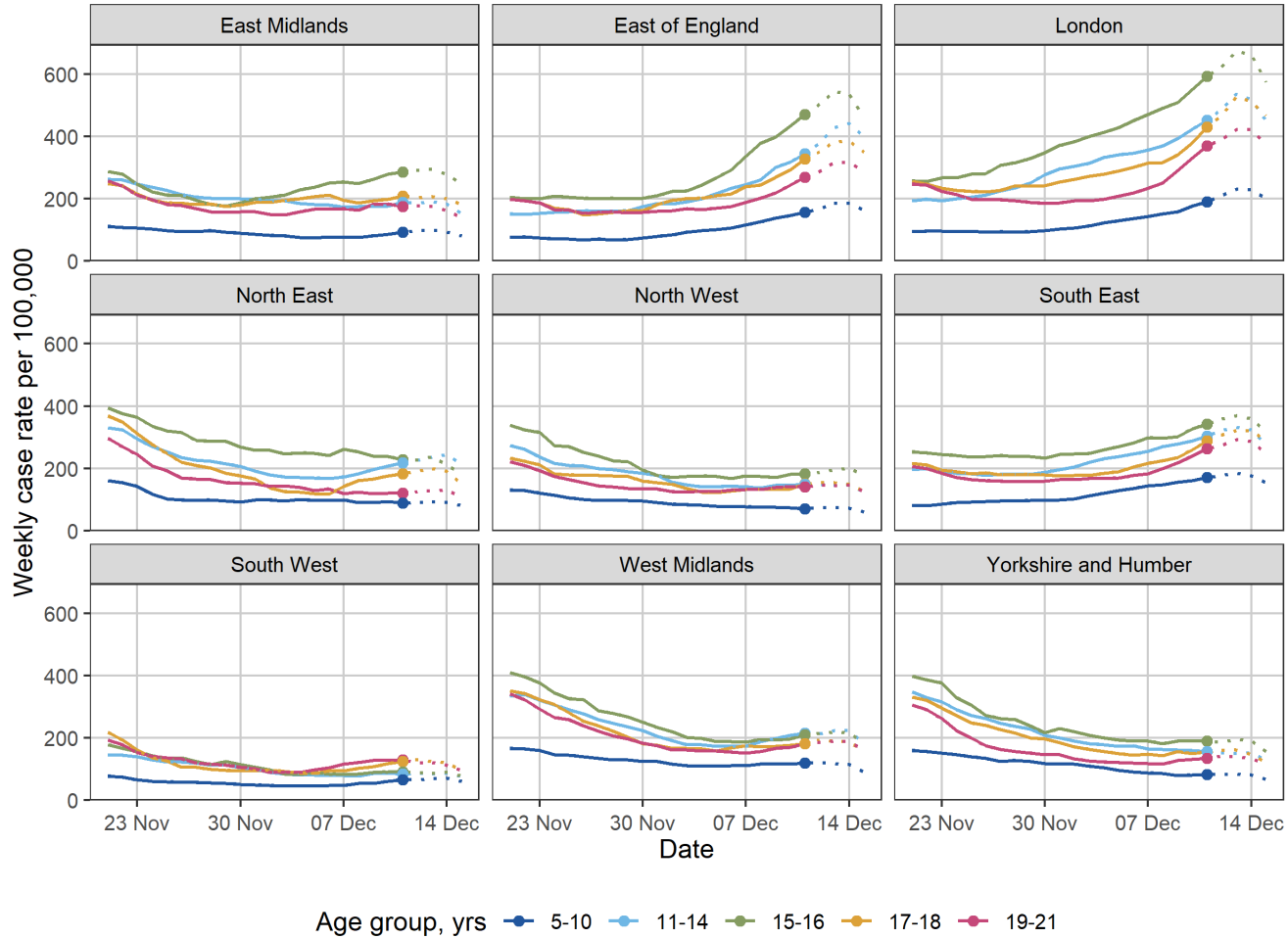


Labels show weekly case rate for 05 December 2020 to 11 December 2020
Dashed lines indicates period with incomplete data

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

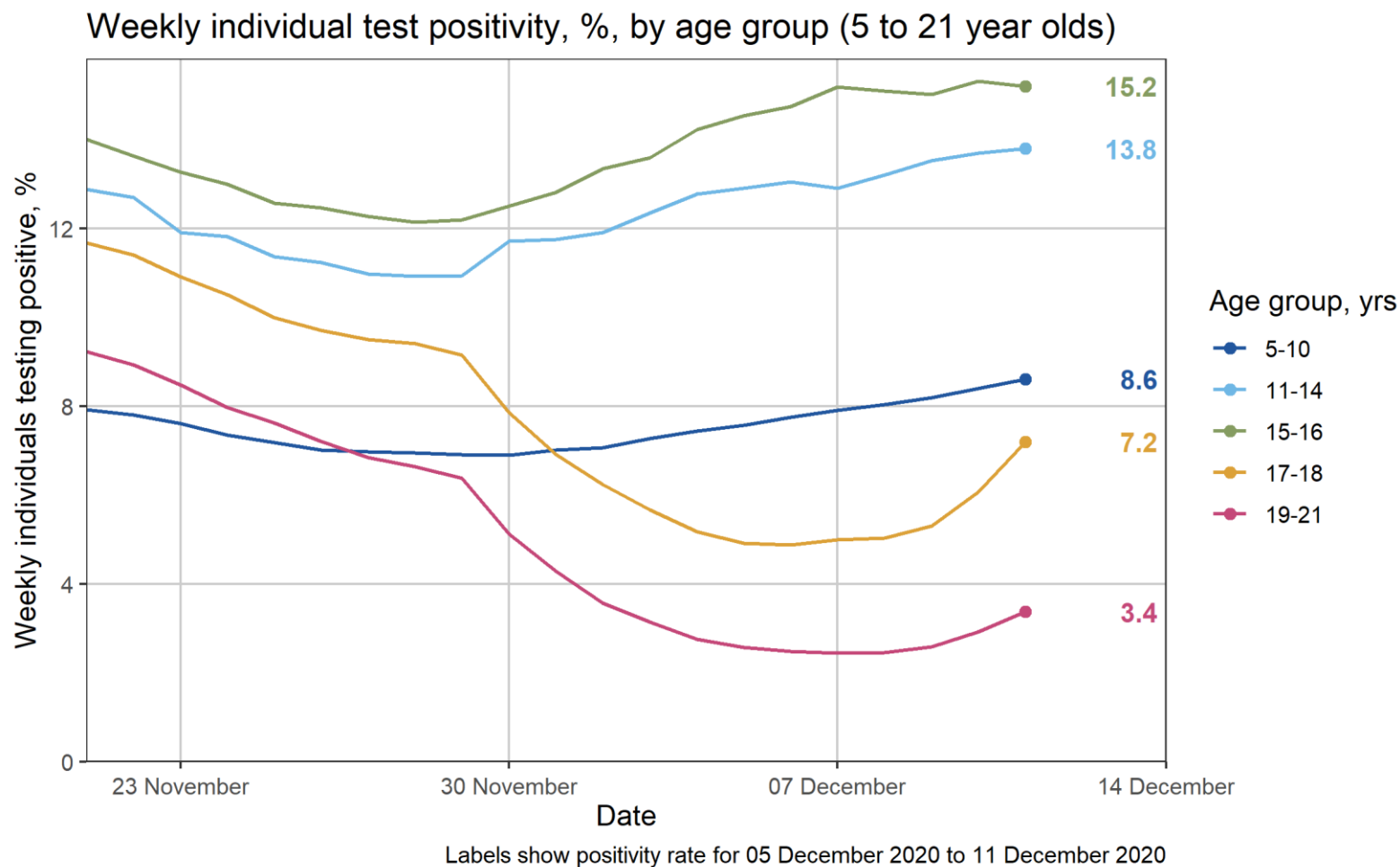
Data up to the 11 December 2020

Weekly case rate per 100,000 population by age group (5 to 21 year olds)



Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – young people

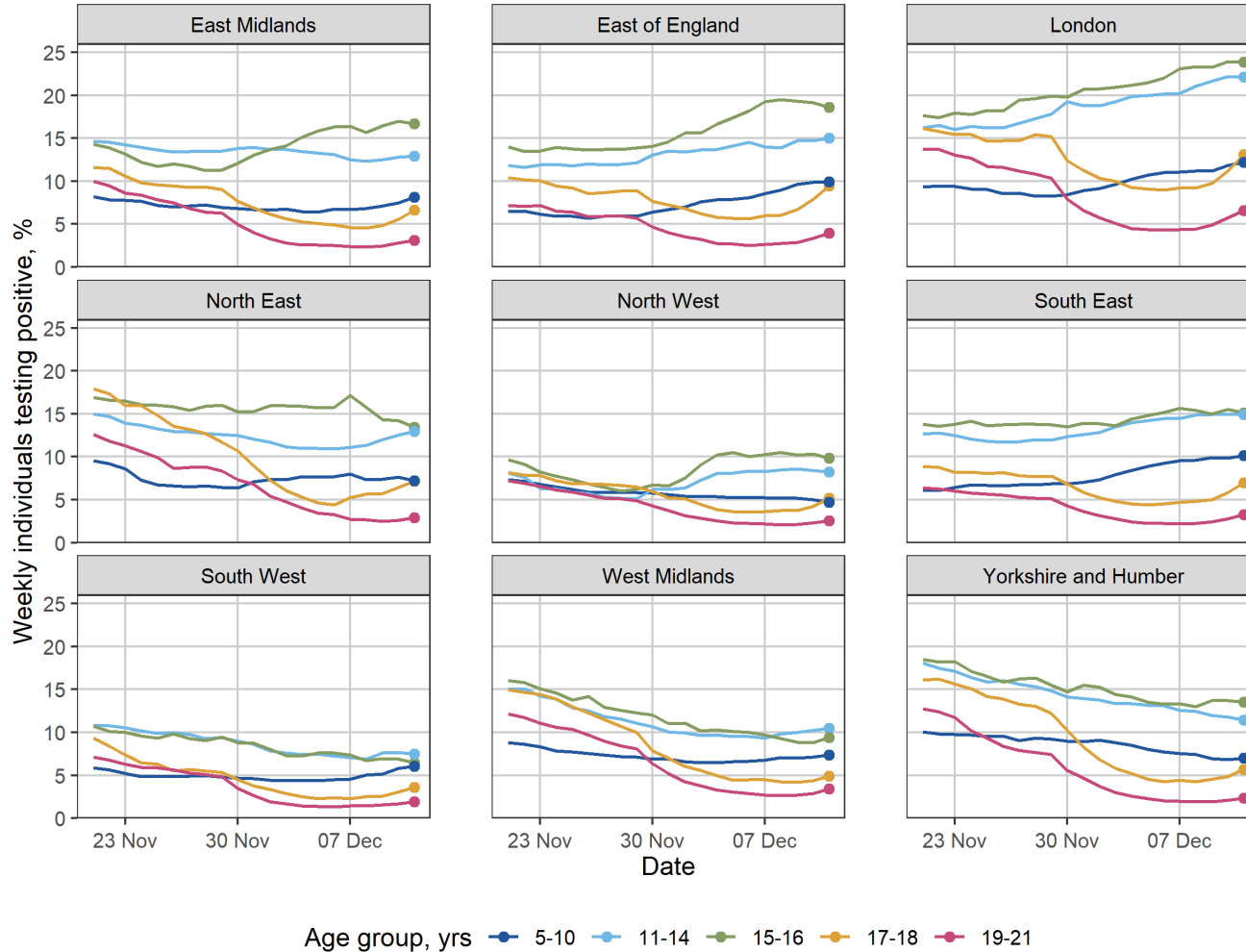
Data up to the 11 December 2020



Percentage of individuals testing positive across both pillars 1 and 2 (weekly) – young people

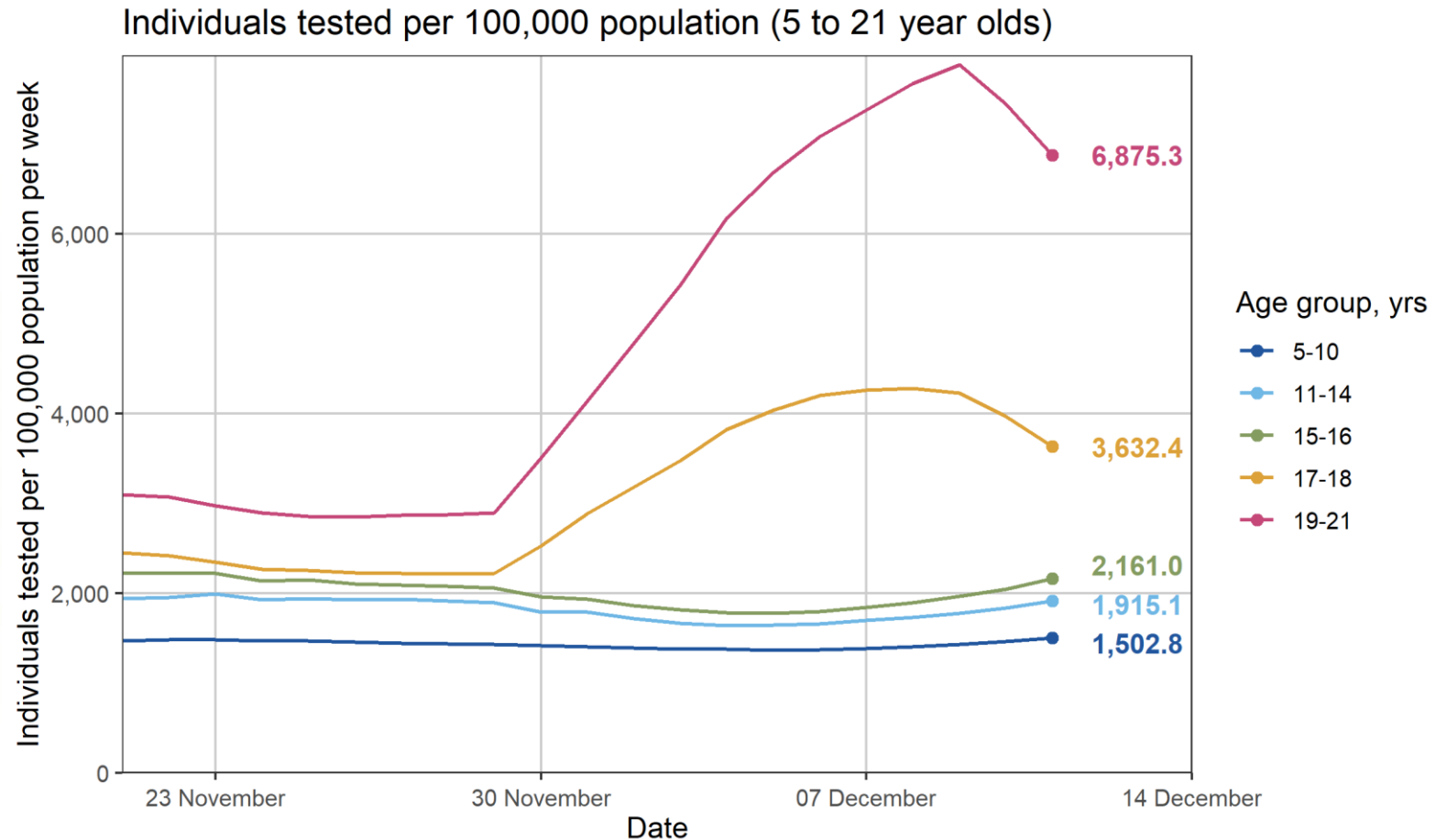
Data up to the 11 December 2020

Weekly individual test positivity, %, by age group (5 to 21 year olds)



