Weekly Influenza and COVID-19 Surveillance graphs

PHE publishes a weekly national influenza and COVID-19 surveillance report which summaries the information from the surveillance systems which are used to monitor influenza, COVID-19 and other seasonal respiratory viruses in England.

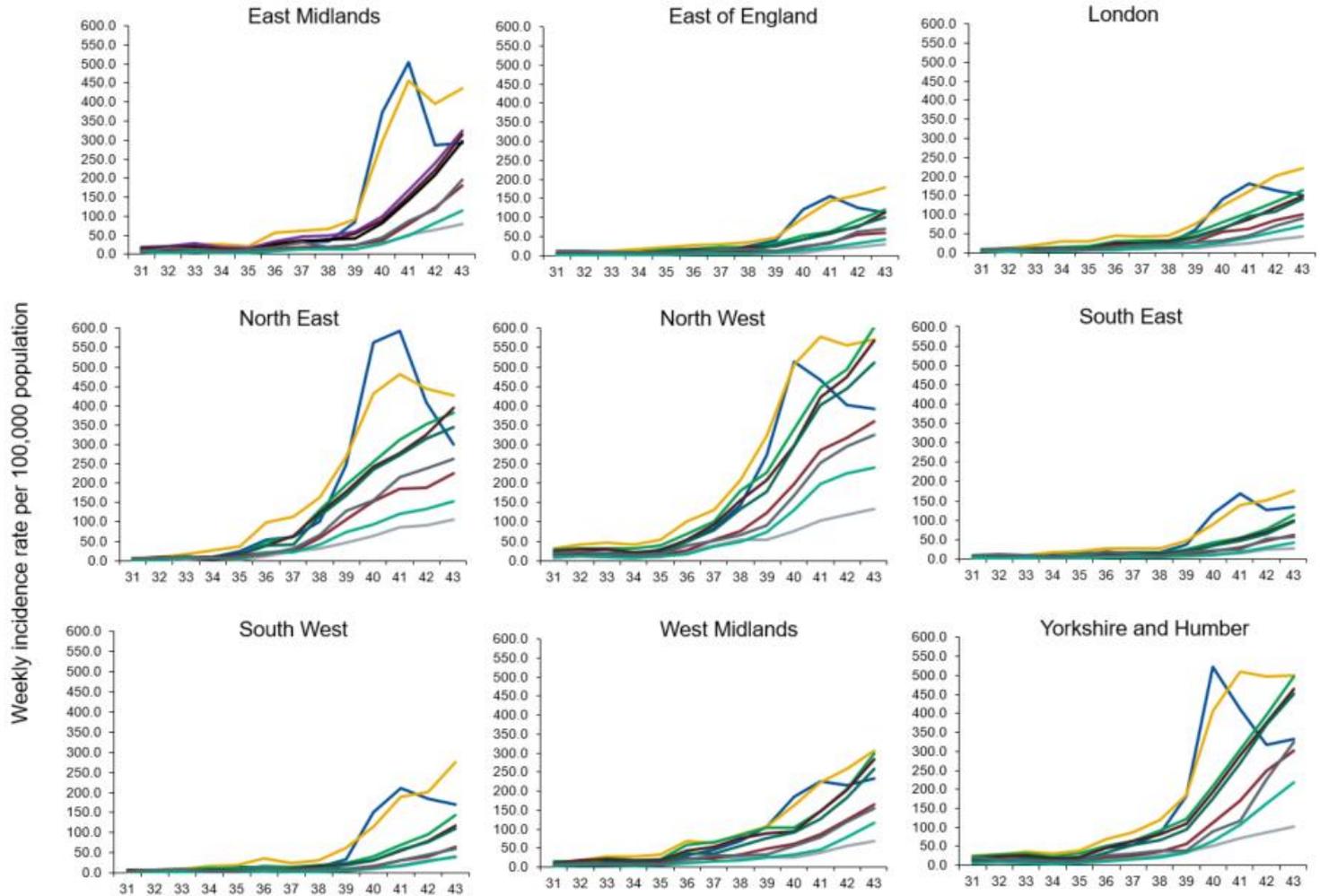Additional figures based on these surveillance systems are included in this slide set.

The figures presented in this slide set are based on data from week 43 (between 19 and 25 October 2020).
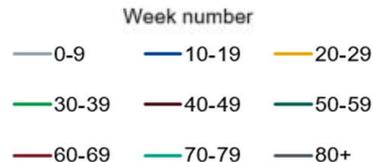
Confirmed COVID-19 cases in England

Weekly COVID-19 incidence per 100,000 population by age group and region, weeks 31-43
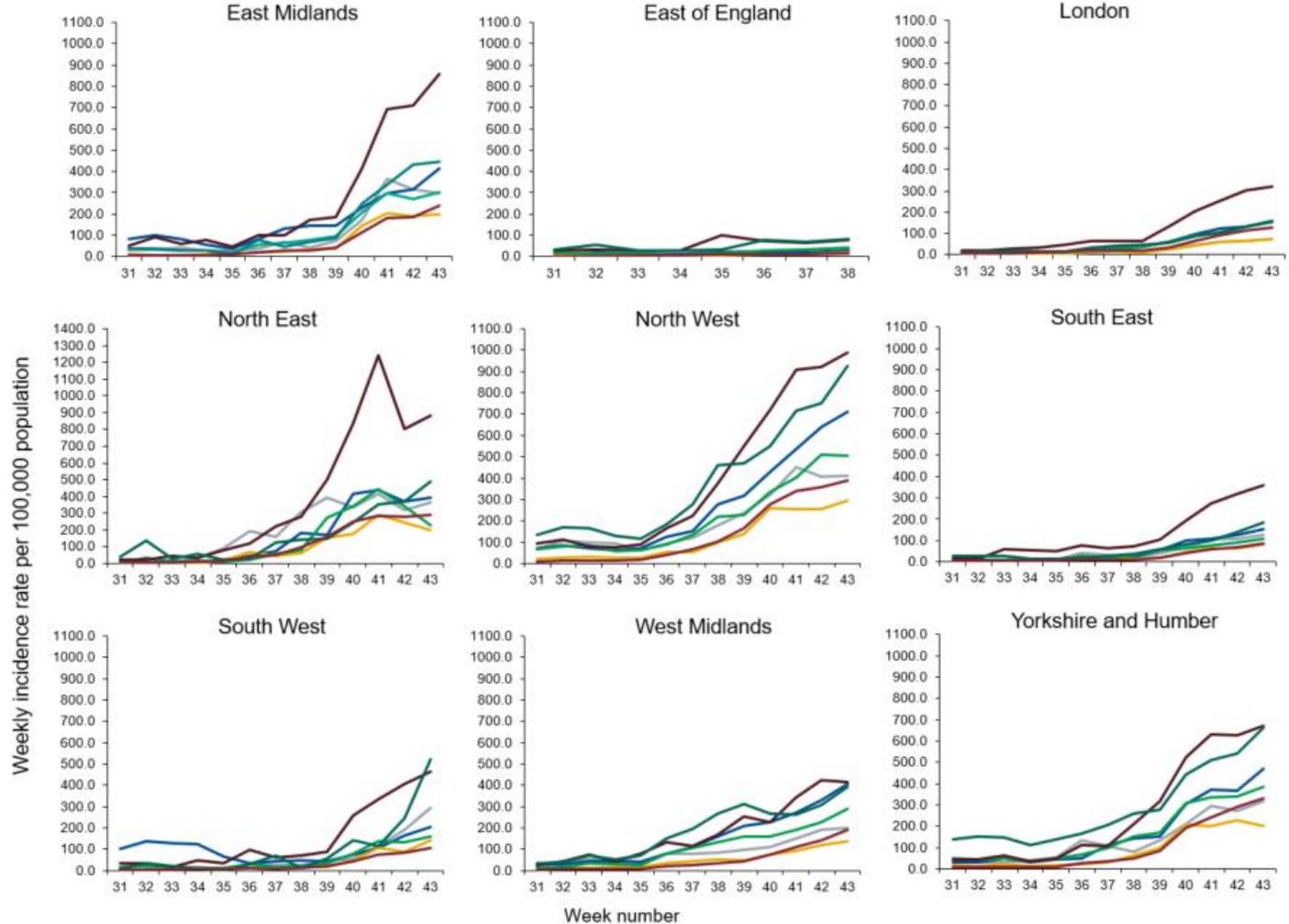

Rates have been calculated using mid-2019 ONS population estimates

29 October 2020

# Weekly COVID-19 incidence per 100,000 population by ethnicity and region, weeks 31-43

Rates have been calculated using mid-2018 ONS population estimates

Legend:
— Black/African/Caribbean/Black British
— Indian (Asian or British)
— Mixed/Multiple Ethnic Groups
— Other Asian/Asian British
— Other ethnic group
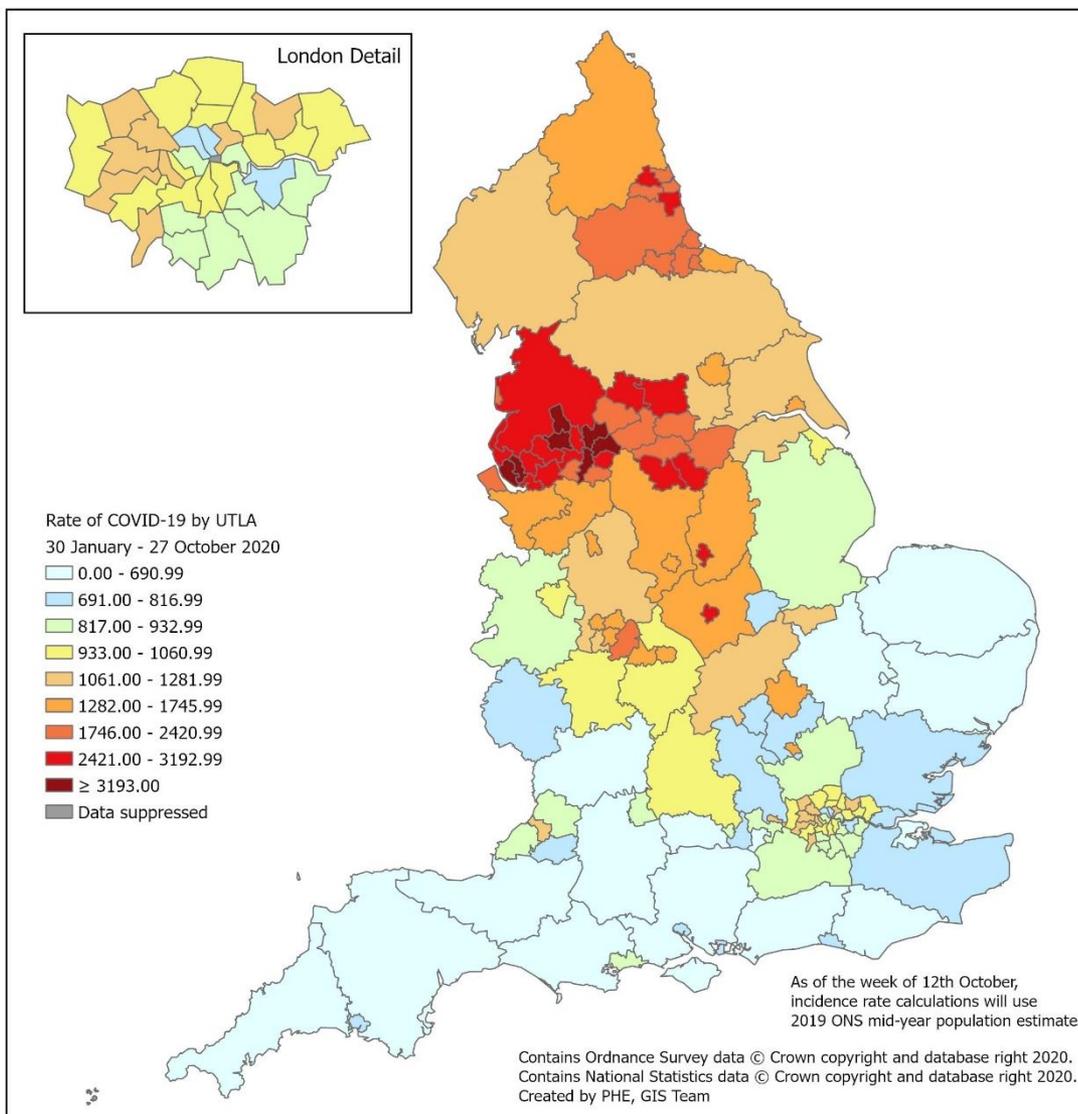— Pakistani (Asian or British)
— White