Individuals tested across both pillars 1 and 2 (weekly) – young people

Data up to the 11 December 2020

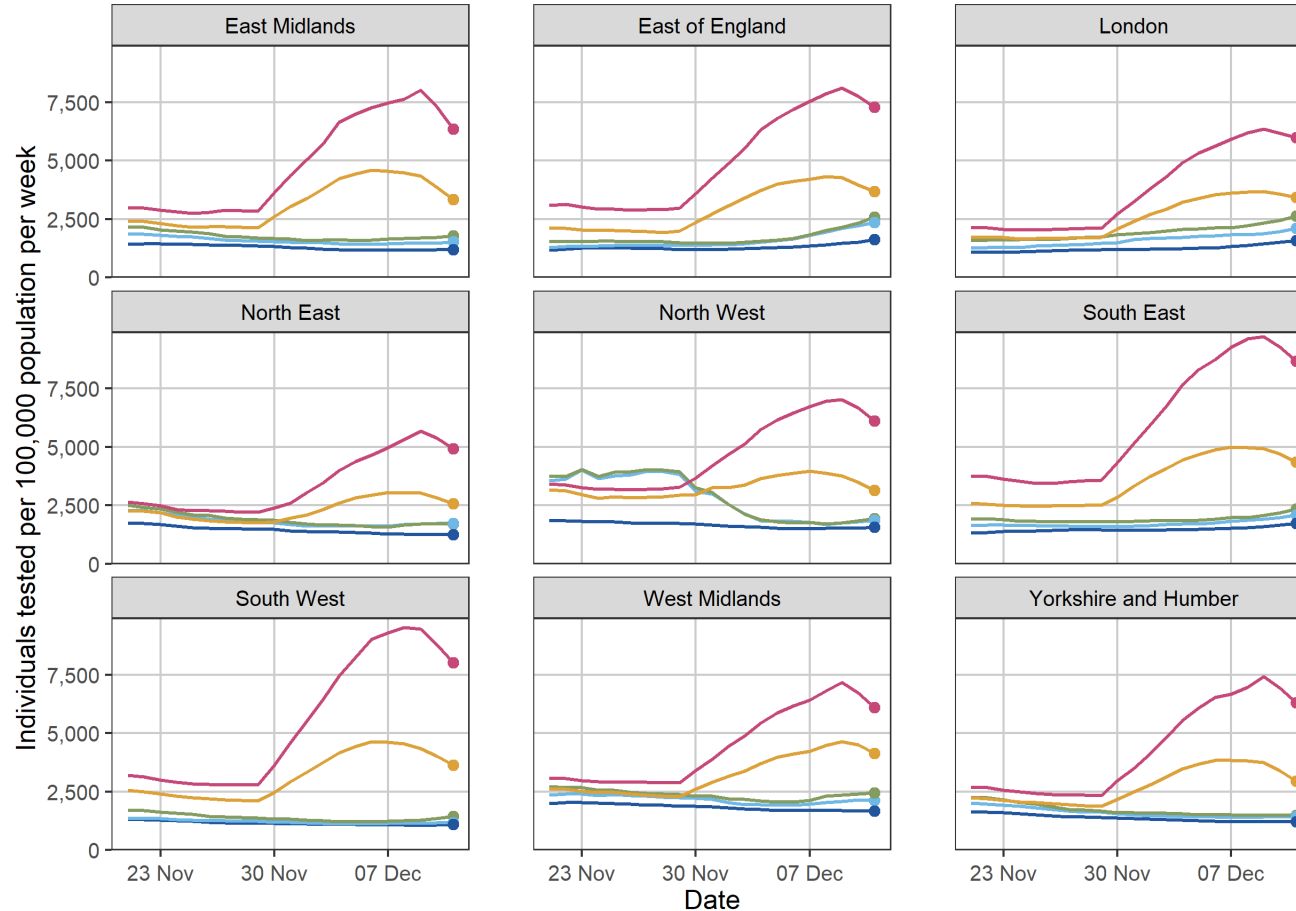


Labels show weekly testing rate for 05 December 2020 to 11 December 2020

Individuals tested across both pillars 1 and 2 (weekly) – young people

Data up to the 11 December 2020

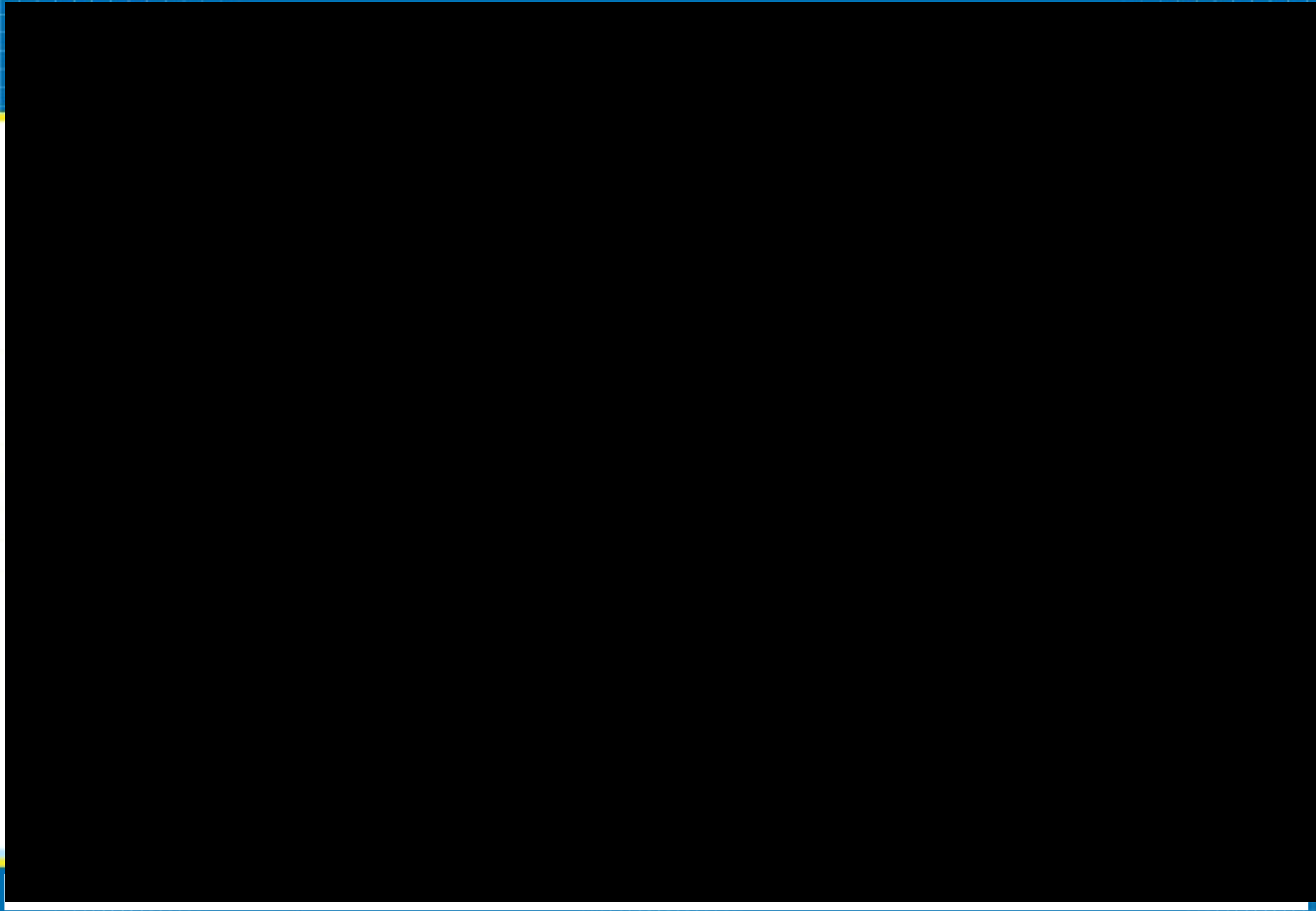
Individuals tested per 100,000 population (5 to 21 year olds)



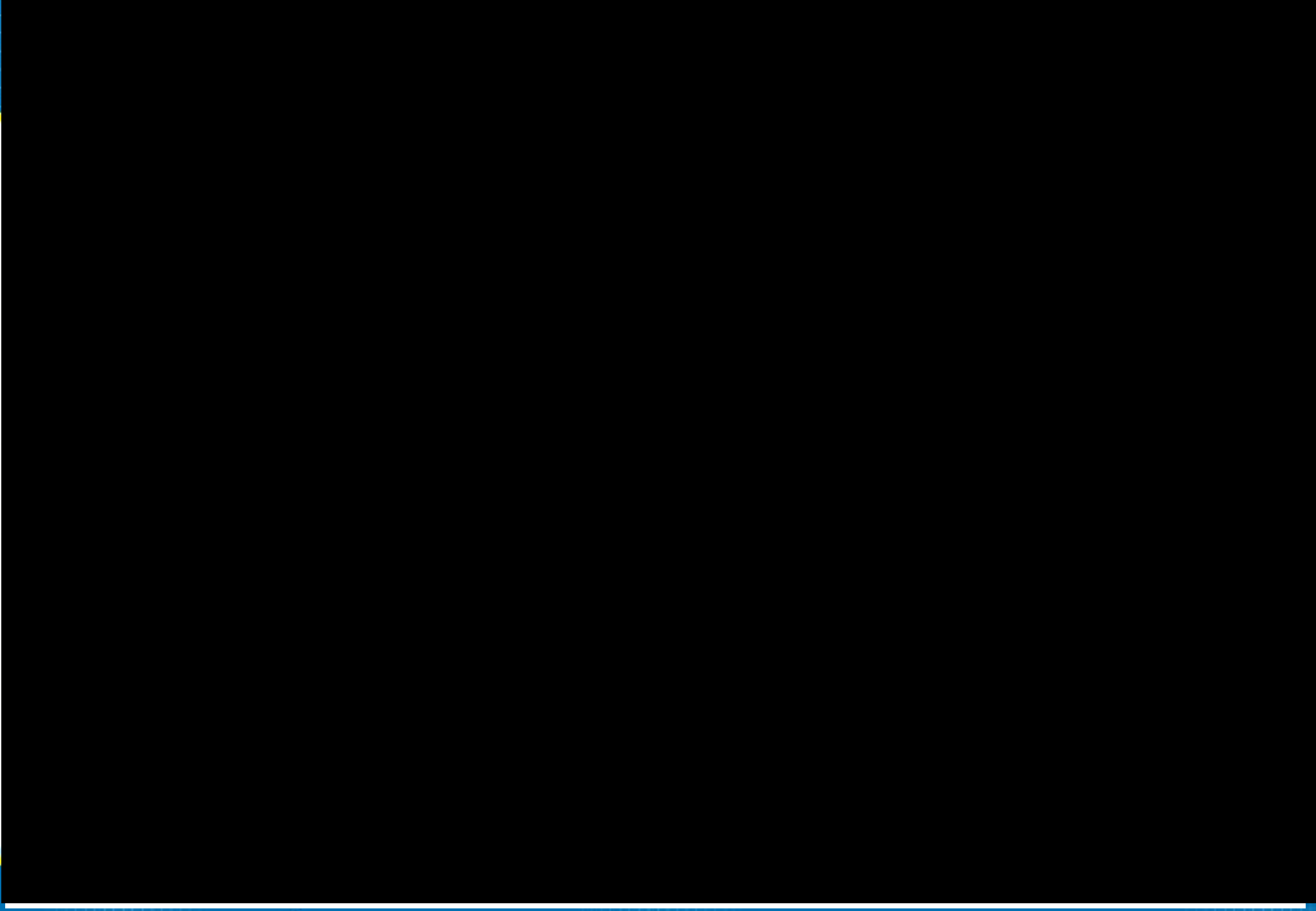
Age group, yrs — 5-10 — 11-14 — 15-16 — 17-18 — 19-21