29 October 2020

Weekly COVID-19 rate per 100,000 population by IMD quintile (1 being the most deprived and 5 being the least deprived), weeks 27-43
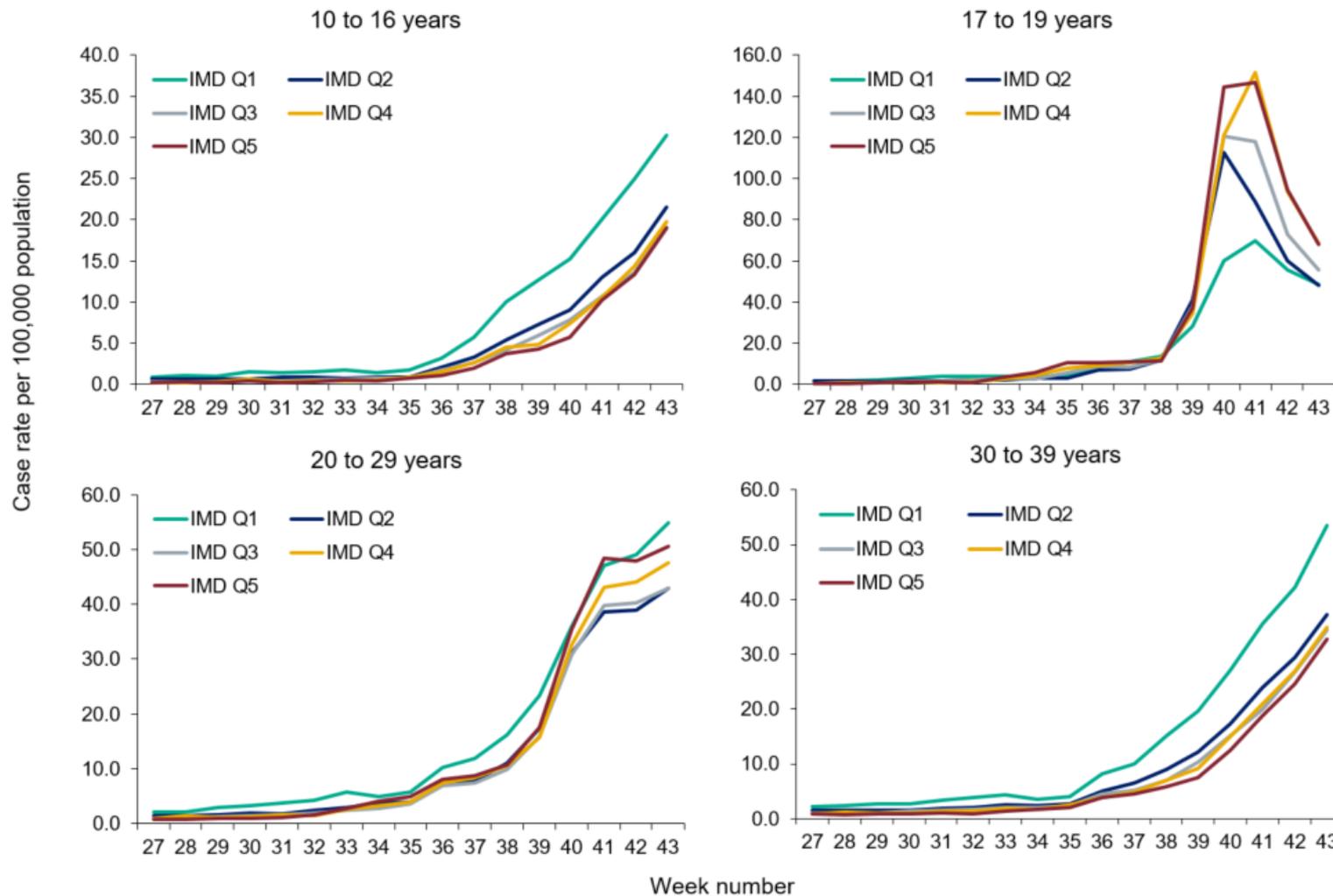
Rates have been calculated using mid-2019 ONS population estimates

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

Public Health England

London Detail

Rate of COVID-19 by UTLA
30 January - 27 October 2020
- 0.00 - 690.99
- 691.00 - 816.99
- 817.00 - 932.99
- 933.00 - 1060.99
- 1061.00 - 1281.99
- 1282.00 - 1745.99
- 1746.00 - 2420.99
- 2421.00 - 3192.99
- ≥ 3193.00
- Data suppressed

As of the week of 12th October, incidence rate calculations will use 2019 ONS mid-year population estimates.

Contains Ordnance Survey data © Crown copyright and database right 2020.
Contains National Statistics data © Crown copyright and database right 2020.
Created by PHE, GIS Team

From this report onwards, rates have been calculated using mid-2019 ONS population estimates

29 October 2020

Cumulative rate (from week 27) of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged map of London area)
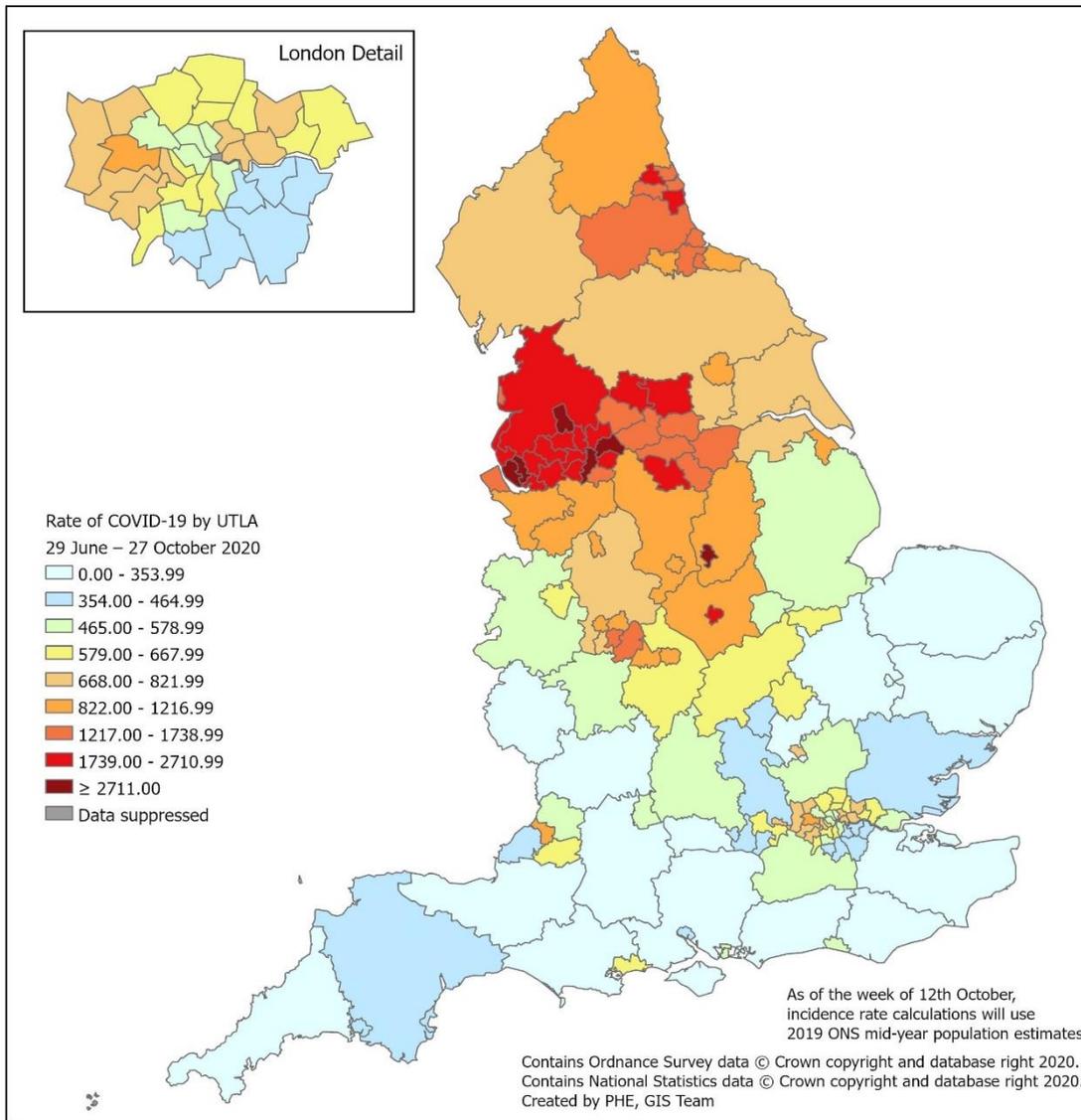
Public Health England

London Detail

Rate of COVID-19 by UTLA
29 June – 27 October 2020
- 0.00 - 353.99
- 354.00 - 464.99
- 465.00 - 578.99
- 579.00 - 667.99
- 668.00 - 821.99
- 822.00 - 1216.99
- 1217.00 - 1738.99
- 1739.00 - 2710.99
- ≥ 2711.00
- Data suppressed

As of the week of 12th October, incidence rate calculations will use 2019 ONS mid-year population estimates.

Contains Ordnance Survey data © Crown copyright and database right 2020.
Contains National Statistics data © Crown copyright and database right 2020.
Created by PHE, GIS Team

From this report onwards, rates have been calculated using mid-2019 ONS population estimates
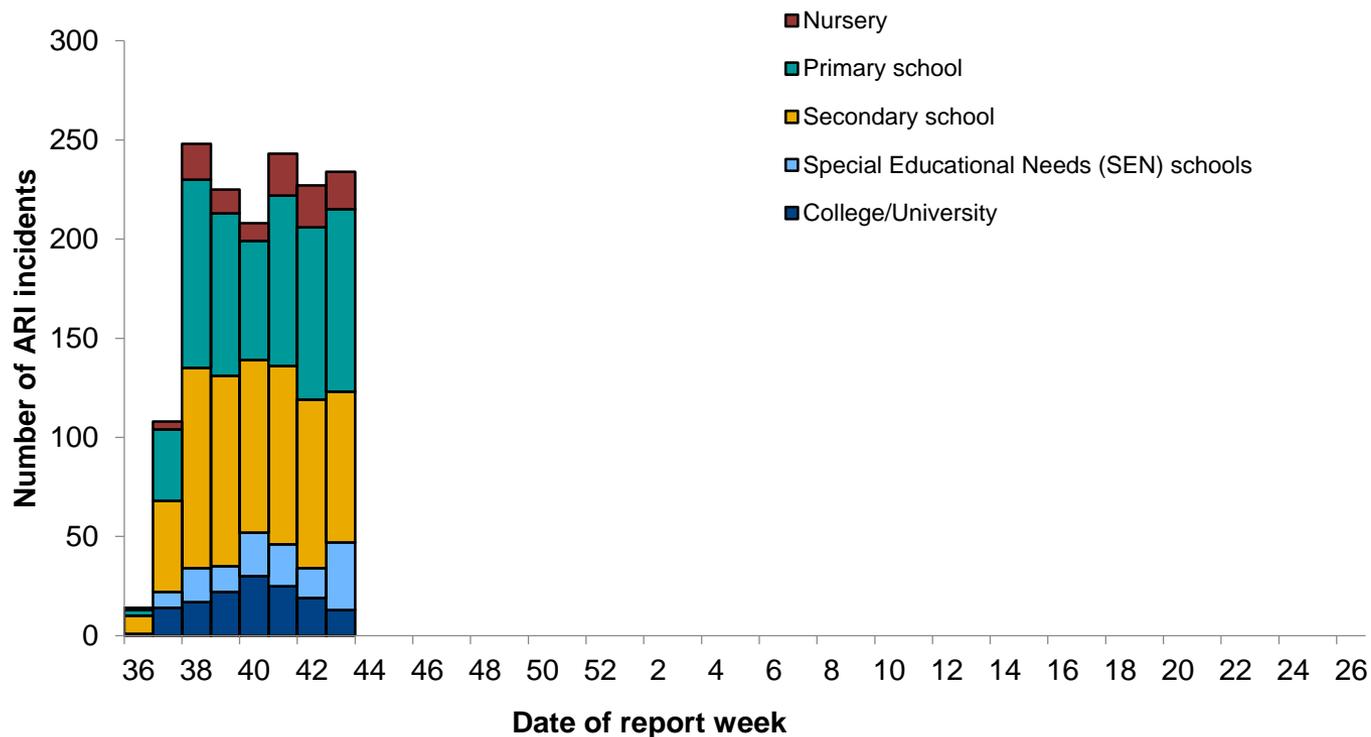
Community surveillance

Number of COVID-19 confirmed clusters or outbreaks by type of educational setting, England

Cumulative number of confirmed COVID-19 clusters or outbreaks by type of educational setting and PHE Centre since week 36, England

Public Health England

PHE Centres	Nursery	Primary school	Secondary school	Special Educational Needs (SEN) schools	College/University	Total
East of England	3 (0)	12 (0)	25 (3)	6 (1)	11 (1)	57 (5)
East Midlands	12 (3)	59 (7)	52 (9)	12 (3)	17 (0)	152 (22)
London	13 (0)	102 (13)	133 (19)	21 (5)	29 (4)	298 (41)
North East	1 (0)	15 (1)	19 (0)	7 (0)	5 (0)	47 (1)
North West	15 (0)	57 (1)	74 (1)	28 (3)	9 (0)	185 (5)
South East	16 (5)	51 (24)	72 (17)	12 (6)	11 (1)	160 (53)
South West	8 (2)	33 (9)	41 (11)	9 (4)	18 (3)	109 (29)
West Midlands	20 (4)	128 (22)	105 (10)	11 (3)	21 (0)	285 (39)
Yorkshire and Humber	17 (5)	84 (15)	69 (6)	25 (9)	19 (4)	214 (39)
Total	105 (19)	541 (92)	590 (76)	131 (34)	140 (13)	1507 (234)

*Number of outbreaks for Week 43 in brackets

29 October 2020

Contacts by exposure/activity setting in week 43, England (Data source: NHS Test and Trace)
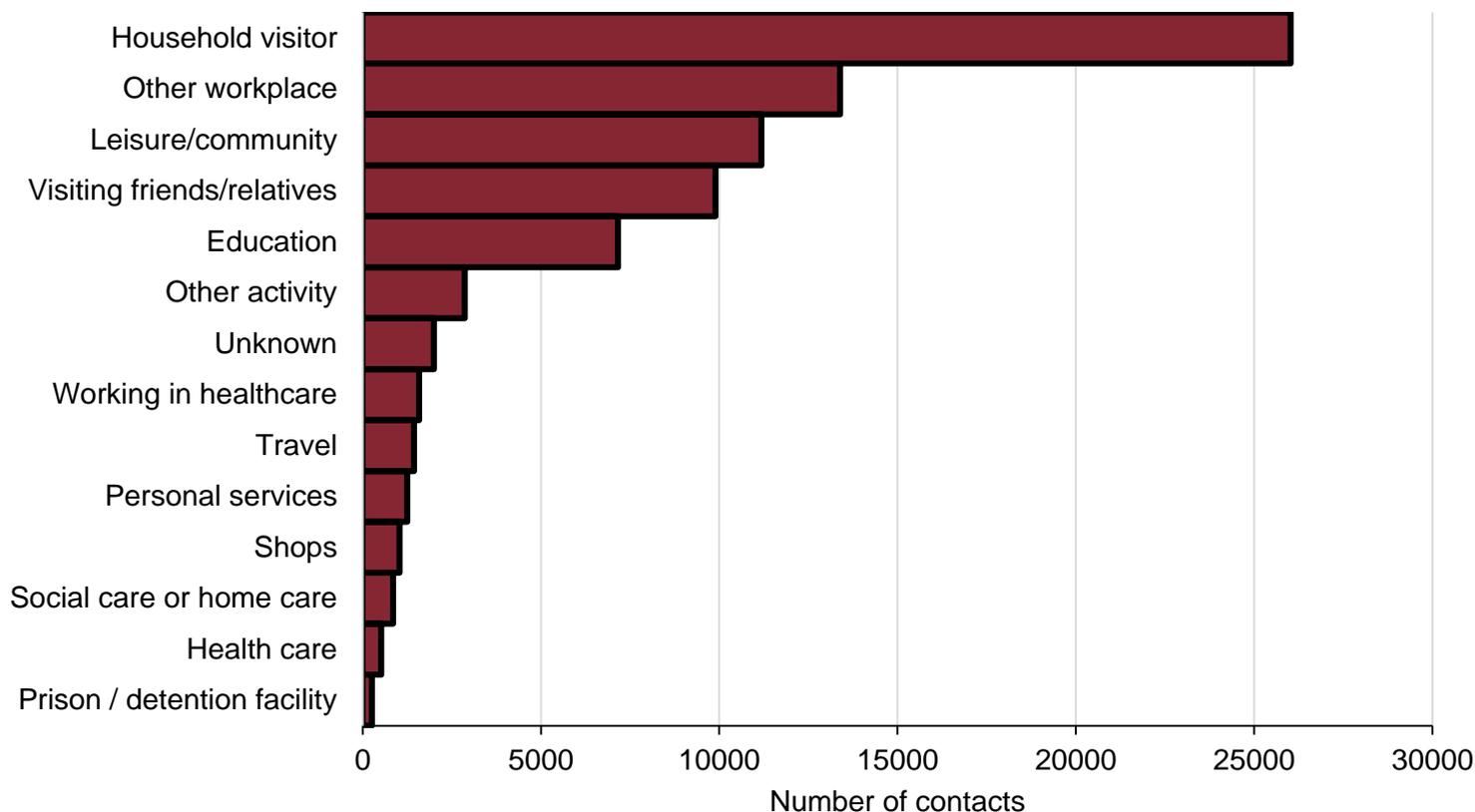
Note: categories have been grouped as follows: leisure / community includes eating out, attending events and celebrations, exercising, worship, arts, entertainment or recreation, community activities and attending play groups or organised trips; other workplace includes: retail, manufacturing or construction, hospitality, transport, emergency services or border force, food production and agriculture, prison, financial services, civil service or local government, information and communication, military, critical national infrastructure.
Personal services includes hairdressers, barbers, tattooists and nail bars.

29 October 2020

Events and activities reported by people testing positive, prior to symptom onset in week 43, England
(Data source: NHS Test and Trace)
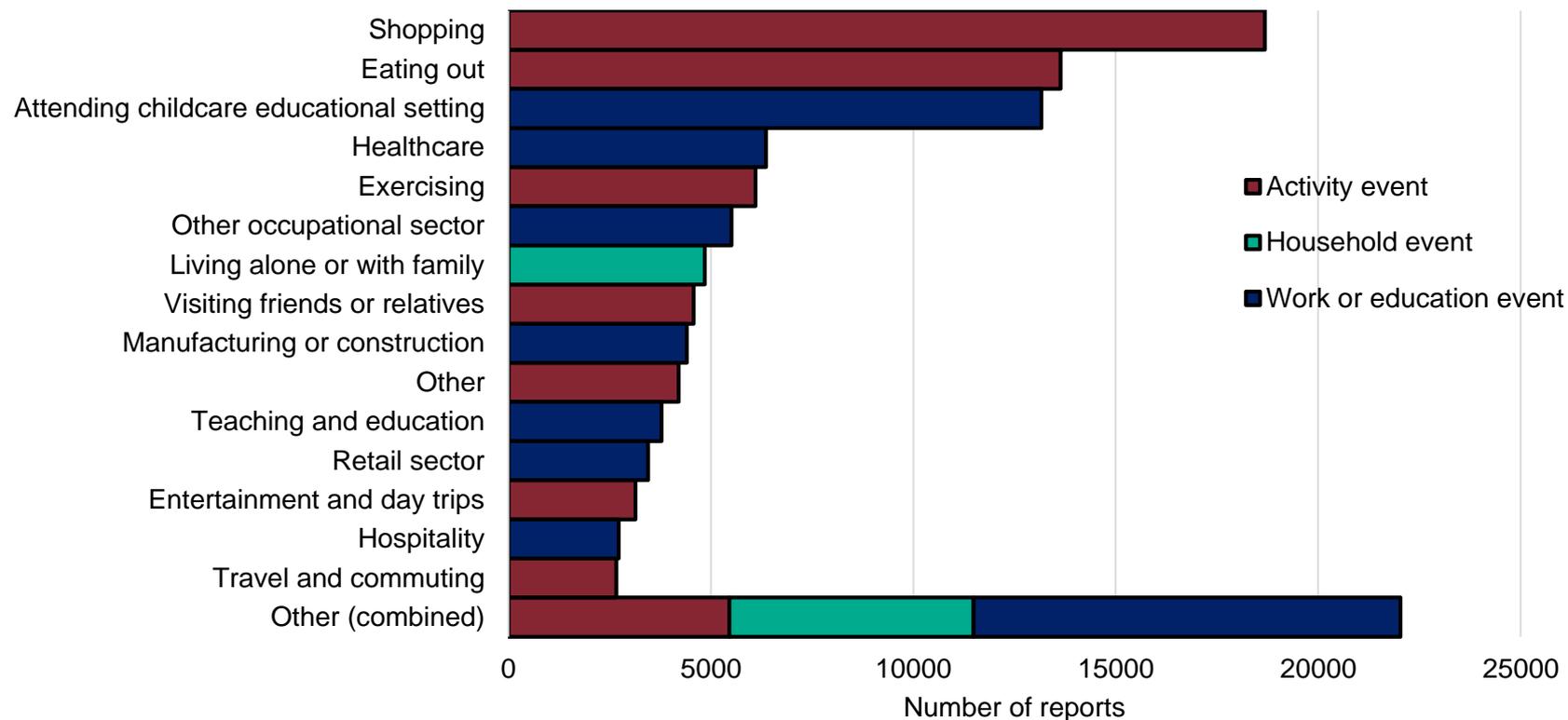
Note: 'Other' includes a wide range of different activities and settings, each of which has small numbers of individuals, as well as activities which did not fit any specific category and were added as Other by the case. This includes:
(all within 'activities': Arts entertainment or recreation; Civil 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.

Return to main menu

Common locations reported by people testing positive in week 43, England (Data source: NHS Test and Trace)

Of the 107,046 cases in week 43 reported for contact tracing, 33,233 (31%) had a common exposure with at least 1 other case. 10,036 common locations/settings were reported in total (of which the table calculates % of the most frequent). Supermarkets were the most frequently reported common location, followed by pubs or bars, and then restaurants or cafes.

Setting	Number of common locations reported	Proportion of all common locations reported
Supermarket (visting and working)	1128	11.2%
Pub or bar (visting)	745	7.4%
Restaurant or cafe (visting)	698	7.0%
Secondary school (attending)	686	6.8%
Primary school (attending)	572	5.7%
Gym (visting)	283	2.8%
Hospital (visting)	242	2.4%
Food and drink (working)	213	2.1%
Care home (working)	164	1.6%
Hotel (home/shared)	154	1.5%
College (attending)	128	1.3%
Household fewer than 5 (home/shared)	127	1.3%
University (attending)	123	1.2%
Nursery preschool (attending)	118	1.2%
Warehouse (working)	110	1.1%
Home (visting)	107	1.1%
Clothes shopping (visting)	106	1.1%

Common Exposure Reports use NHS Test and Trace enhanced contact tracing data to identify locations or activities reported by 2 or more cases. Once a case enters the NHS Test and Trace system, enhanced contact tracing information is collected on household, workplace, education and activities in the 7-2 day period before symptom onset (or date of test if onset date is not provided). Data collected for this period is primarily used to identify where someone may have caught their infection.

Data presented are for common exposures within the enhanced contact tracing data with a known postcode only. Activities, household and workplace events reported by cases are grouped based on a shared postcode. Any event with >=2 cases associated with it (>=2 persons declaring the same postcode with onsets (or date tested if unavailable) the last 7 days) is defined as a common exposure and is included in this report.

Locations with more visitors are more likely to be identified as common exposures. No adjustment has been made for how commonly a location is visited. The exposure category selected is the most commonly identified among all individuals with an event at that postcode. The exposure category can change retrospectivity therefore, changing the most common exposure as reported here.

Common exposures identified in this way are not always indicative of epidemiological linkage between the cases and require further investigation. Some will be coincidental rather than relating to potential/actual transmission events.

29 October 2020

Surveillance in 'educational-age' cohorts

Methodology and limitations

- Data source: SGSS Pillar 1 (NHS and PHE testing) and Pillar 2 (community testing) – England

- Educational-age cohorts have been calculated using dates of birth that correspond to a particular year group. School year groups run from 1 September to 31 of August of the following calendar year.

- We include all cases regardless of whether or not they attended an educational setting or whether or not the educational setting was open during the reporting period

- Data for the most recent week are provisional and likely to be an underestimate

Public Health
England

- The table aside represents the birth cohorts for each year group

Birth cohort			Year group
01/09/1998	to	31/08/1999	Uni Year 4
01/09/1999	to	31/08/2000	Uni Year 3
01/09/2000	to	31/08/2001	Uni Year 2
01/09/2001	to	31/08/2002	Uni Year 1
01/09/2002	to	31/08/2003	Year 13
01/09/2003	to	31/08/2004	Year 12
01/09/2004	to	31/08/2005	Year 11
01/09/2005	to	31/08/2006	Year 10
01/09/2006	to	31/08/2007	Year 9
01/09/2007	to	31/08/2008	Year 8
01/09/2008	to	31/08/2009	Year 7
01/09/2009	to	31/08/2010	Year 6
01/09/2010	to	31/08/2011	Year 5
01/09/2011	to	31/08/2012	Year 4
01/09/2012	to	31/08/2013	Year 3
01/09/2013	to	31/08/2014	Year 2
01/09/2014	to	31/08/2015	Year 1
01/09/2015	to	31/08/2016	Reception
01/09/2016	to	31/08/2017	Pre-school
01/09/2017	to	31/08/2018	Nursery

Weekly number of laboratory confirmed COVID-19 cases in nursery/preschool, primary, secondary and college/university age cohorts