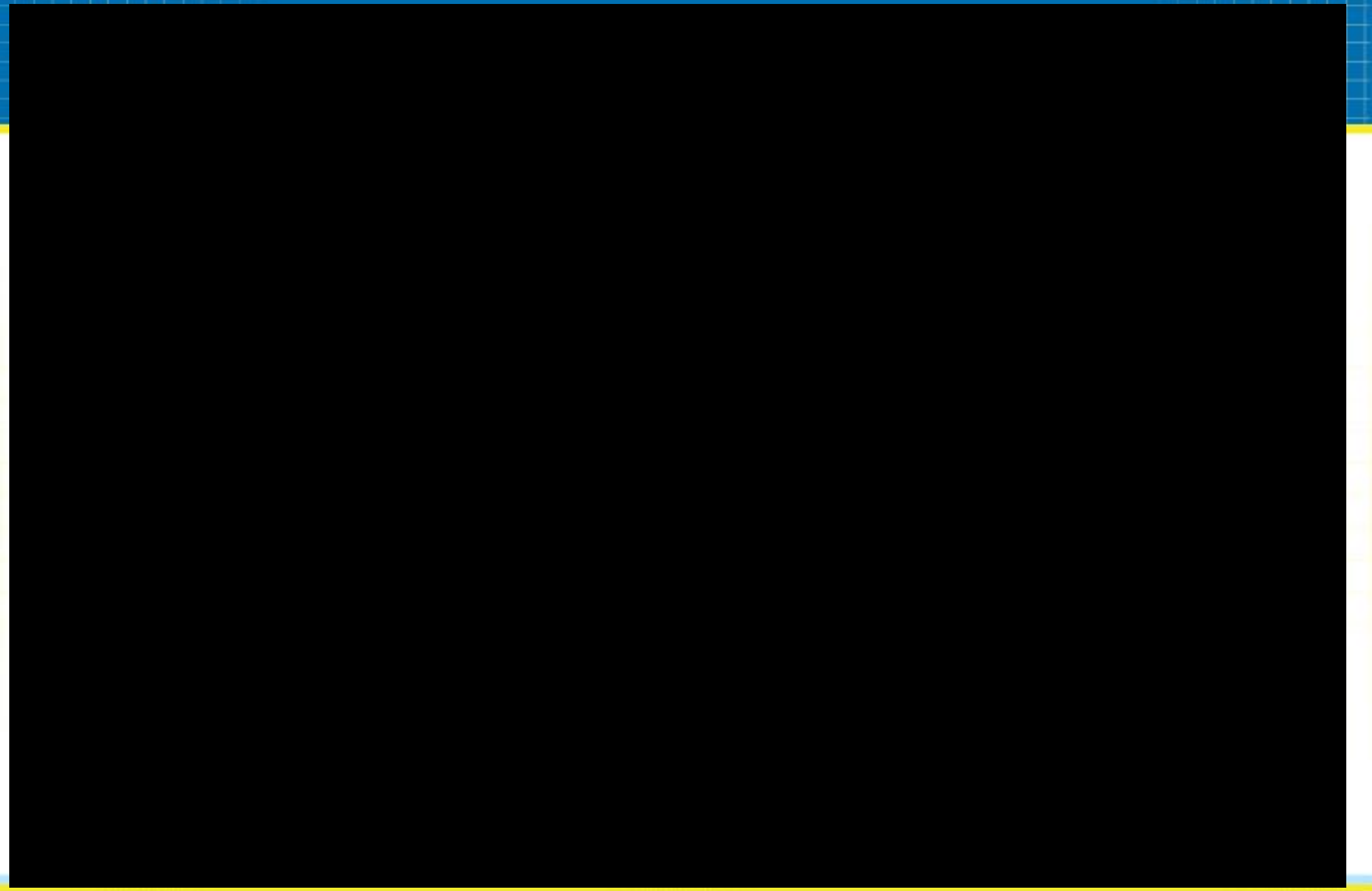








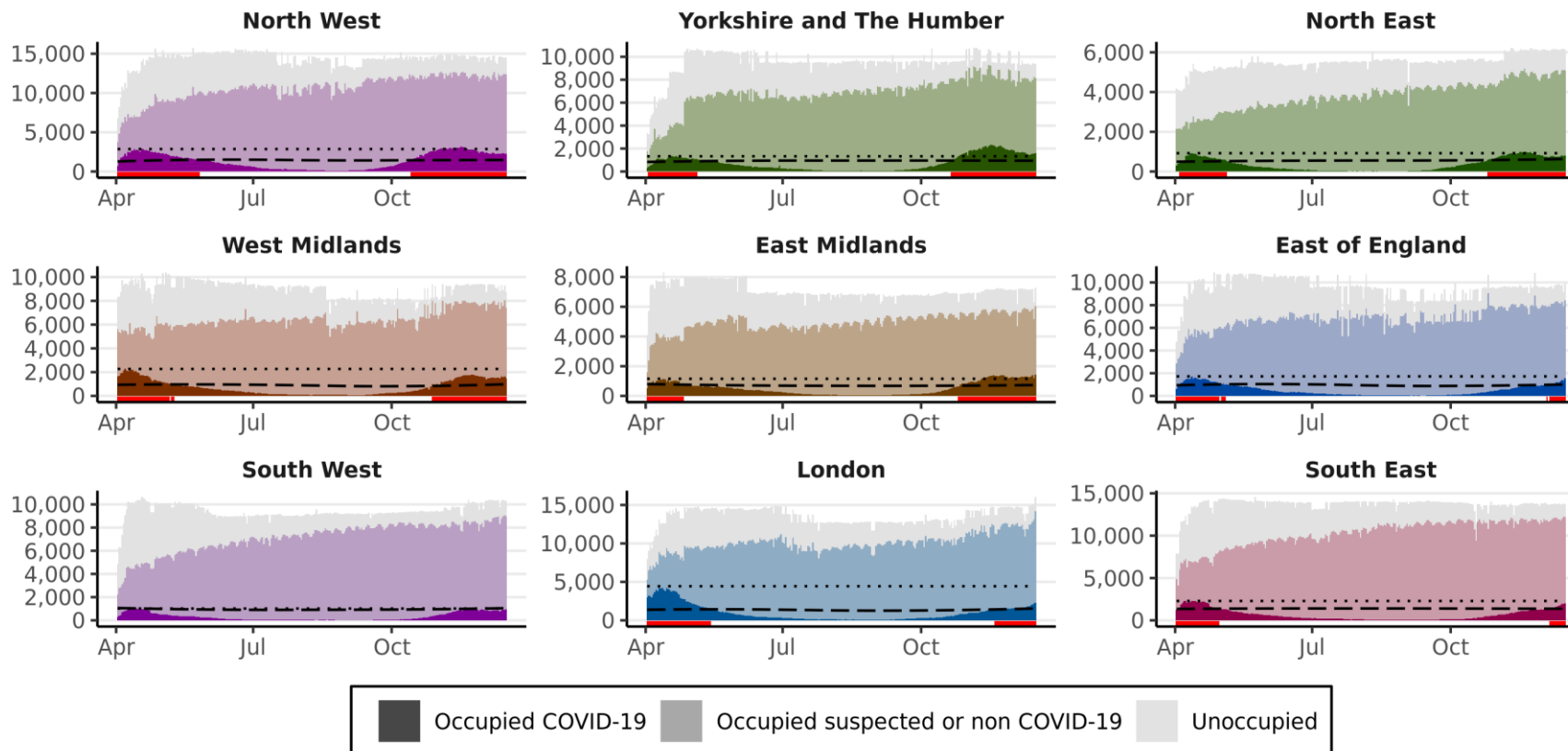




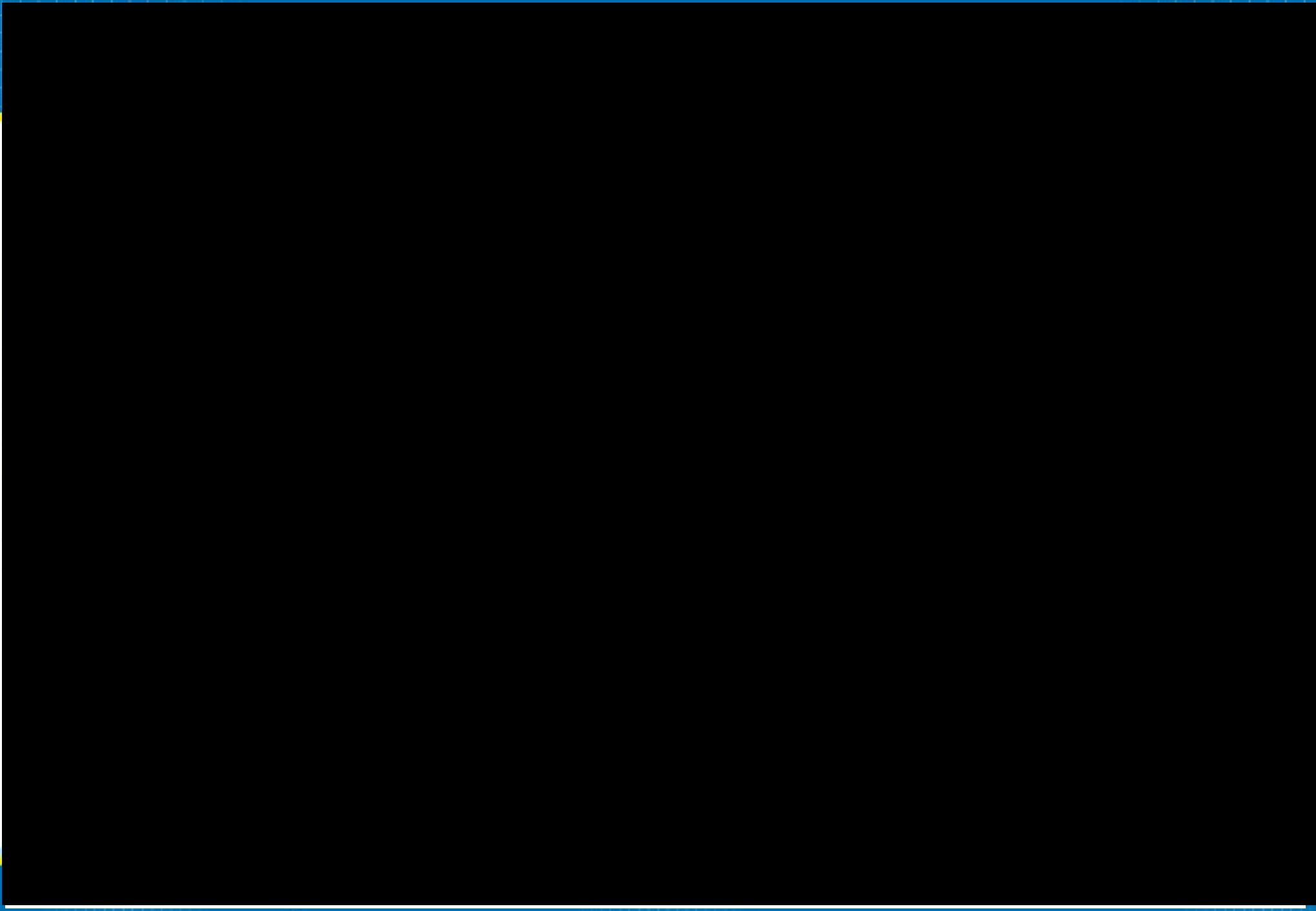
Bed occupancy and capacity by region - general and acute beds

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.



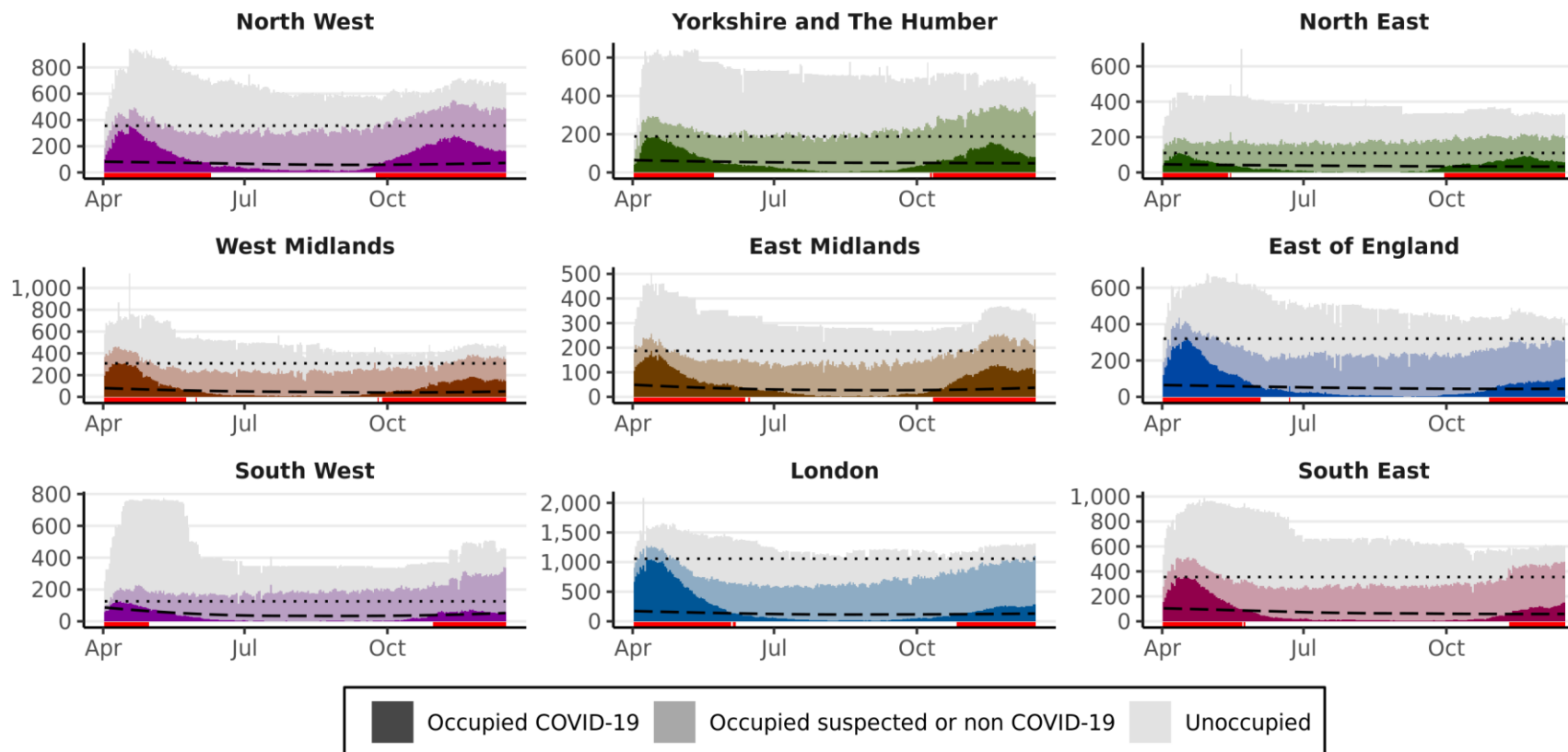
Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 02 April 2020 to 16 December 2020. Produced by Joint Biosecurity Centre.



Bed occupancy and capacity by region - mechanical ventilation beds

Mechanical ventilation 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.