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in nursery/preschool, primary school, secondary school and college/university age cohorts, week 33 to 43
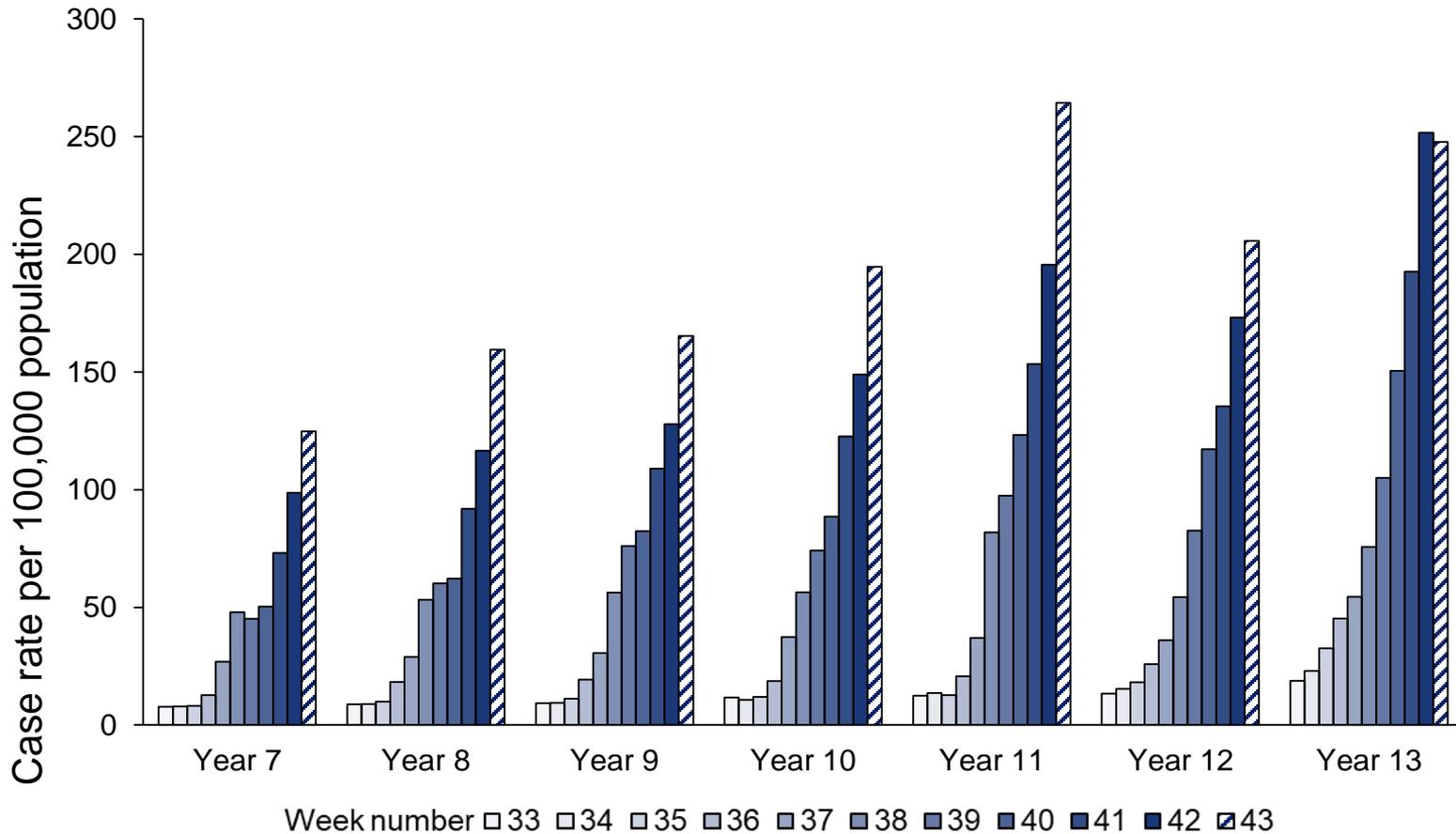
29 October 2020

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts presented by Year group, from nursery to Year 6, week 33 to 43
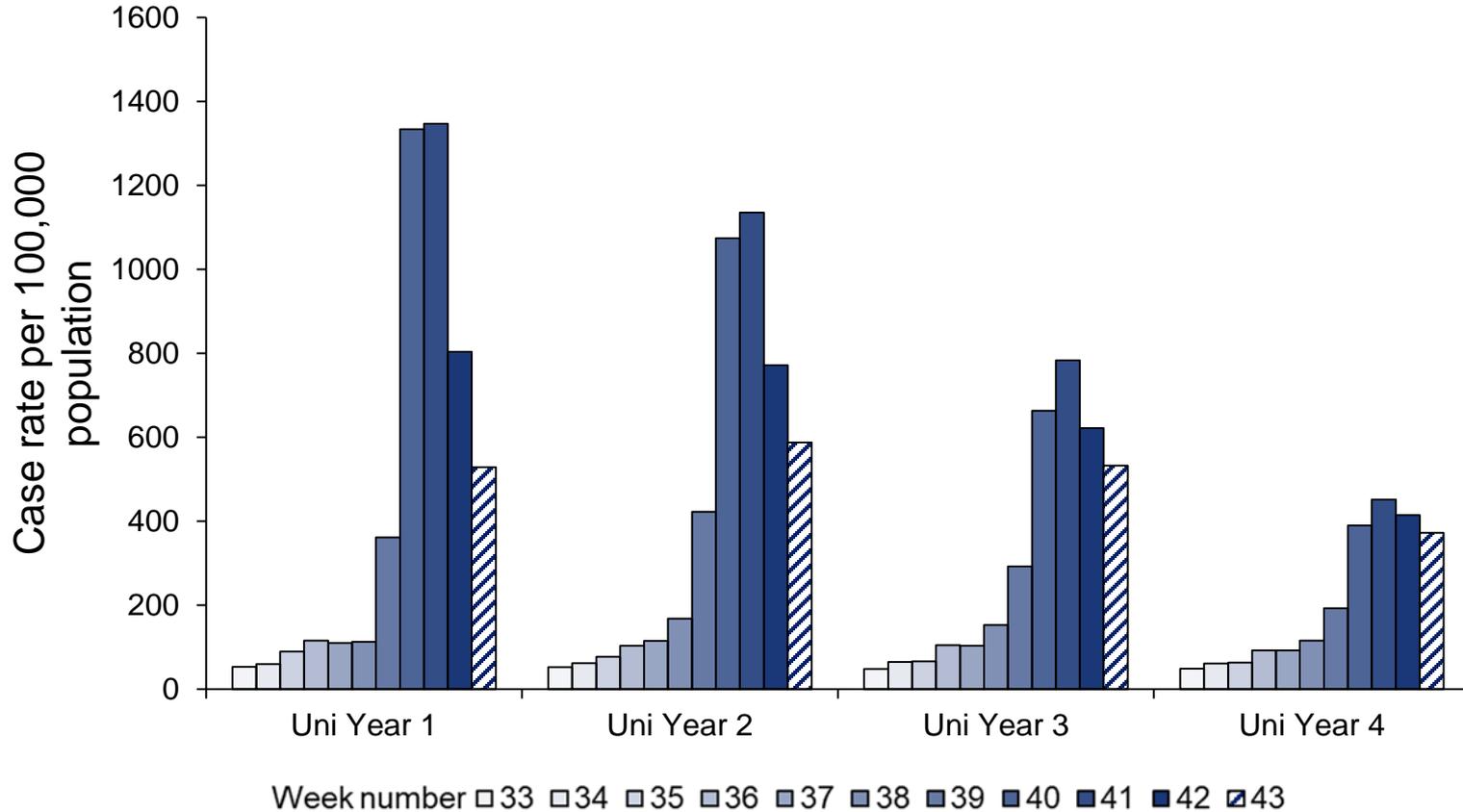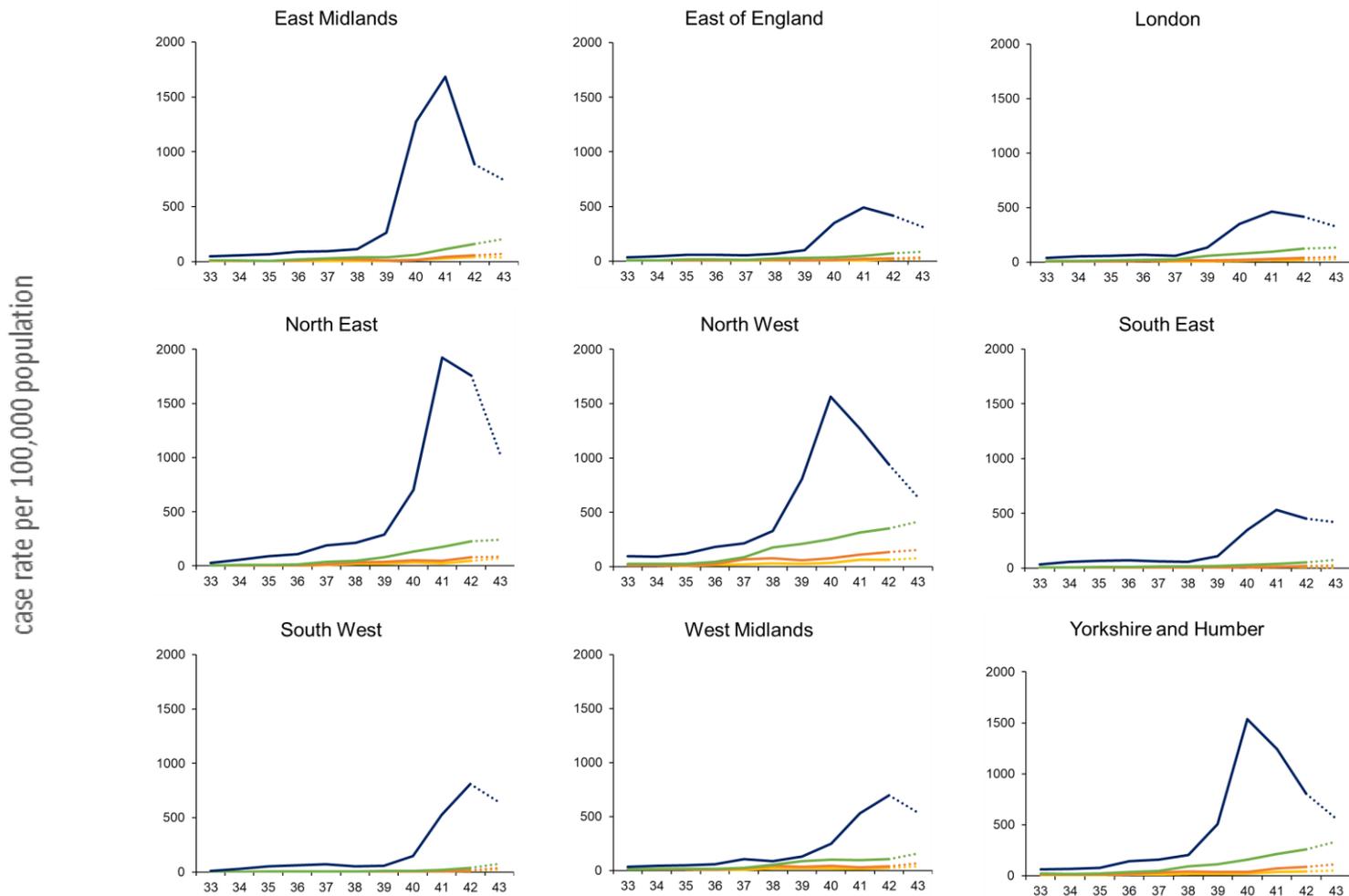
Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age groups presented by secondary school year groups (Year 7 to Year 13), week 33 to 43

29 October 2020

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts corresponding to university/college year groups, week 33 to 43

Public Health England

29 October 2020

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population by educational age cohorts and PHE region, week 30 to 43