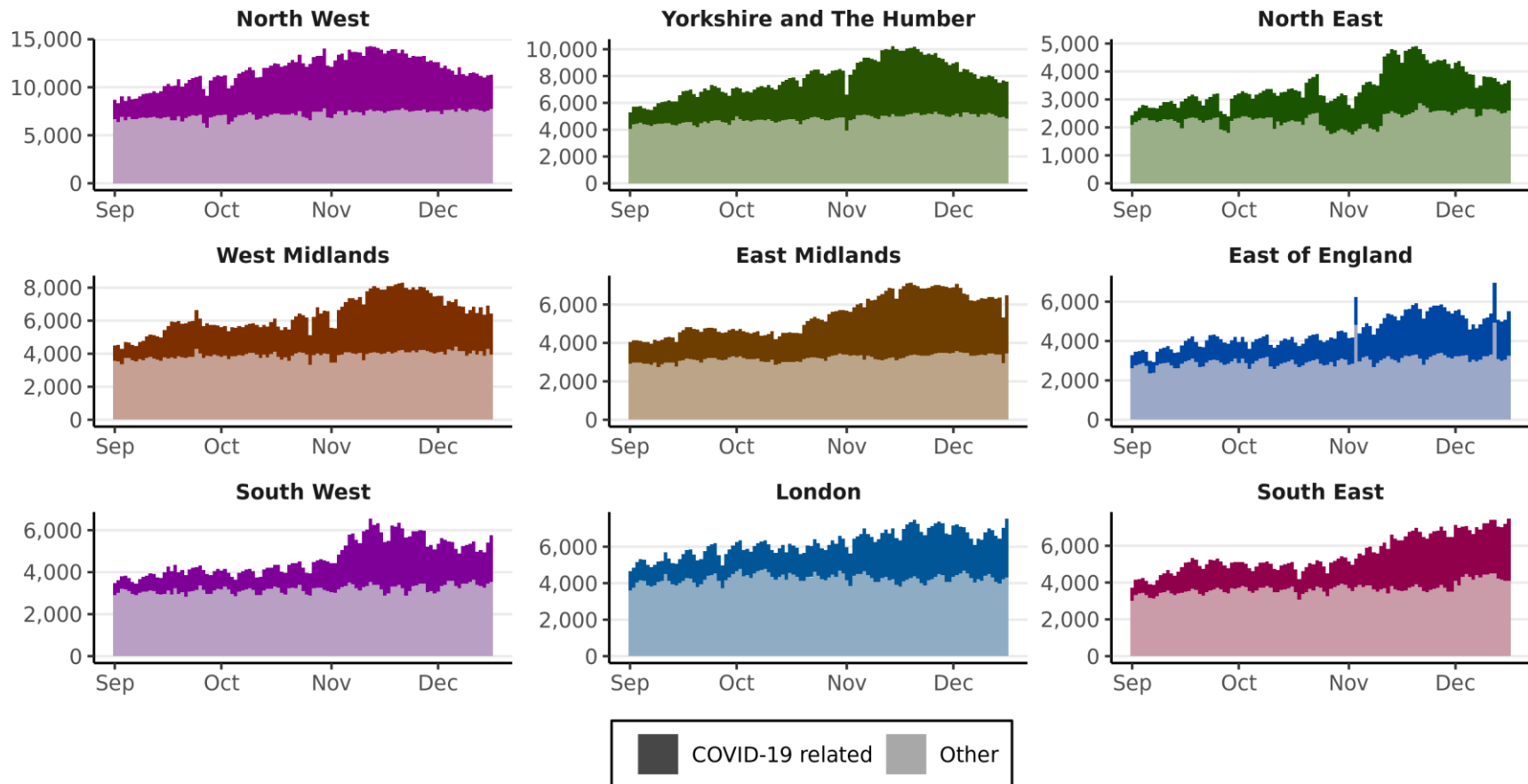


Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 02 April 2020 to 16 December 2020. Produced by Joint Biosecurity Centre.

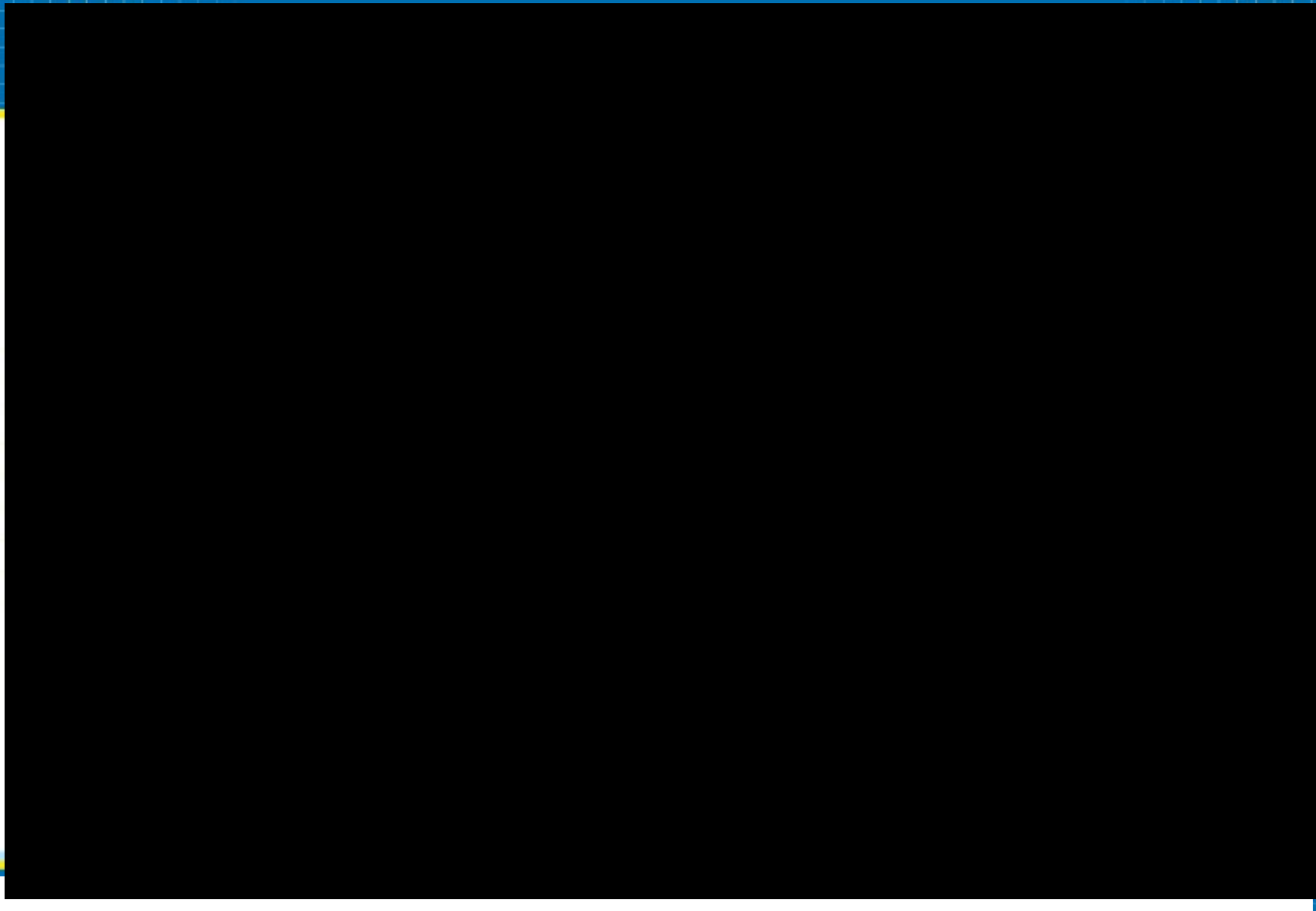


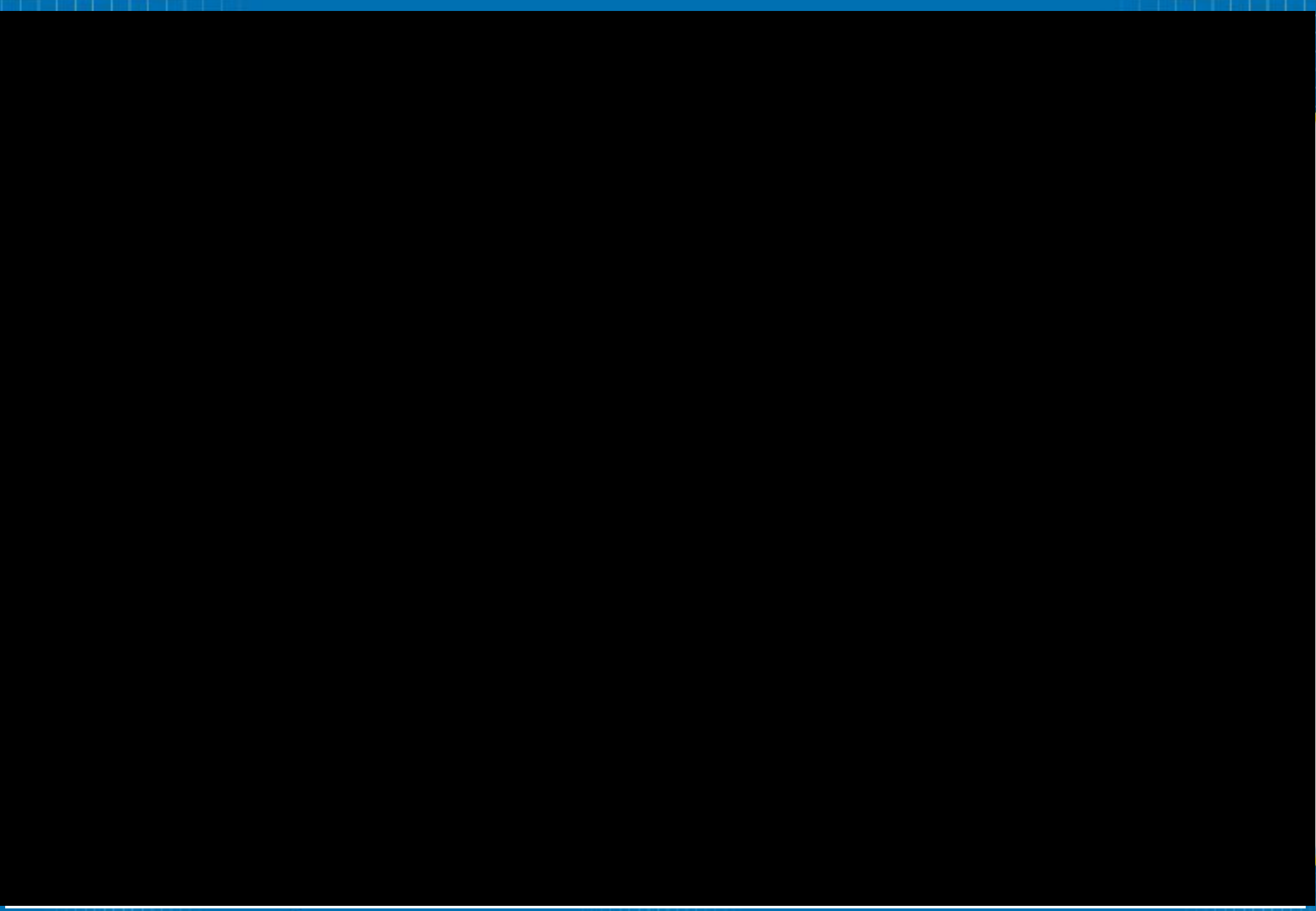
NHS staff absences by region (COVID-19 related and other)

Daily NHS staff absences by region



Source: NHS England & Improvement COVID-19 Hospital Activity Data, from 01 September 2020 to 16 December 2020. Produced by Joint Biosecurity Centre.





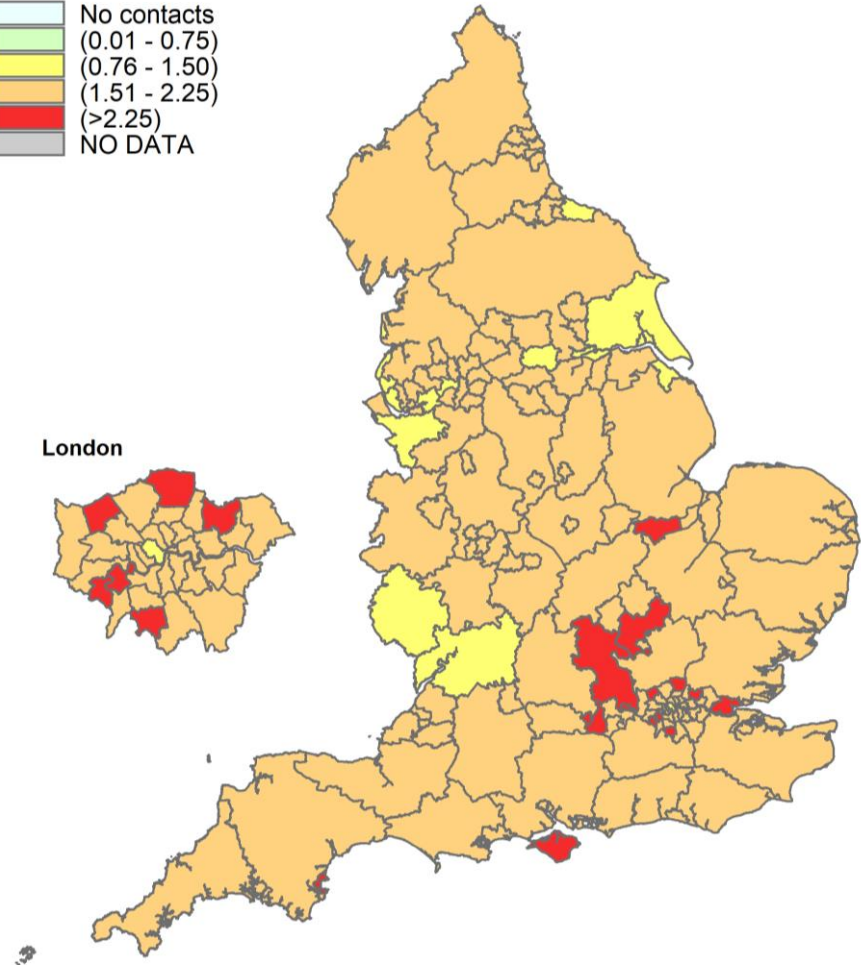
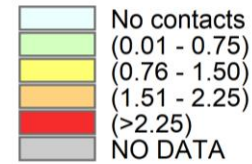
Contact tracing – 7 day

Data extracted 14 December 2020 – data up to 13 December 2020

Median number of individual contacts per case by lower-tier local authority, England, overall from **7 December** to **13 December 2020** (NHS Test and Trace).