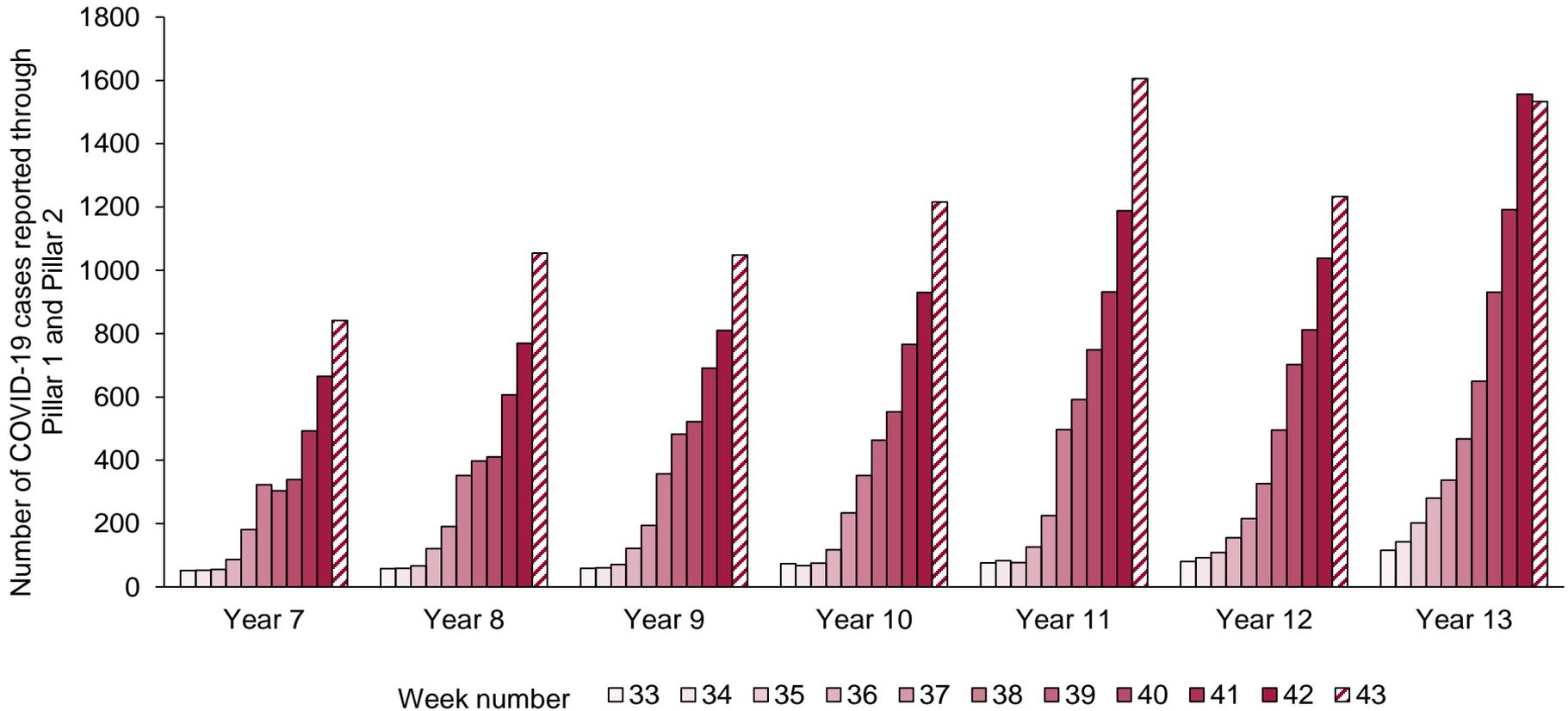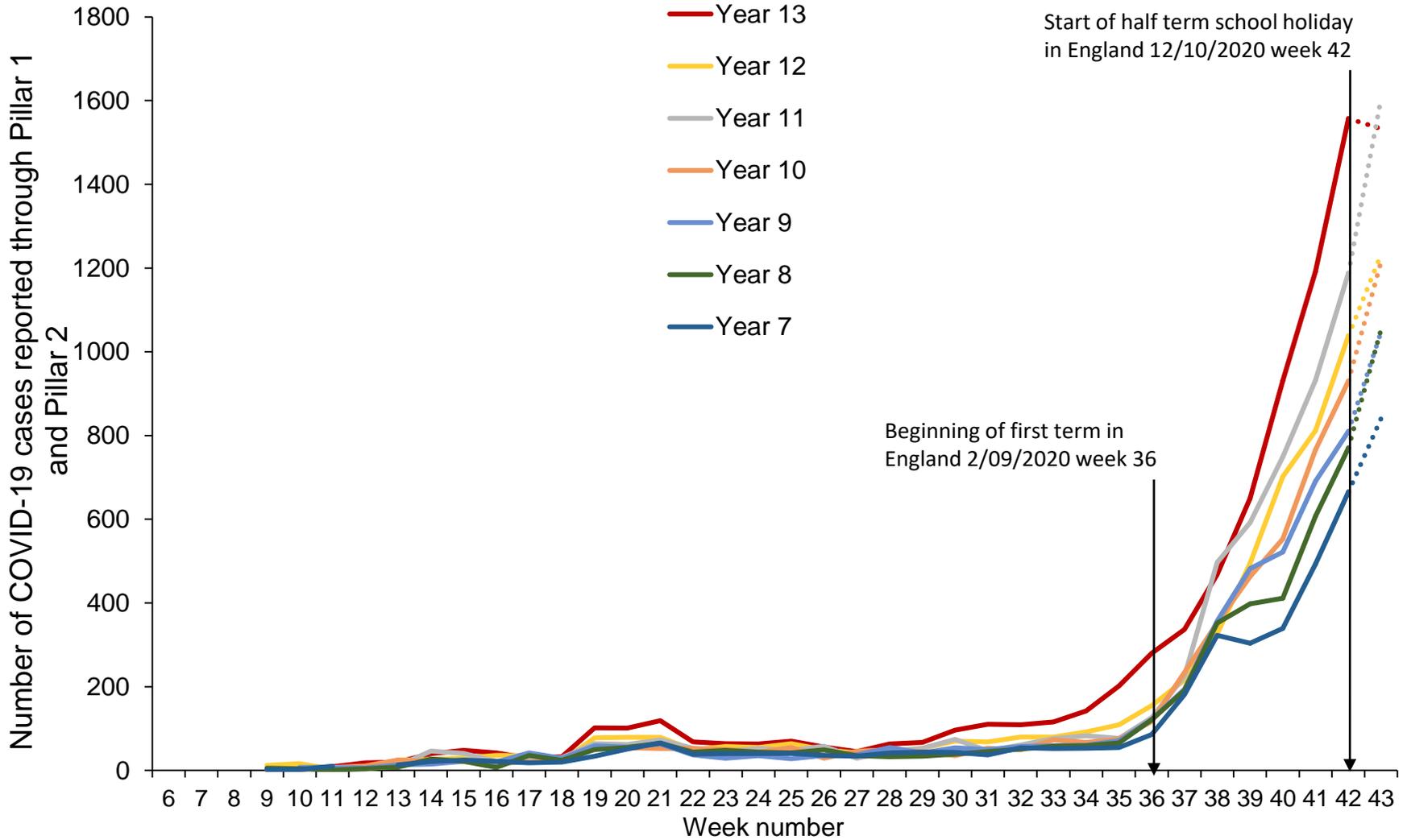Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6, week 33 to 43

Public Health England

29 October 2020

Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6

29 October 2020

Weekly number of new laboratory confirmed COVID-19 cases in educational age groups presented by secondary school year groups (Year 7 to Year 13), week 33 to 43
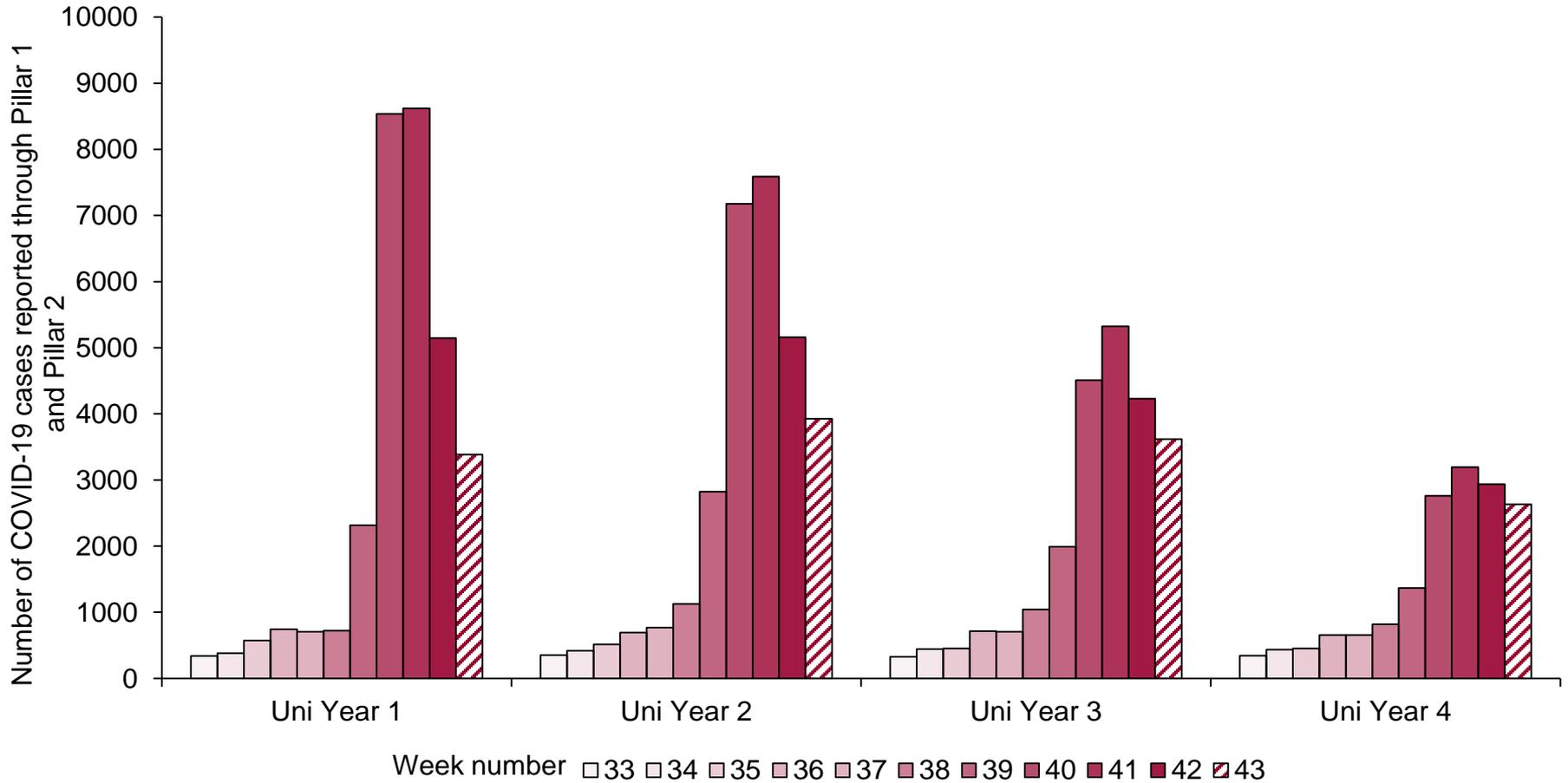
Weekly number of new laboratory confirmed COVID-19 cases in educational age groups presented by secondary school year groups (Year 7 to Year 13)
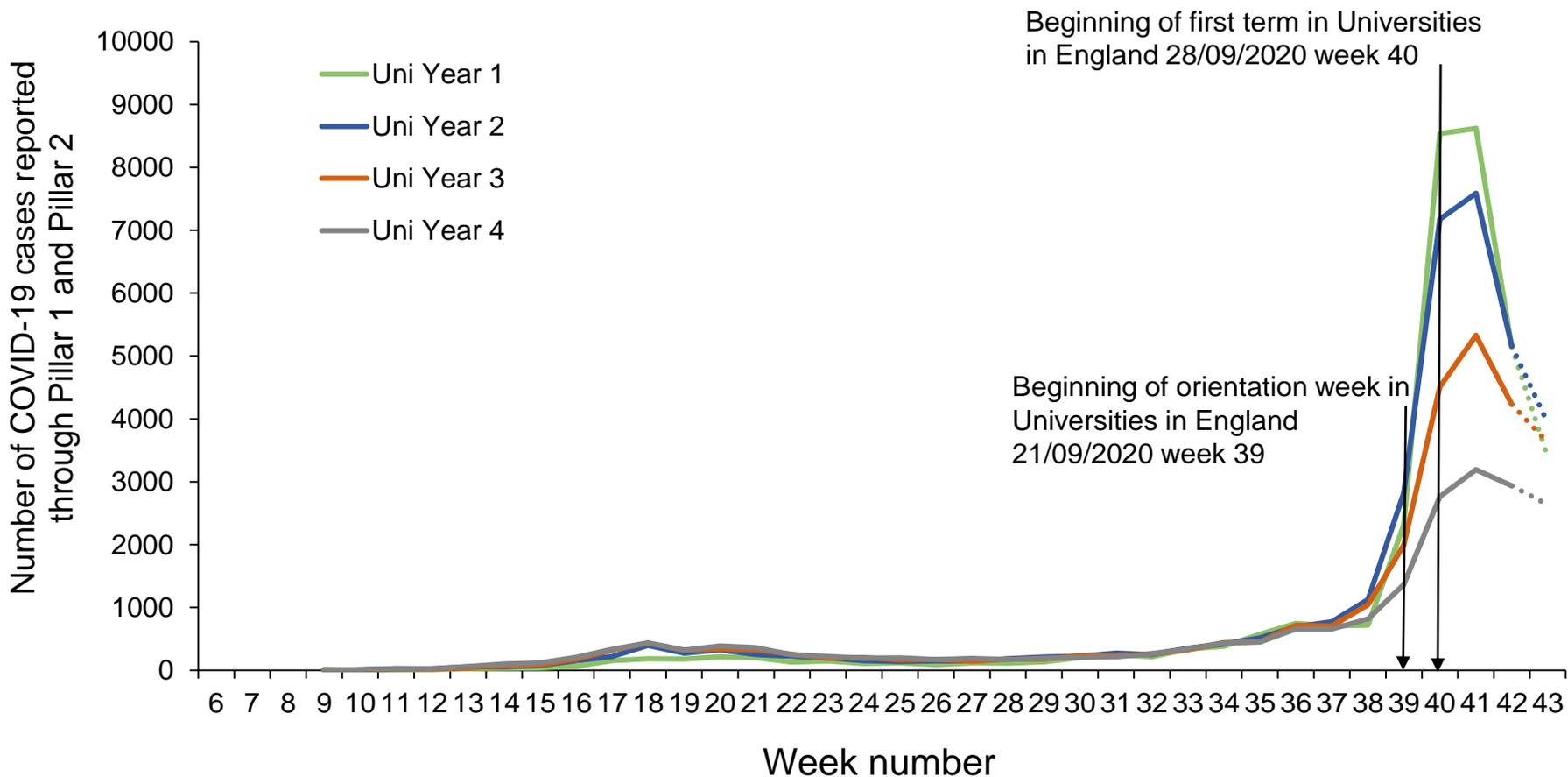
Public Health England

29 October 2020

Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups, week 33 to 43

Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups

Public Health England

Legend:
- Uni Year 1
- Uni Year 2
- Uni Year 3
- Uni Year 4

Beginning of first term in Universities in England 28/09/2020 week 40

Beginning of orientation week in Universities in England 21/09/2020 week 39

Y-axis: Number of COVID-19 cases reported through Pillar 1 and Pillar 2

X-axis: Week number

29 October 2020

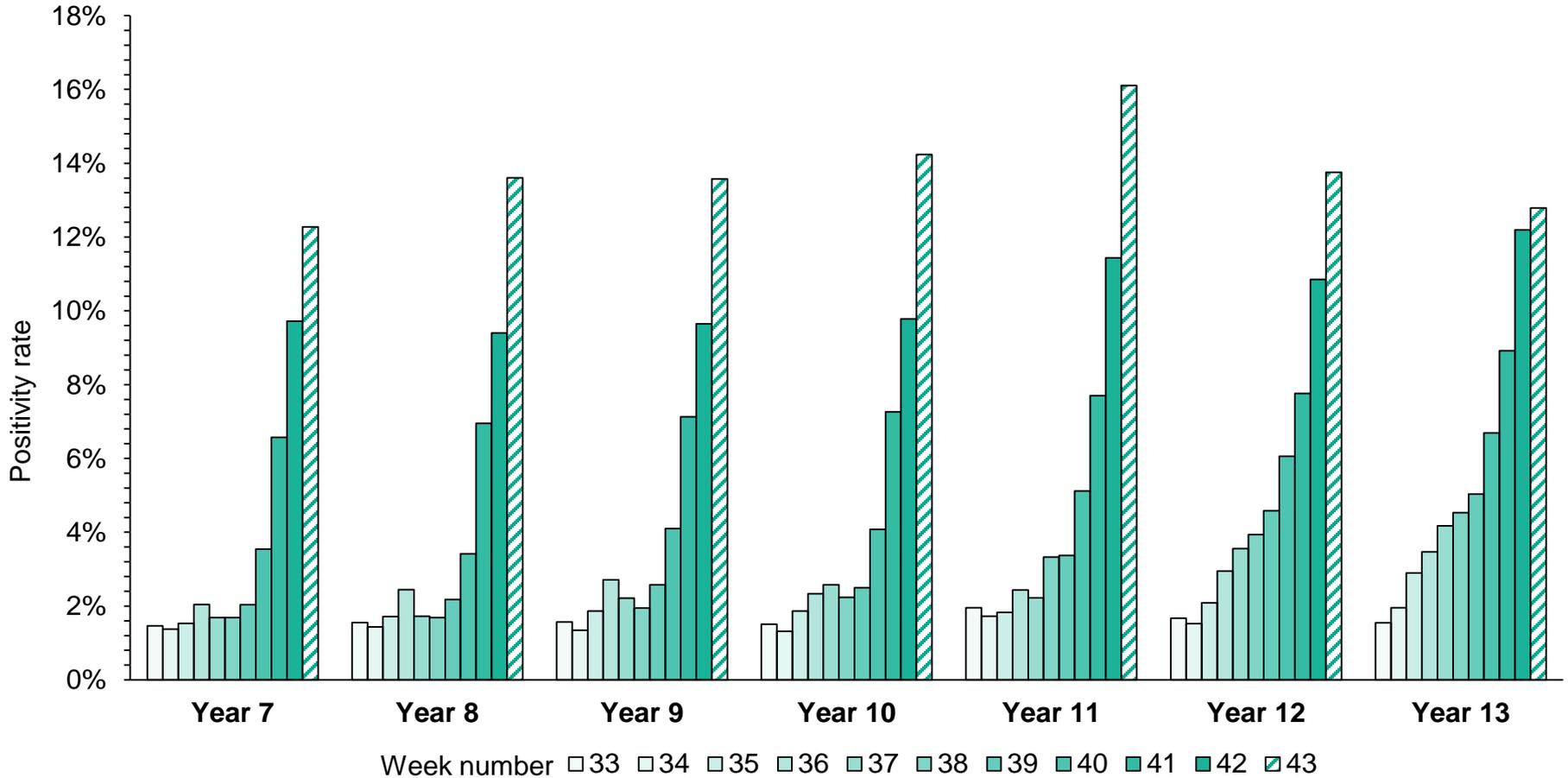Weekly number of new laboratory confirmed COVID-19 cases by educational age cohorts and PHE region, week 33 to 43
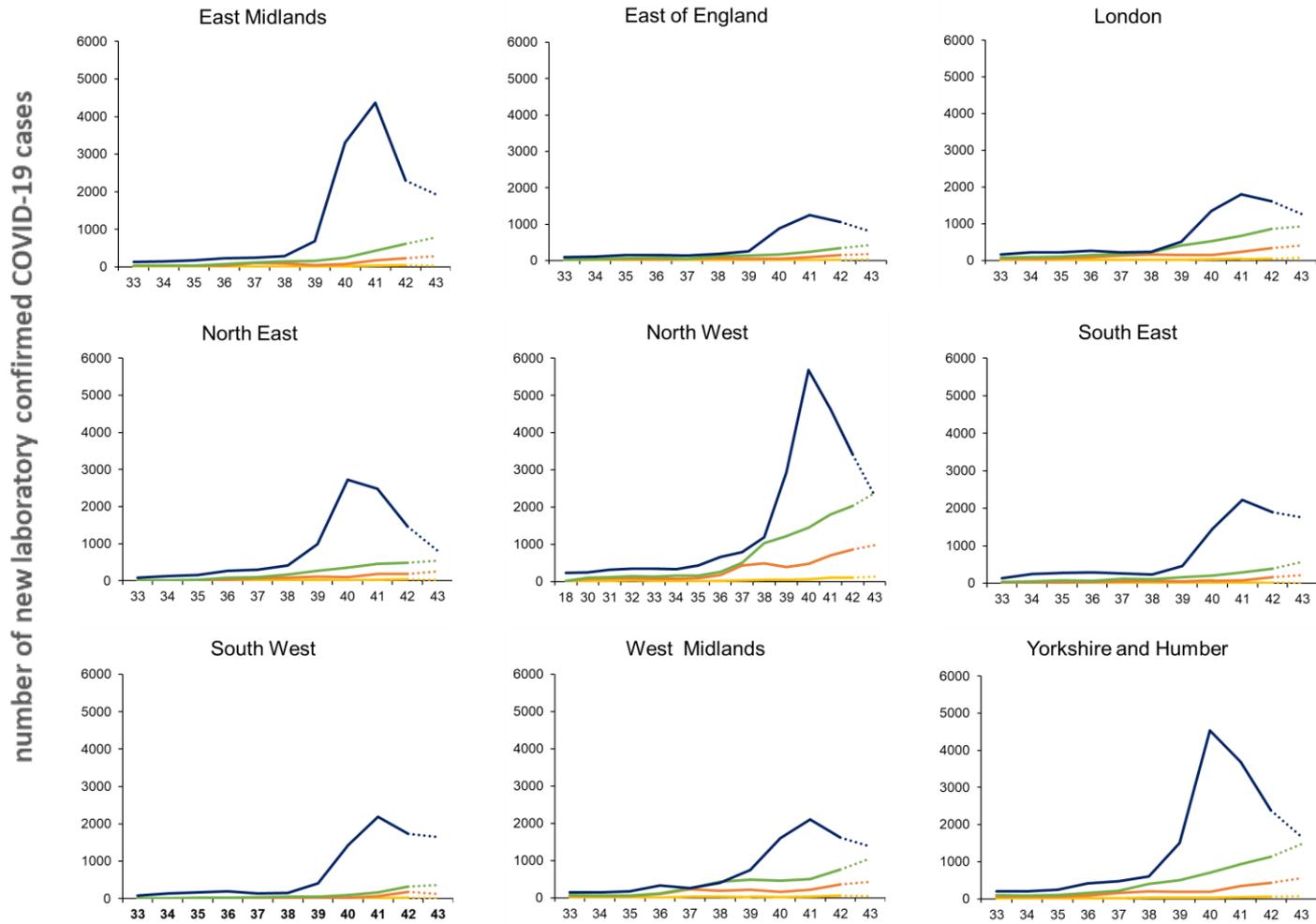
Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by primary school year group, from nursery to Year 6, week 33 to 43
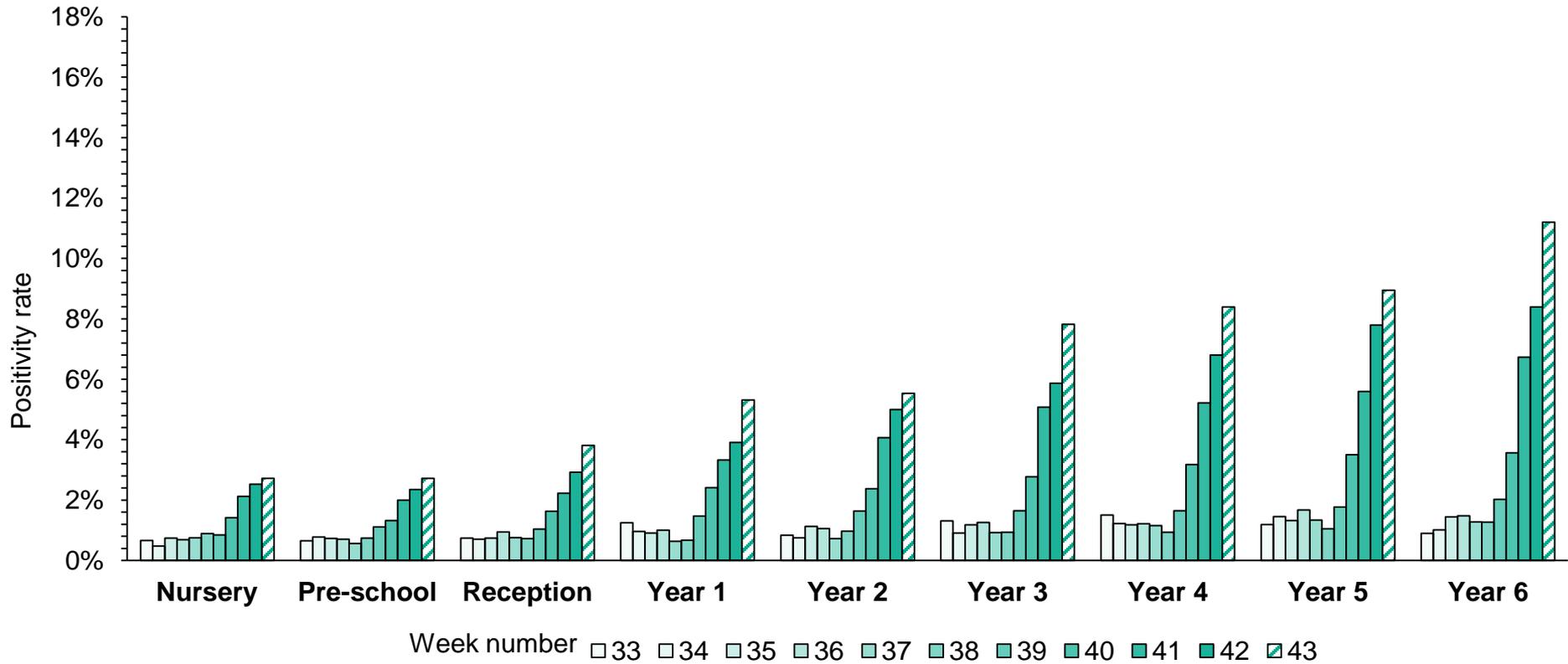
29 October 2020

Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by secondary school year group, from Year 7 to Year 13, week 33 to 43