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

Median contacts per case 7 day



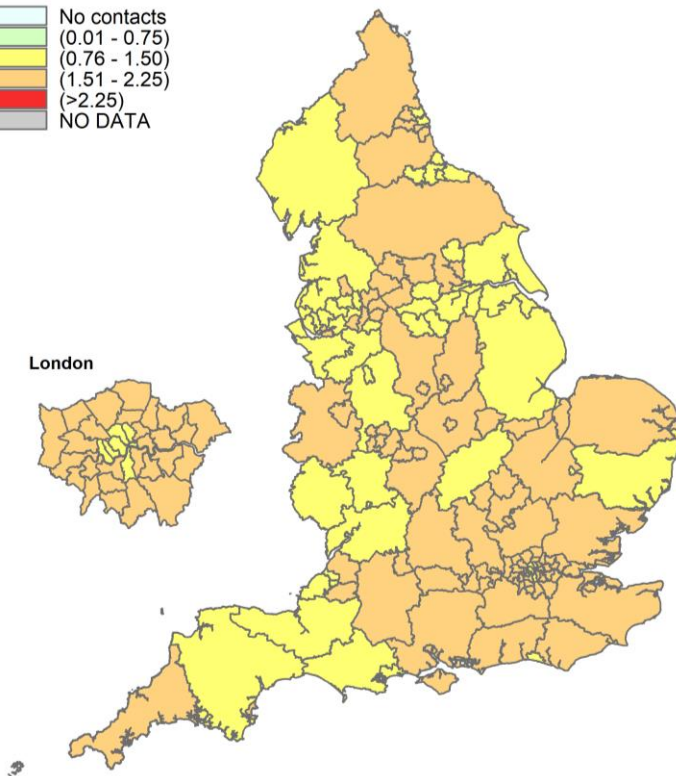
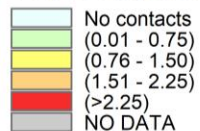
Contact tracing – 7 day

Data extracted 14 December 2020 – data up to 13 December 2020

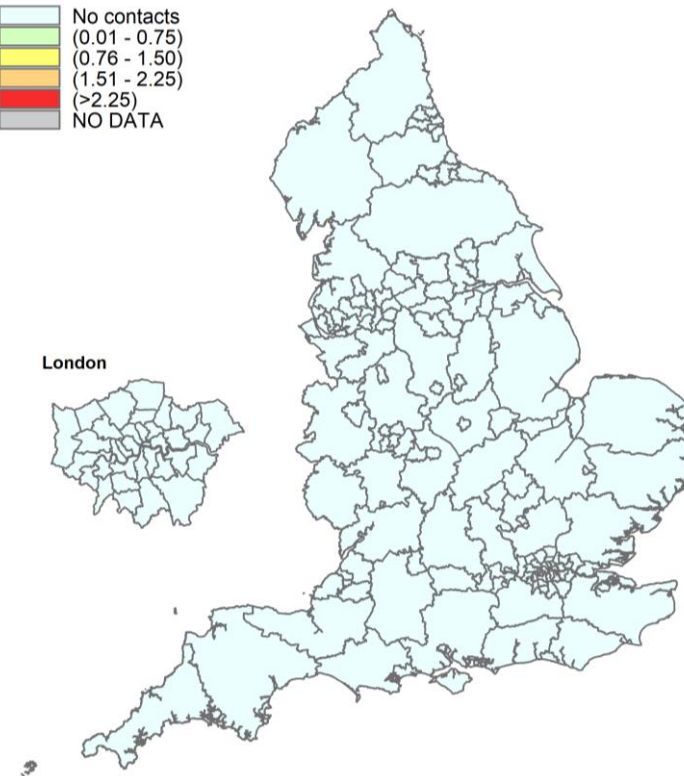
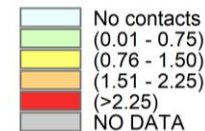
Median number of contacts per case by setting (household or other) by lower-tier local authority, England, overall from 7 December to 13 December 2020 (NHS Test and Trace).

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

Contacts by household 7 day



Contacts by other setting 7 day



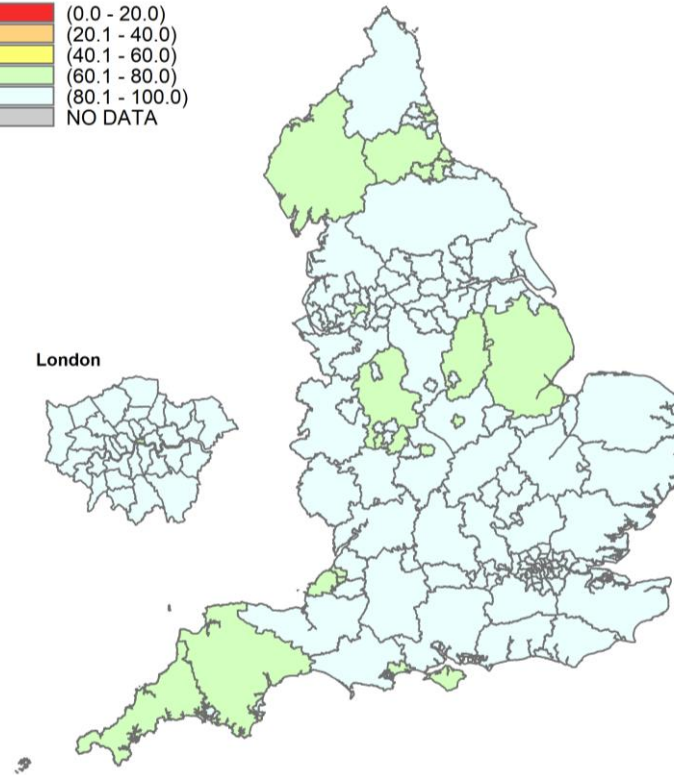
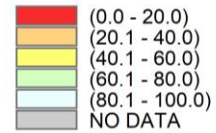
Contact tracing – 7 day

Data extracted 14 December 2020 – data up to 13 December 2020

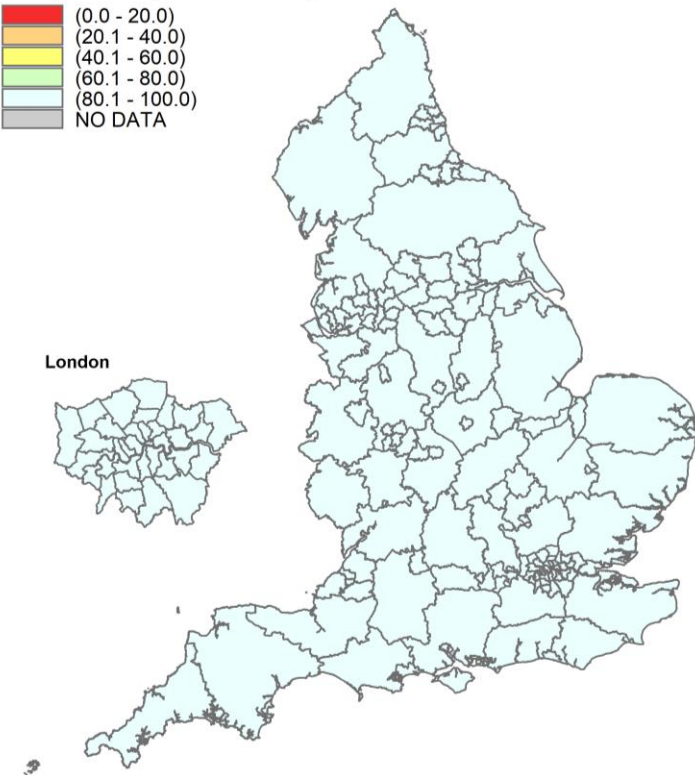
Proportion of cases and contacts completing contact tracing by lower-tier local authority, England, overall from **7 December** to **13 December 2020** (NHS Test and Trace).

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

Completion by case 7 day



Completion by contact 7 day



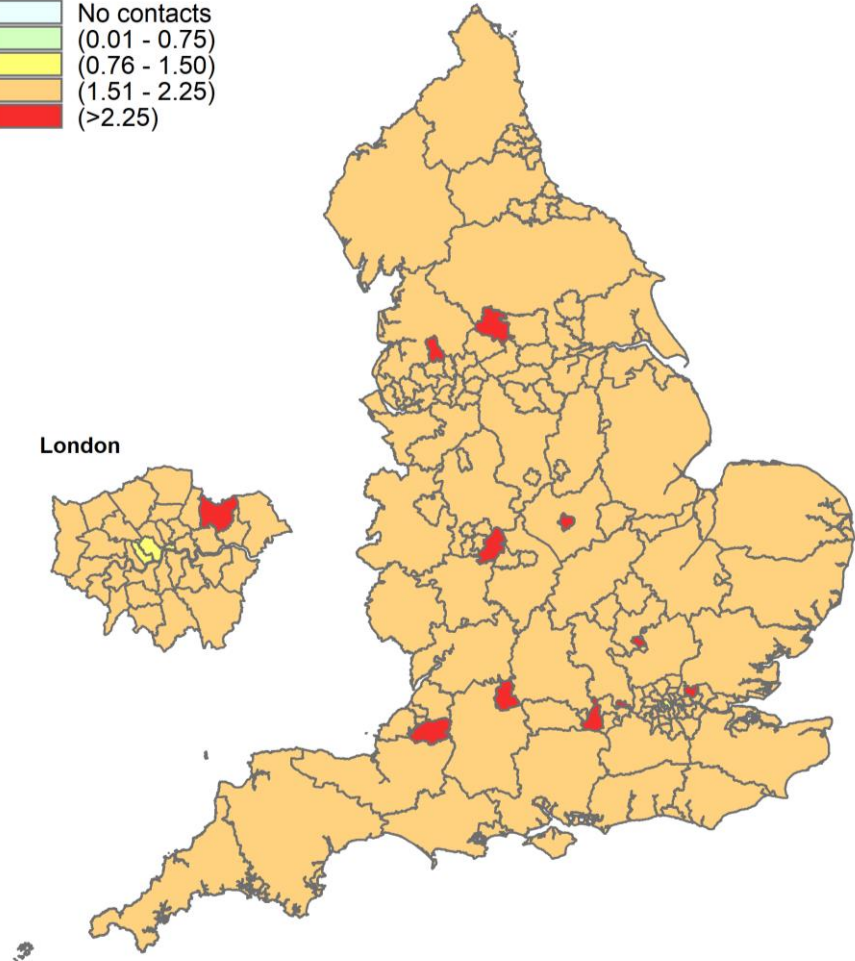
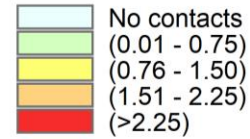
Contact tracing – cumulative

Data extracted 14 December 2020 – data up to 13 December 2020

Median number of individual contacts per case by lower-tier local authority, England, overall from **28 May** to **13 December 2020** (NHS Test and Trace).

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

Median contacts per case cumulative



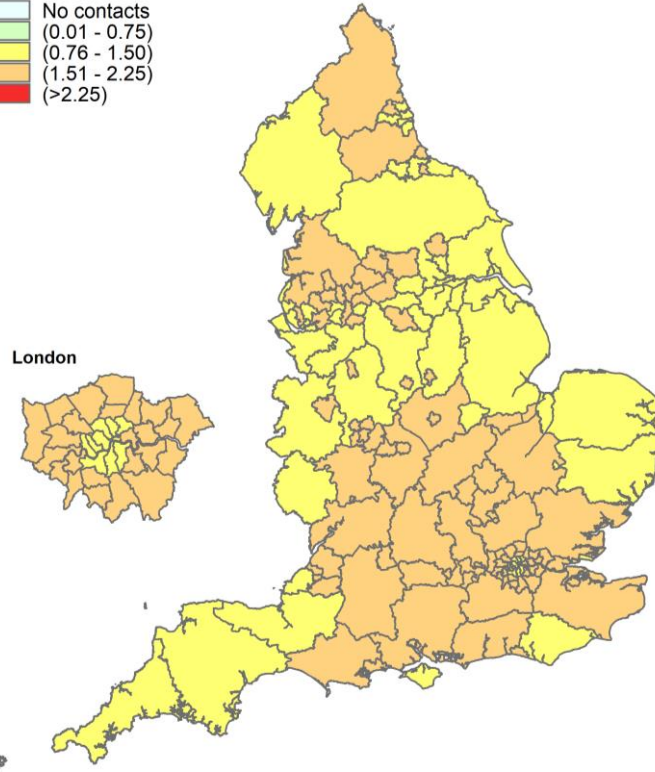
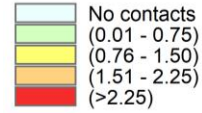
Contact tracing – cumulative

Data extracted 14 December 2020 – data up to 13 December 2020

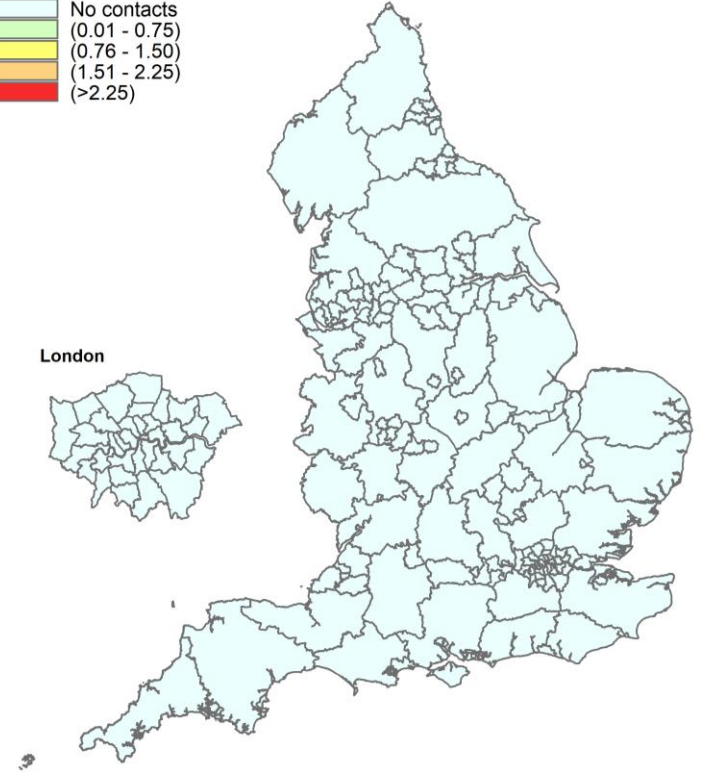
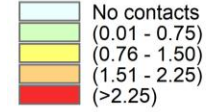
Median number of contacts per case by setting (household or other) by lower-tier local authority, England, overall from **28 May to 13 December 2020** (NHS Test and Trace).