Public Health England

29 October 2020

Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented corresponding to university/college year groups, week 33 to 43
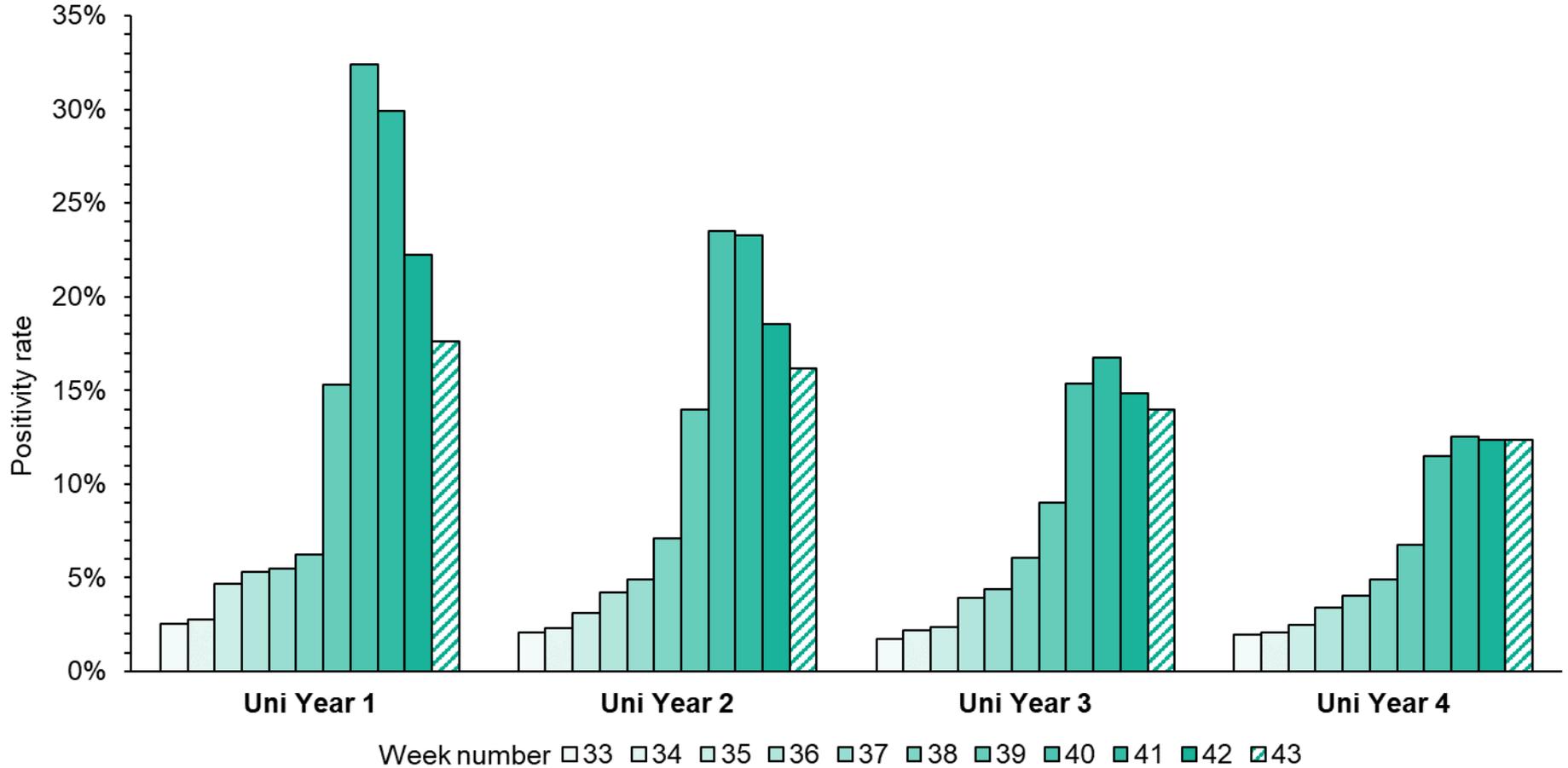
Weekly incidence of COVID-19 tests performed per 100,000 population in nursery/preschool, primary school, secondary school and college/University age cohorts, week 33 to 43
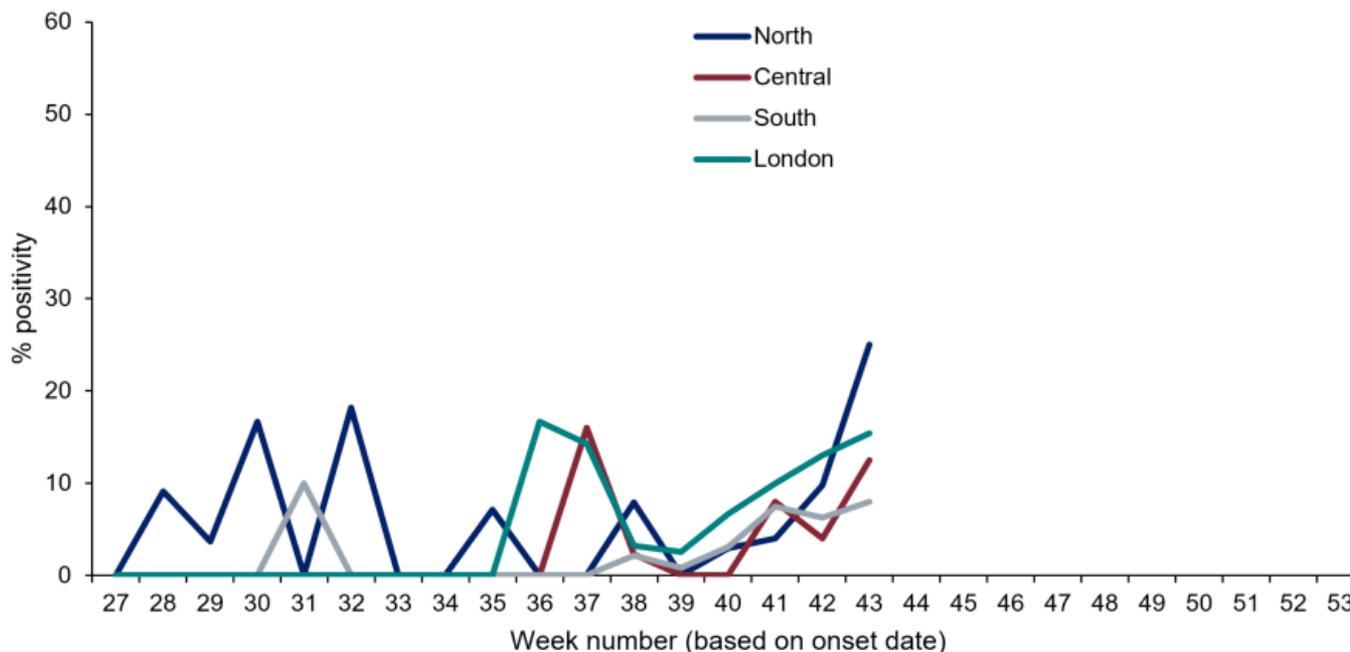
Public Health England
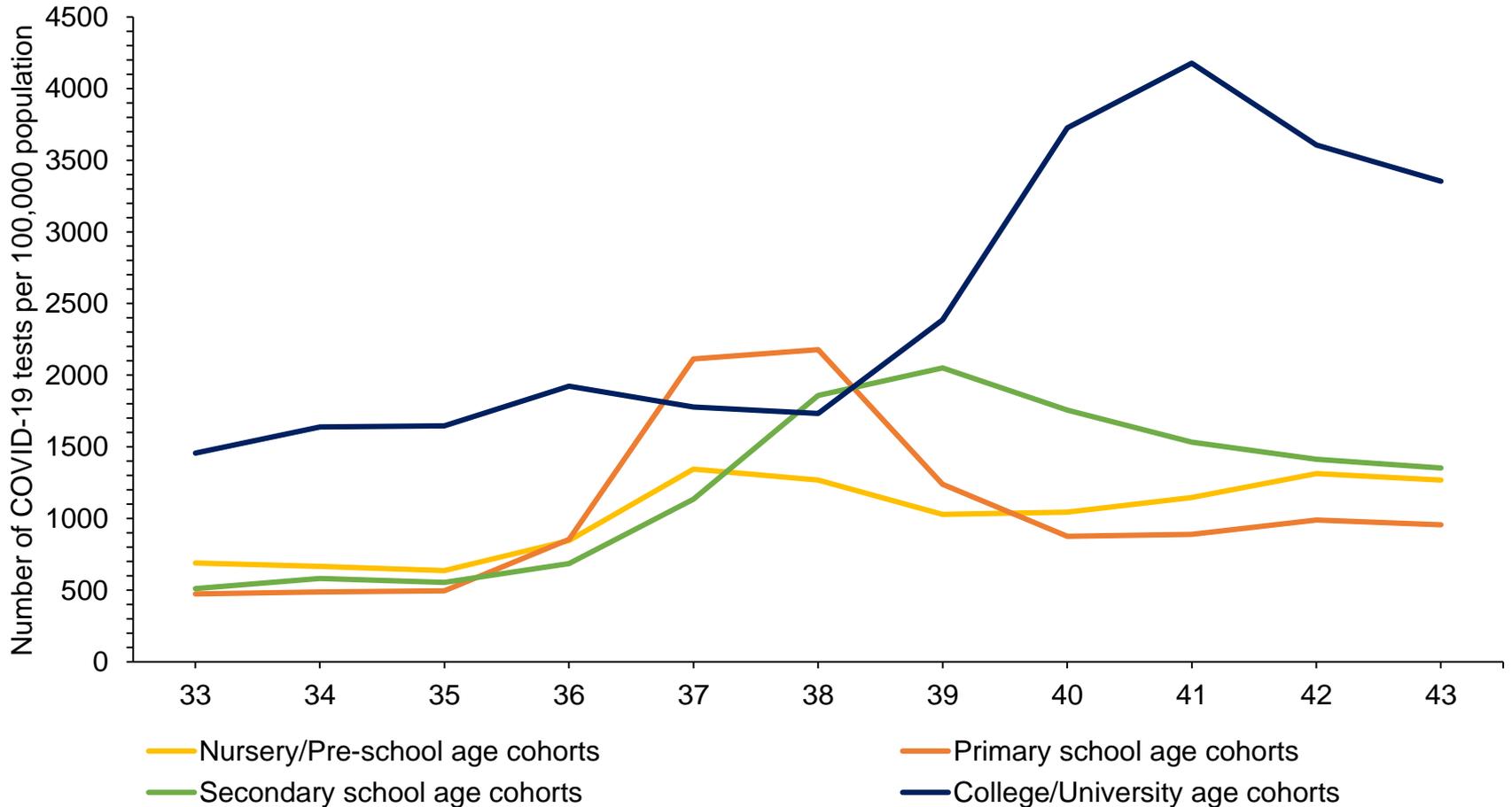
Primary care surveillance

Overall SARS-CoV-2 positivity (%) (weekly) by PHE Region, England (RCGP)

For the most recent week, more sapmles are expected to be tested therefore the graph should be interpreted with caution.
Positivity (%) is not calculated when the total number tested is less than 10

29 October 2020

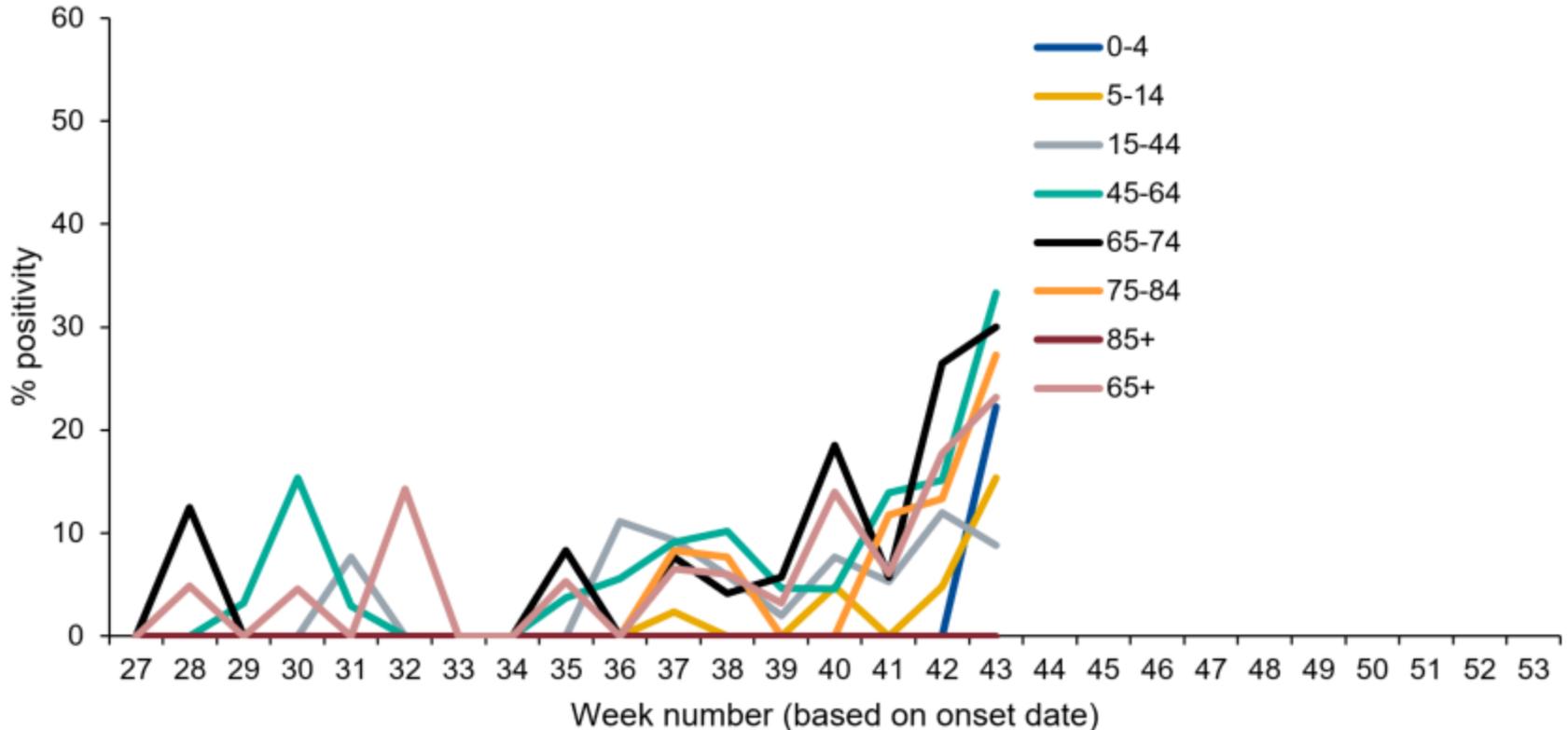Overall SARS-CoV-2 positivity (%) (weekly) by age group, England (RCGP)