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

Contacts by household cumulative



Contacts by other setting cumulative



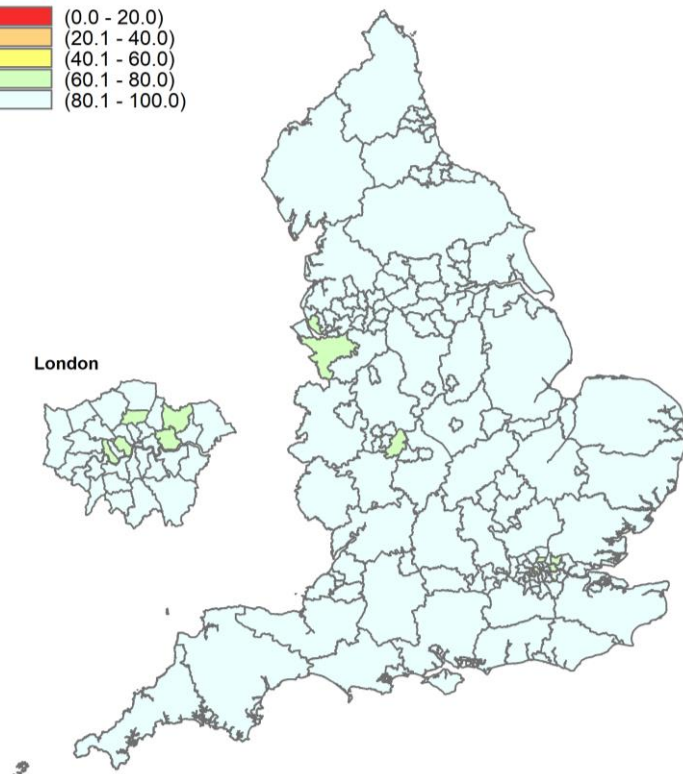
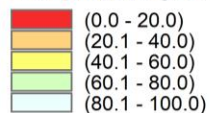
Contact tracing – cumulative

Data extracted 14 December 2020 – data up to 13 December 2020

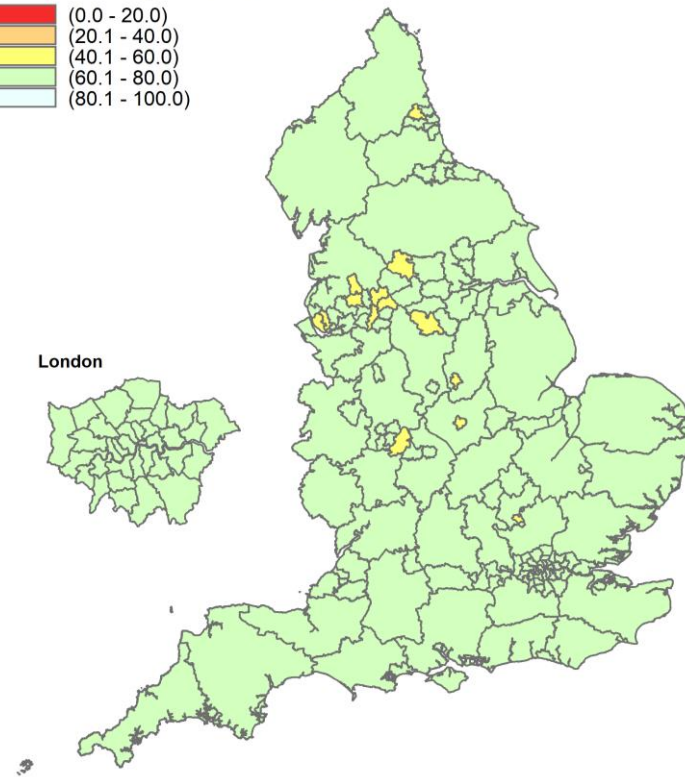
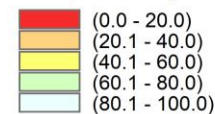
Proportion of cases and contacts completing contact tracing by lower-tier local authority, England, overall from **28 May** to **13 December 2020** (NHS Test and Trace).

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

Completion by case cumulative



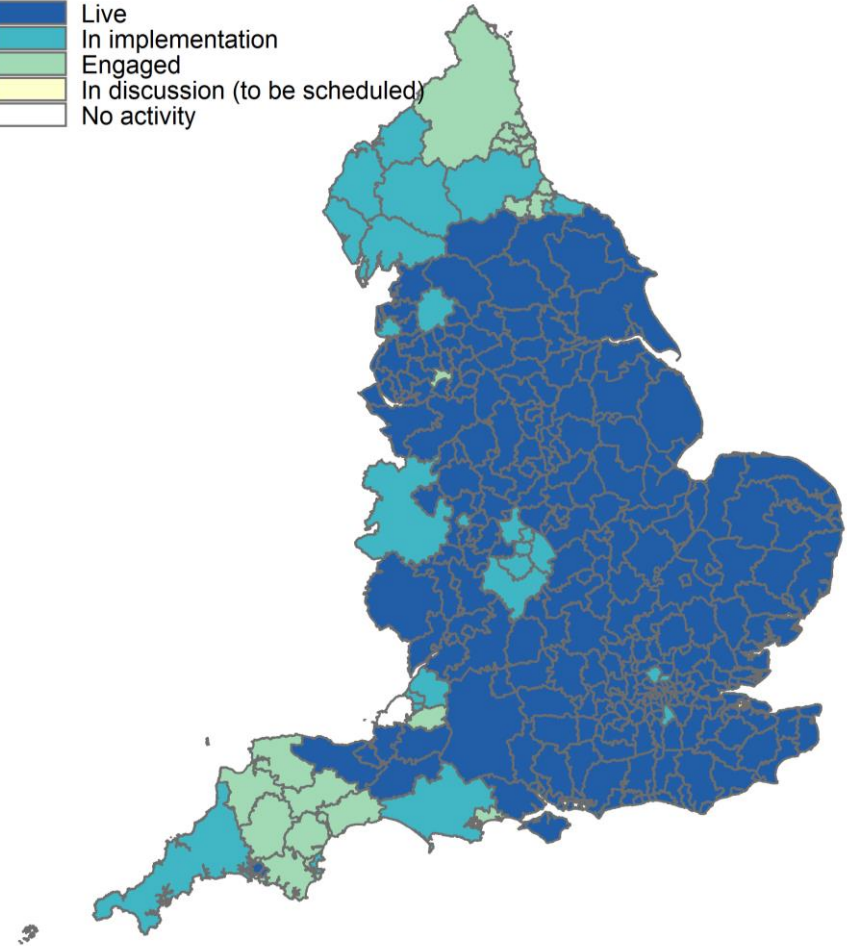
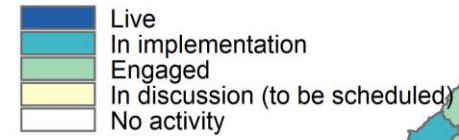
Completion by contact cumulative



Locally supported contact tracing

Data extracted 16 December 2020

Locally supported contact tracing

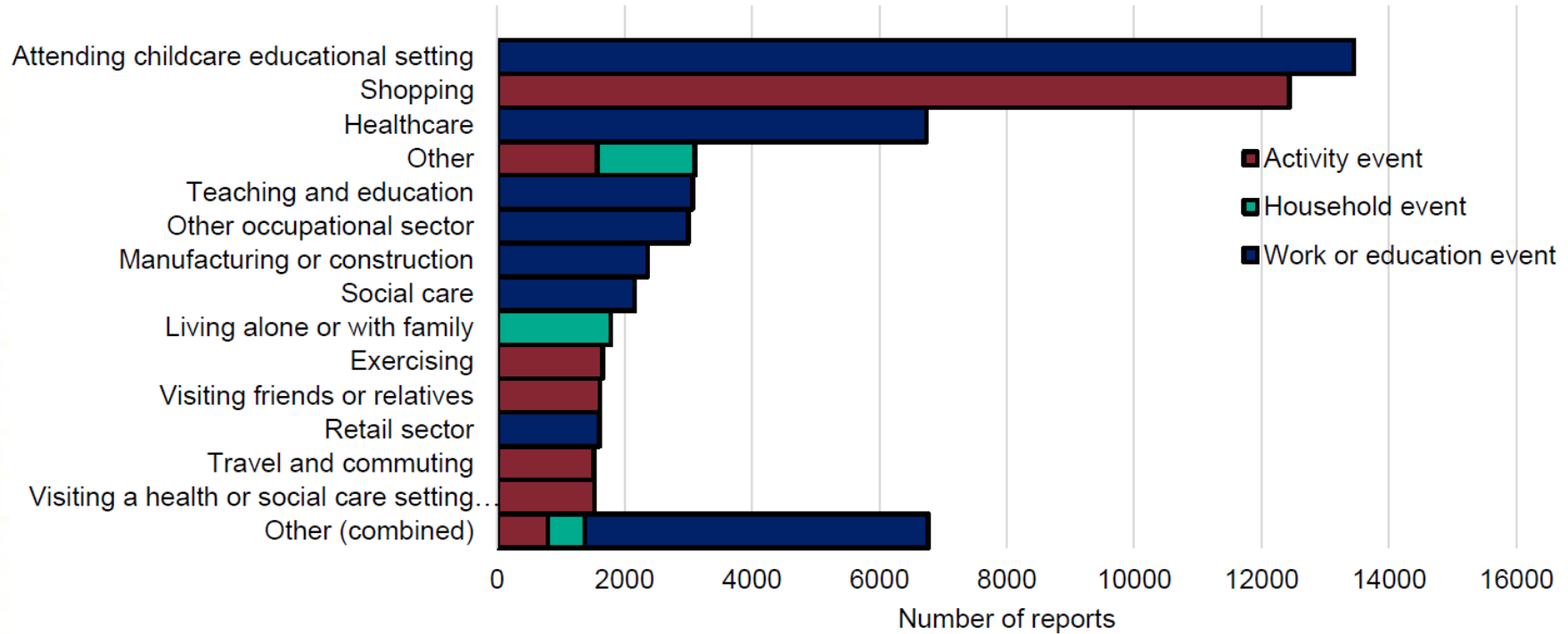


Enhanced contact tracing

Exposure setting for all reported contacts

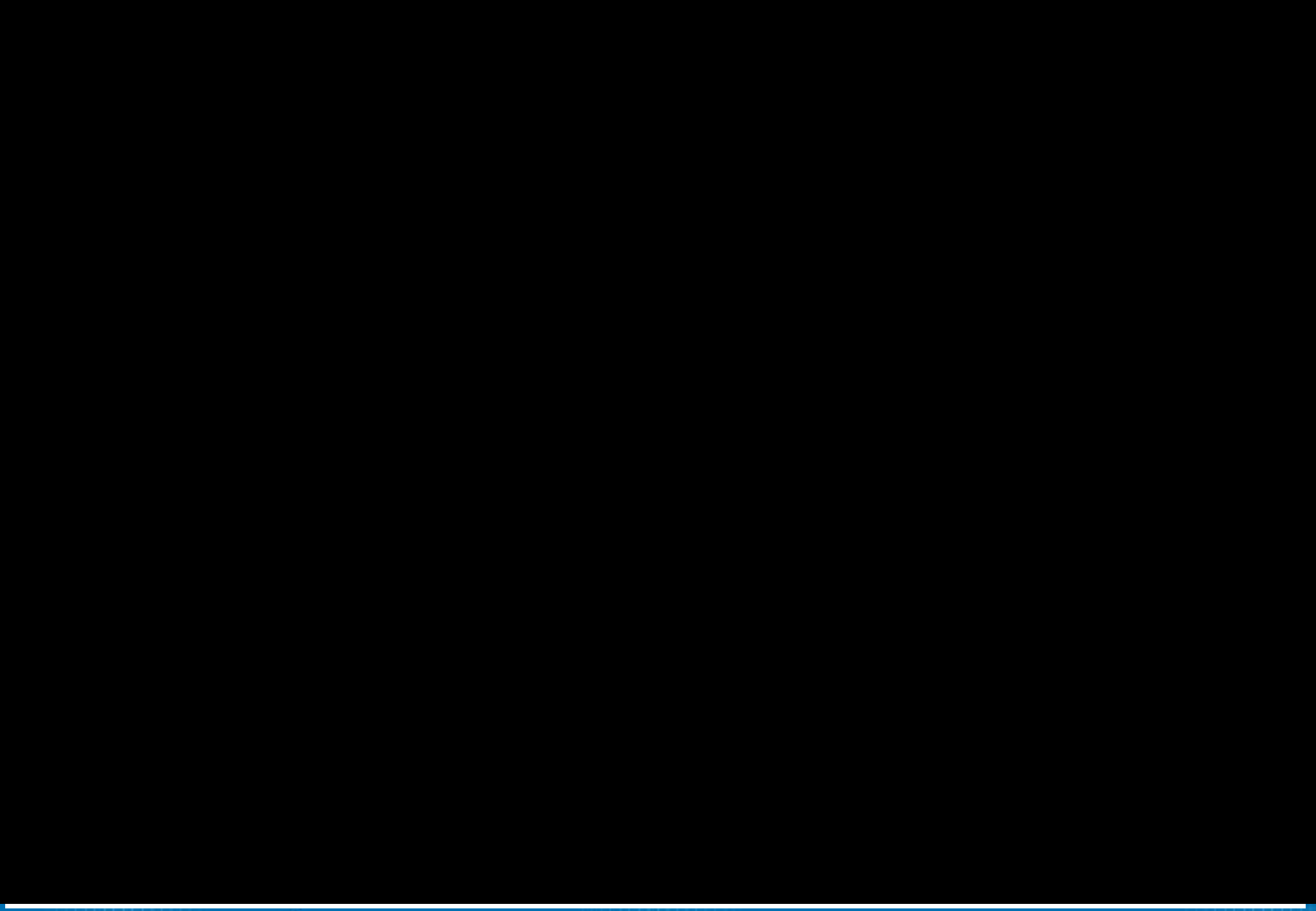
(Data source: NHS Test and Trace)

Events and activities reported by people testing positive, prior to symptom onset in week 49, England

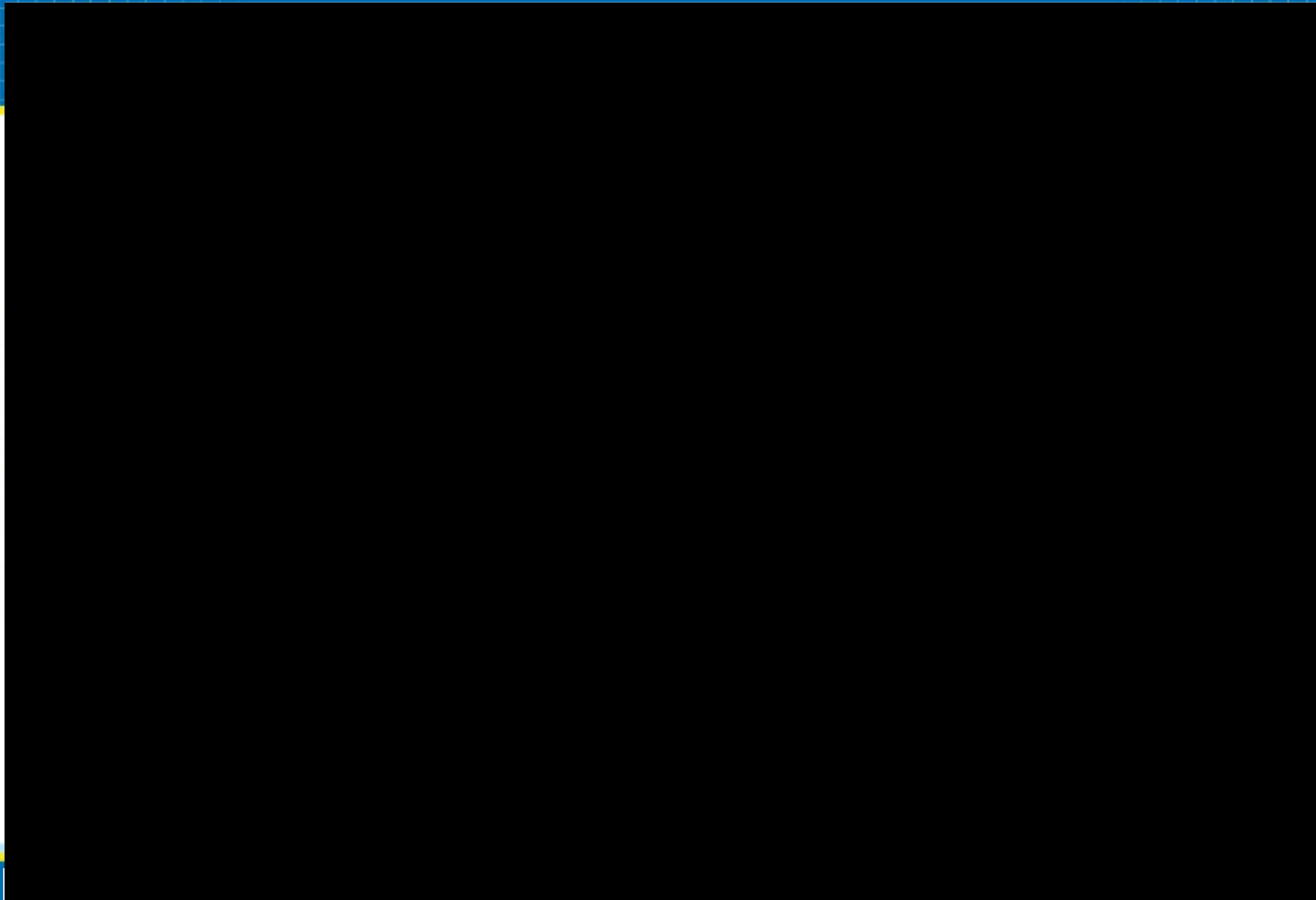


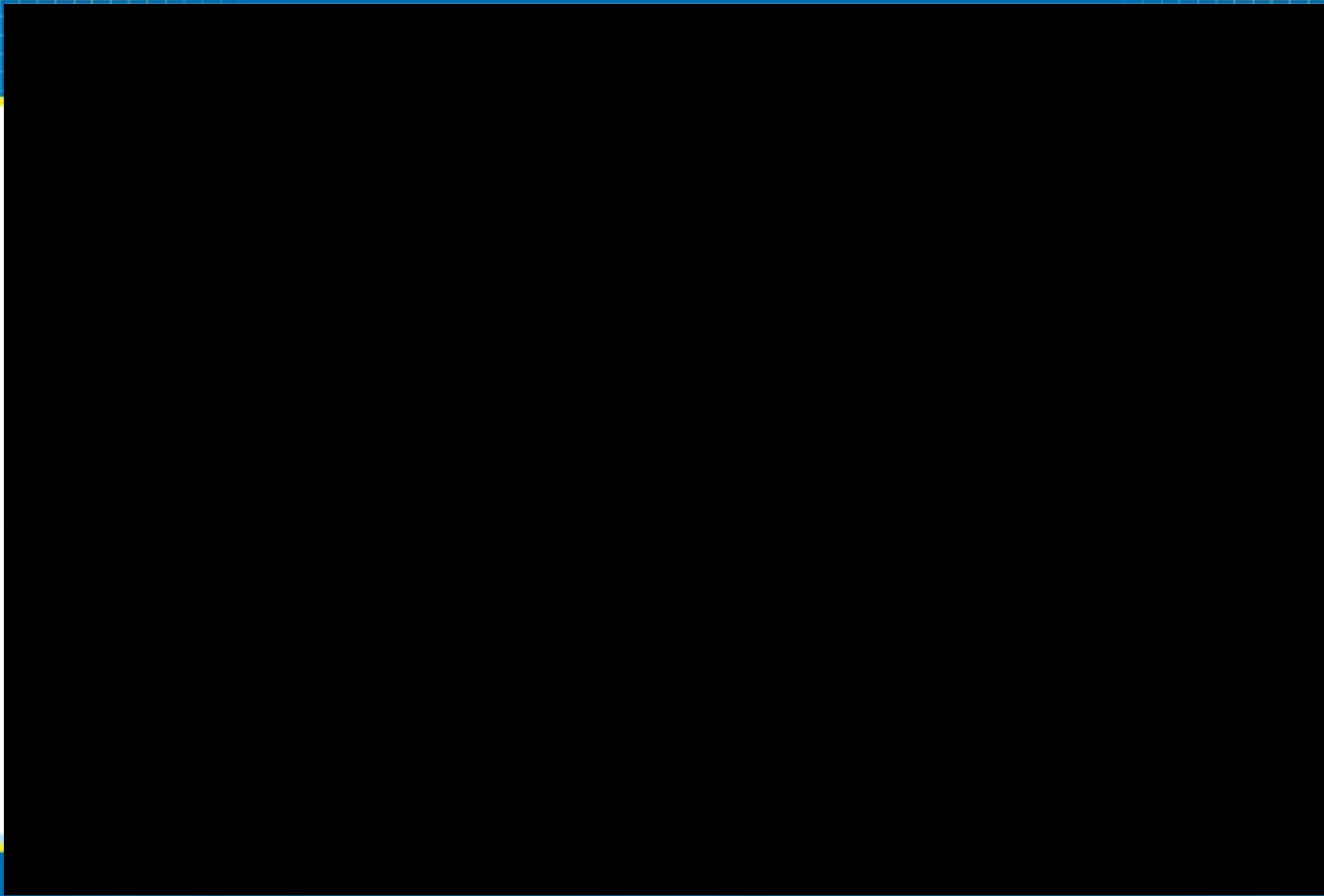
Note: 'Other' includes a wide range of different activities and settings, each of which has small numbers of individuals, as well as activities which did not fit any specific category and were added as Other by the case. This includes: (all within 'activities': Arts entertainment or recreation; Civil 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.

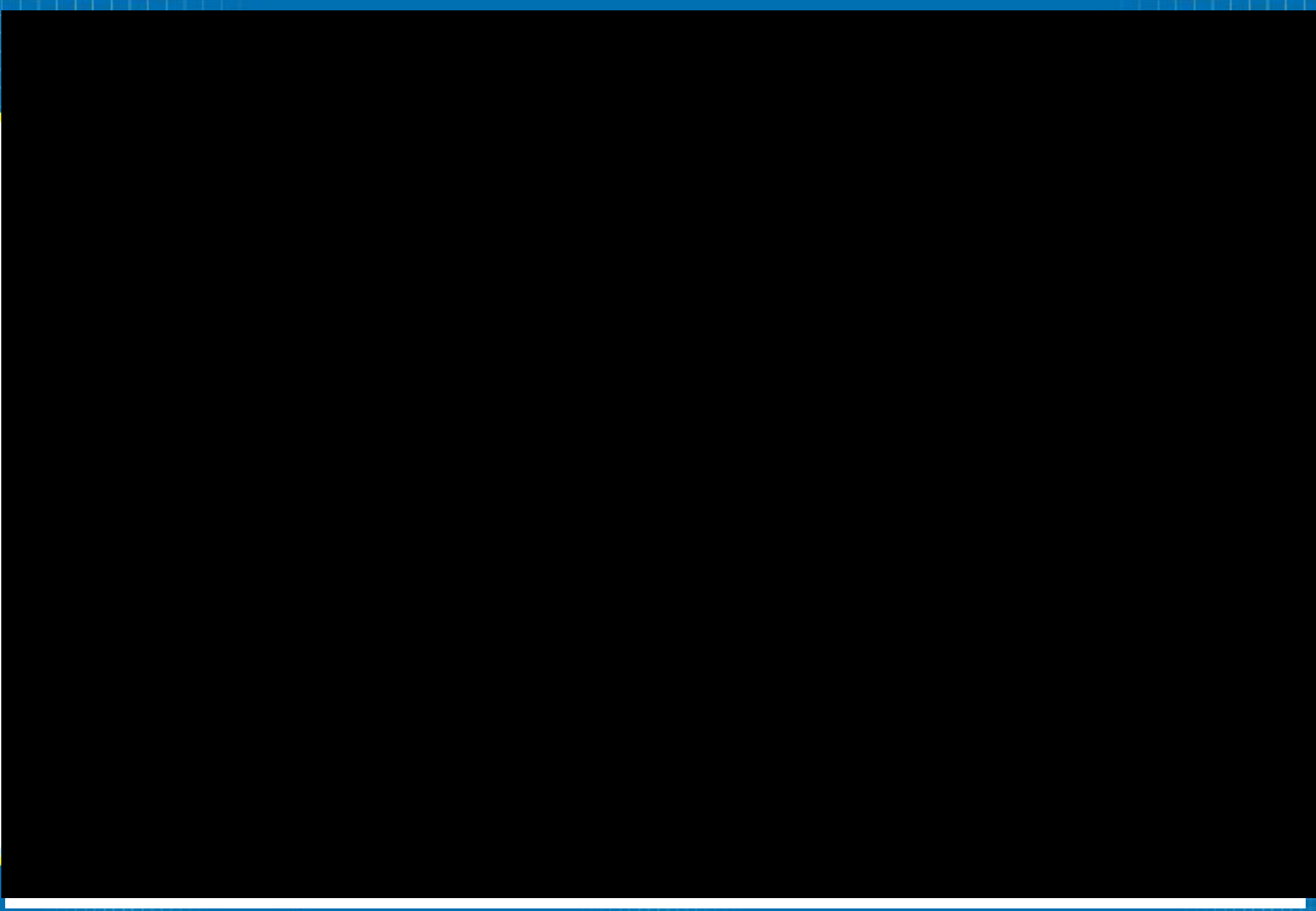
Data extracted 10 December 2020



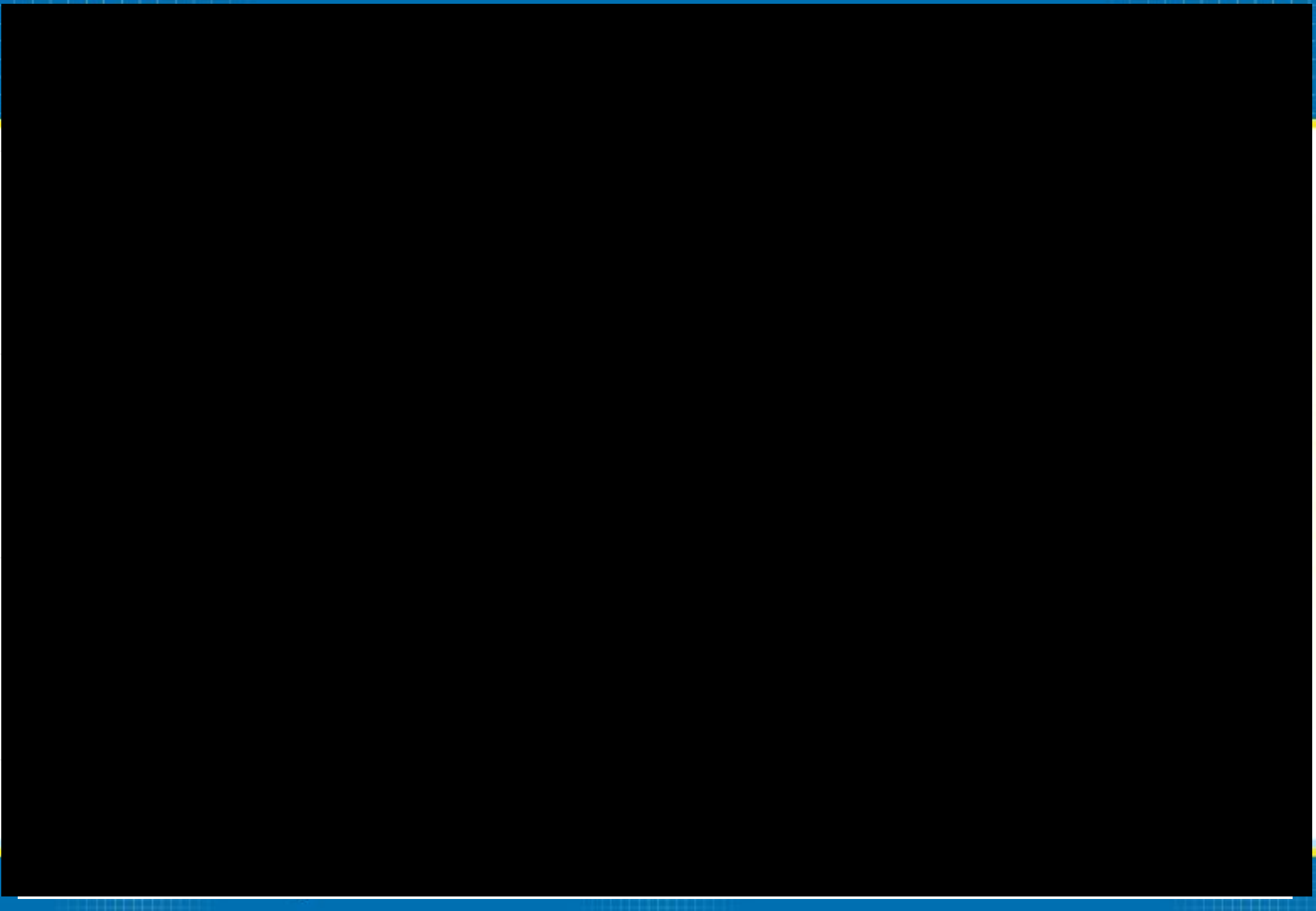












Weekly report on Acute Respiratory Infection (ARI) Situations reported to PHE

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.

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

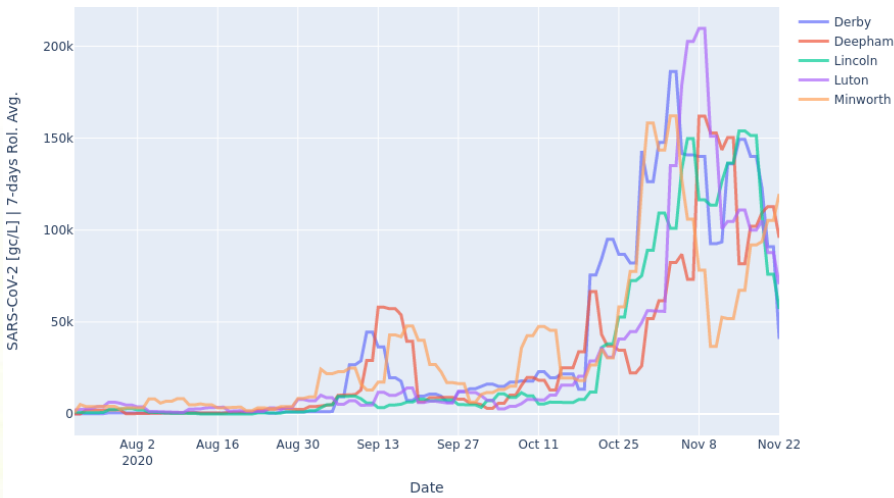
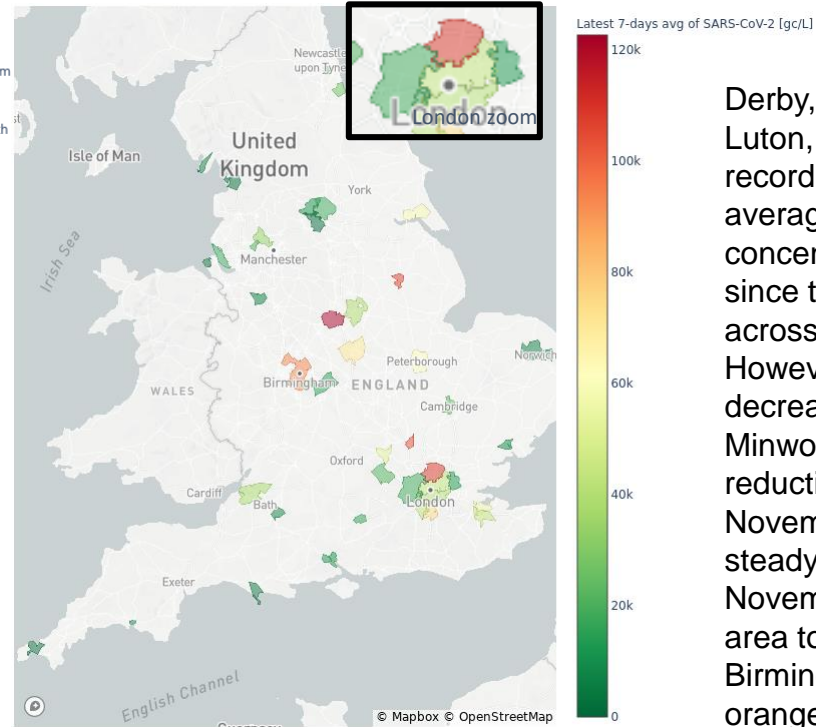


Figure 2: 7 day average of levels of SARS-CoV-2 RNA



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.

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 |

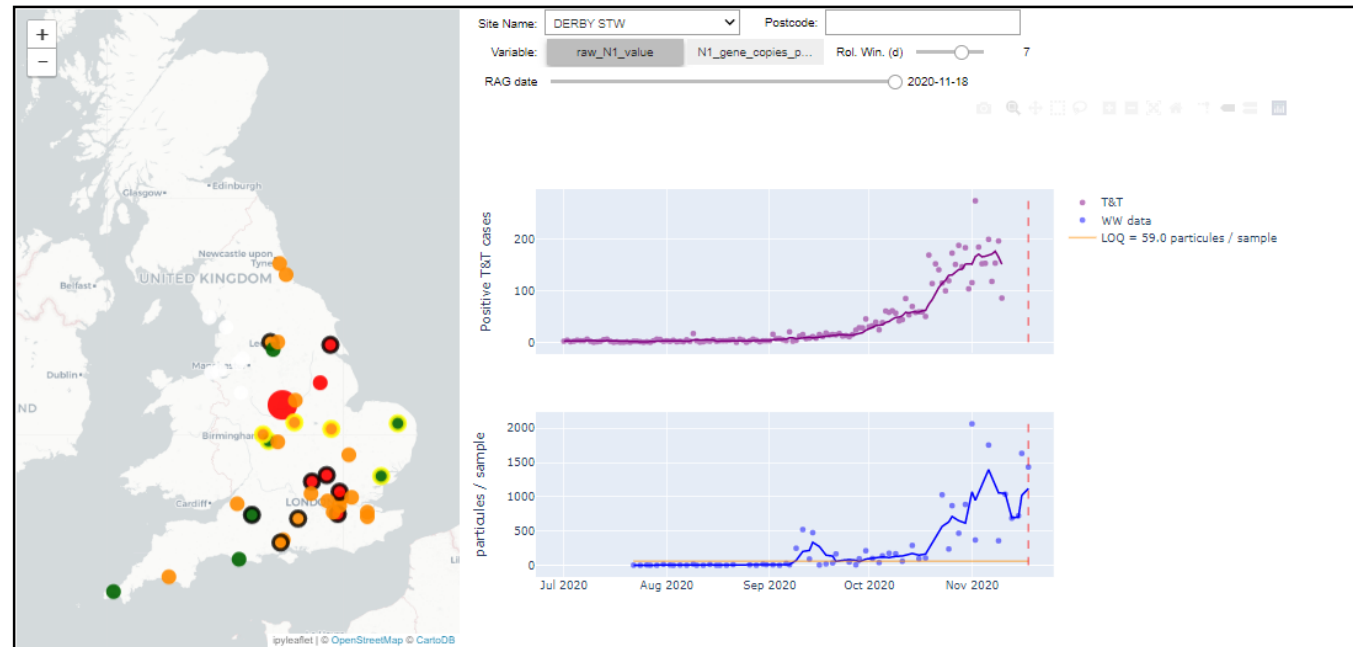
Dashboard View of WW Levels of SARS-CoV-2 for Derby contrasted against Pillar 2 Data

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.

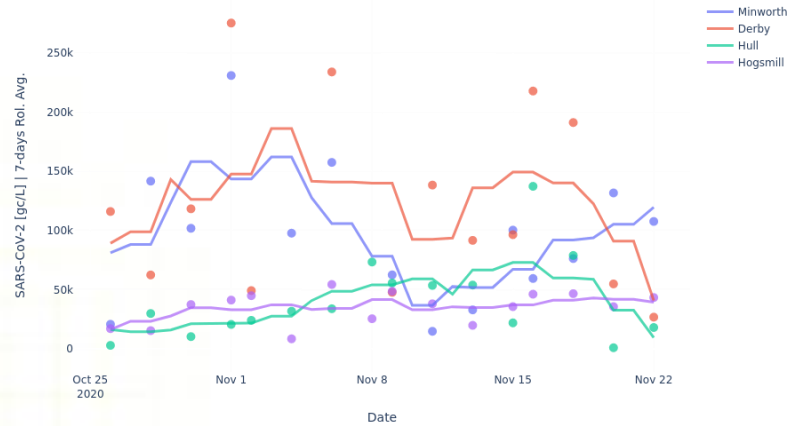
Figure 3: dashboard extract for Derby



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

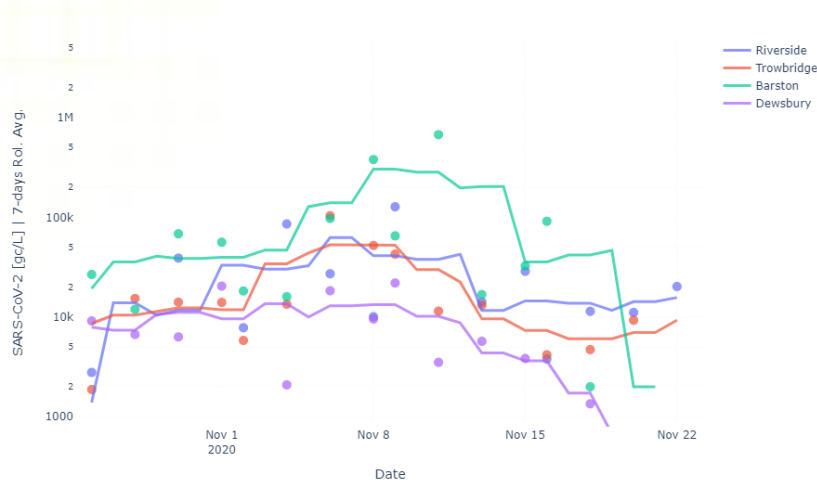


| Site Name | 7 day Percent Change |
|-----------|----------------------|
| Minworth | 78.3 |
| Derby | 31.1 |
| Hull | 27.2 |
| Hogsmill | 20.9 |

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.

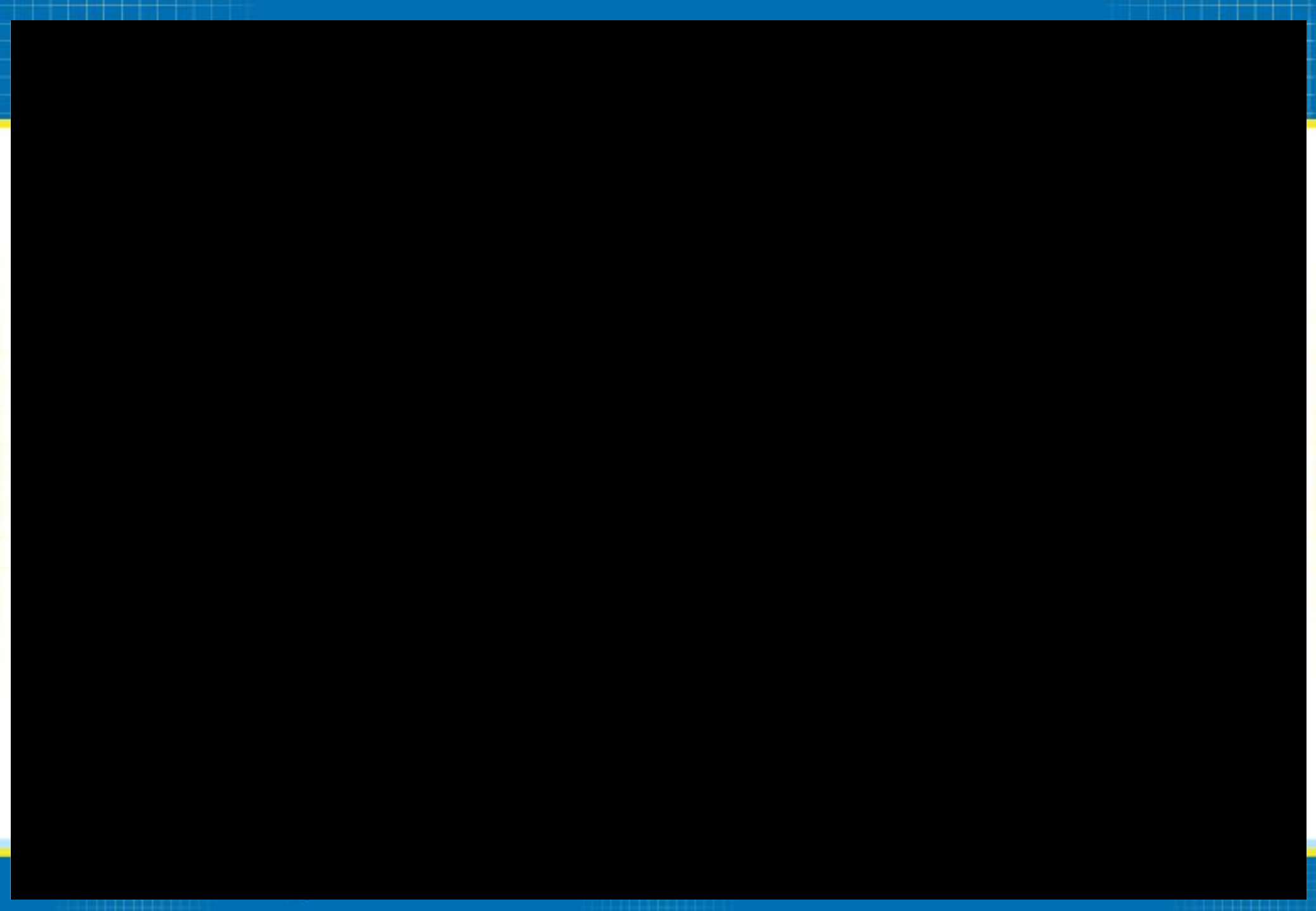
Top 4 Areas with Decreasing Levels of SARS-CoV-2 RNA over the last 2 weeks

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](#)

Second Generation Surveillance System (SGSS)

Data as of 15 December 2020 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 16 December 2020 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 16 December 2020 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.

Frequency of slide updates

| Slides | | Update frequency | Latest update |
|--------|--|------------------|---------------|
| 2-3 | Maps - positivity & testing | daily | 16/12/2020 |
| 4-9 | Time series charts - selected age groups- cases, postivity & testing | daily | 16/12/2020 |
| 10 | Case Rate over 60's by gender | daily | 16/12/2020 |
| 11-16 | Time series charts - age 5-21 years - cases, postivity & testing | daily | 16/12/2020 |
| | | | |
| | | | |
| 21-27 | COVID-19 Hospital activity data - NHS E&I | daily (M-F) | 16/12/2020 |
| 28-29 | Maps - last 7 days mortality | weekly | 10/12/2020 |
| 30-35 | Maps - contact tracing | Mon & Thurs | 14/12/2020 |
| 36 | Map - Locally supported contact tracing | daily (M-F) | 16/12/2020 |
| 37-38 | Enhanced contact tracing | weekly | 10/12/2020 |
| | | | |
| | | | |
| | | | |
| 47 | Positivity of other respiratory virus | weekly | 16/12/2020 |
| | | | |
| | | | |
| 54 | Data sources | daily | 16/12/2020 |

Updated 16 December 2020