For the most recent week, more sapmles are expected to be tested therefore the graph should be interpreted with caution.
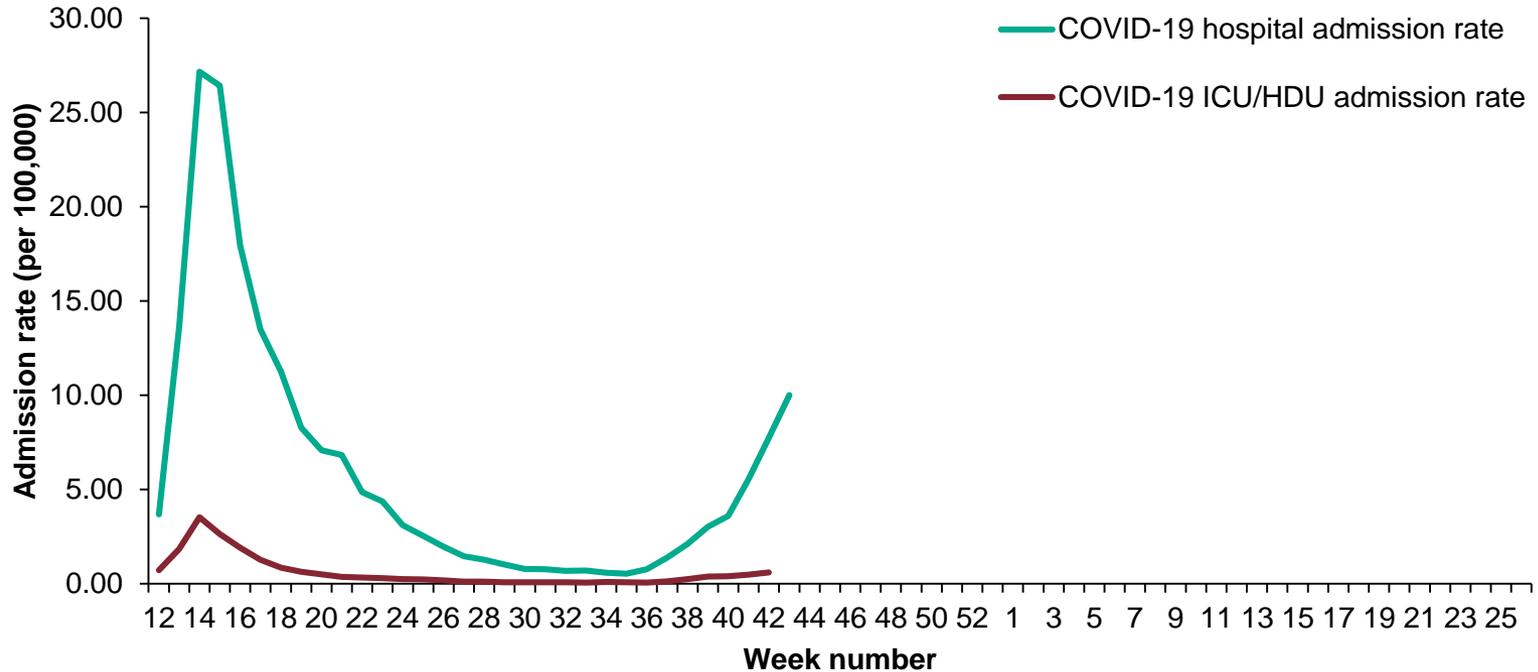Positivity (%) is not calculated when the total number tested is less than 10
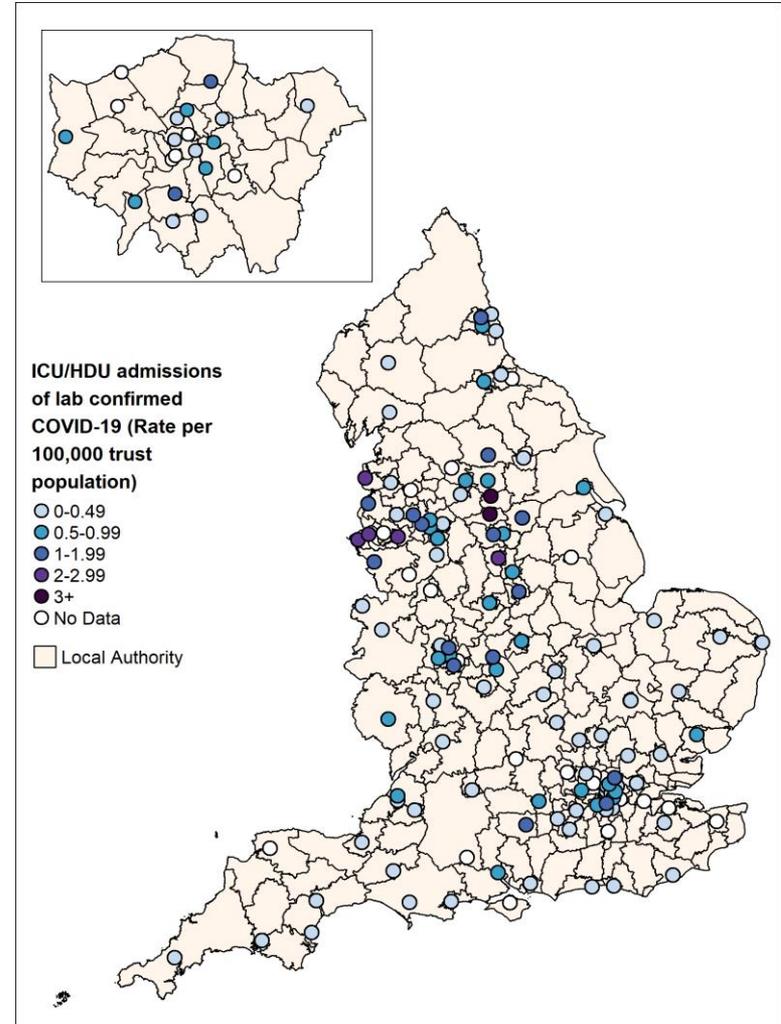
29 October 2020

Secondary Care surveillance

Weekly overall hospital and ICU/HDU admission rates per 100,000 of new COVID-19 positive cases reported through SARI Watch, England since week 12

Weekly admission rates for hospital and ICU/HDU laboratory confirmed COVID-19 cases reported through SARI Watch, week 43

Hospital admissions of lab confirmed COVID-19 (Rate per 100,000 trust population)
- ○ 0-0.99
- 1-4.99
- 5-9.99
- 10-14.99
- 15-19.99
- 20+
- ○ No Data

□ Local Authority

ICU/HDU admissions of lab confirmed COVID-19 (Rate per 100,000 trust population)
- ○ 0-0.49
- 0.5-0.99
- 1-1.99
- 2-2.99
- 3+
- ○ No Data

□ Local Authority
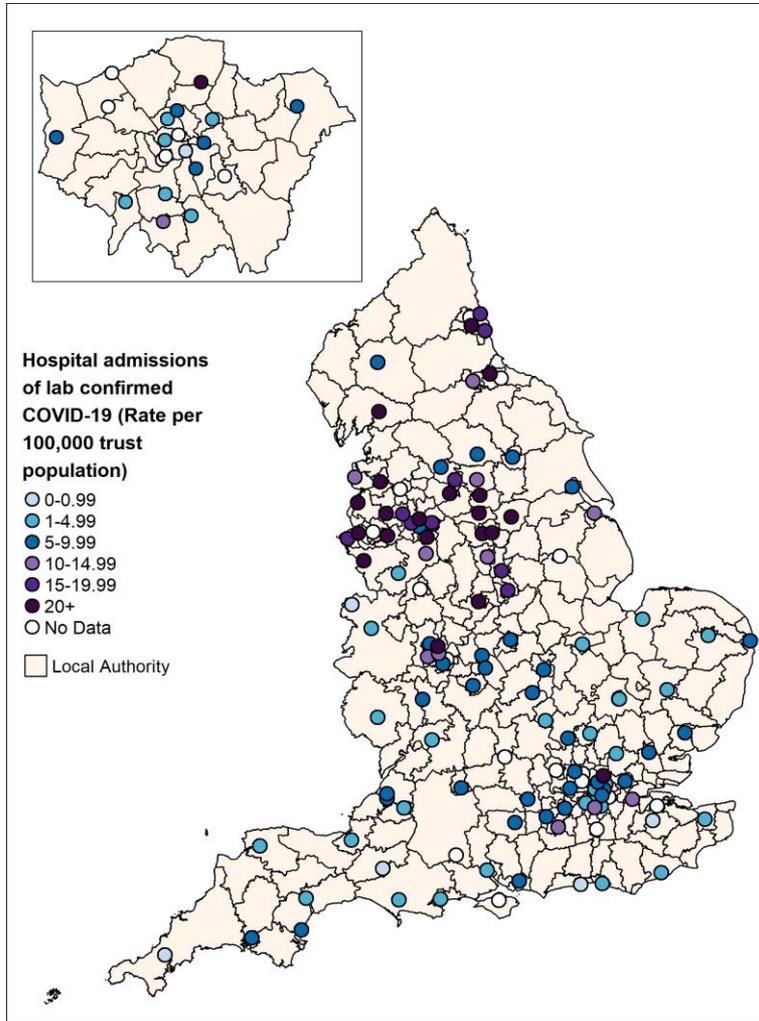
Age/sex pyramid of new (a) hospital (lower level of care) (n=19,437) and (b) ICU/HDU (n=8,324) COVID-19 cases reported through SARI Watch, England
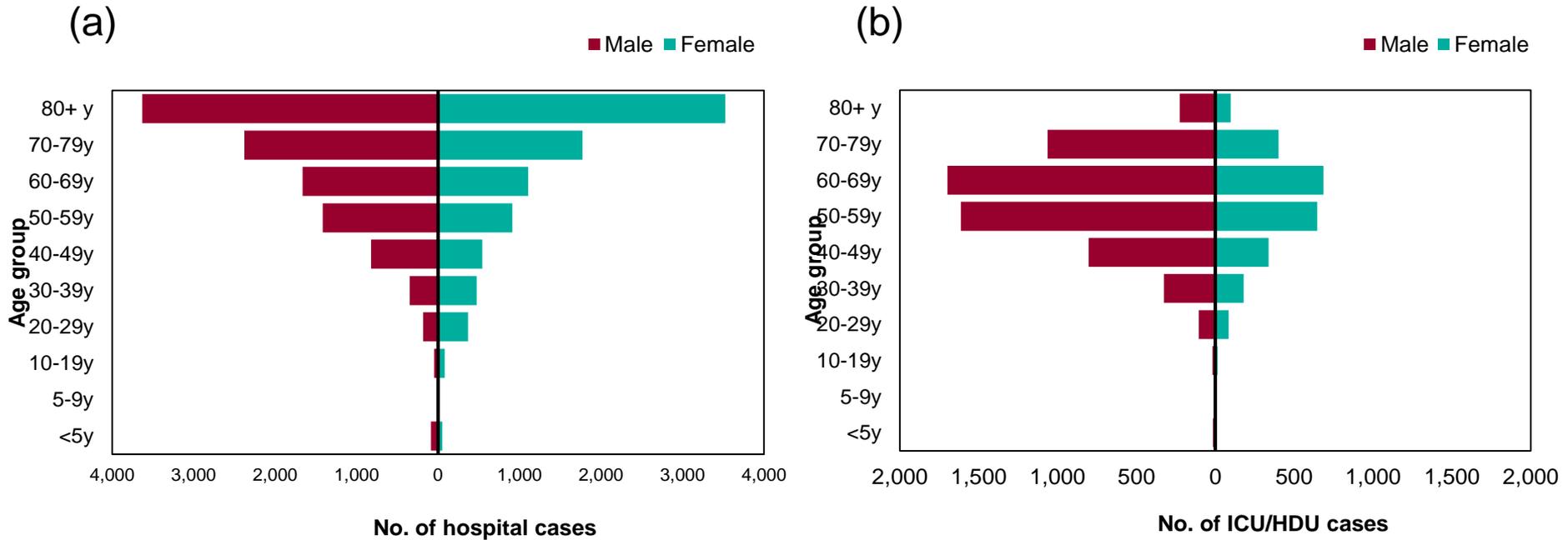
This figure is based on individual patient level data which are provided to SARI Watch from a subset of NHS Acute Trusts, therefore the data should be interpreted with caution as the distribution of age, sex and ethnic group may not be representative of all hospitalised patients.

29 October 2020

Ethnic group of new hospitalisations (lower level of care) (n=18,717) and ICU/HDU (n=7,687) COVID-19 cases reported through SARI Watch, England
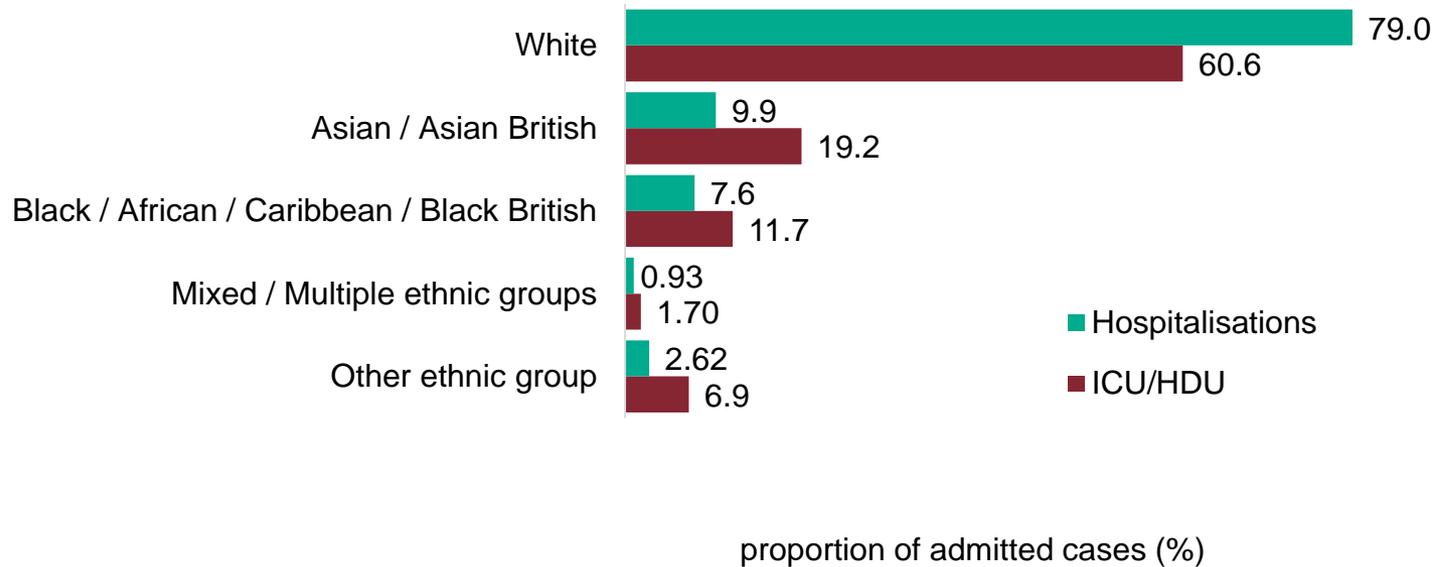
This figure is based on individual patient level data which are provided to SARI Watch from a subset of NHS Acute Trusts, therefore the data should be interpreted with caution as the distribution of age, sex and ethnic group may not be representative of all hospitalised patients.
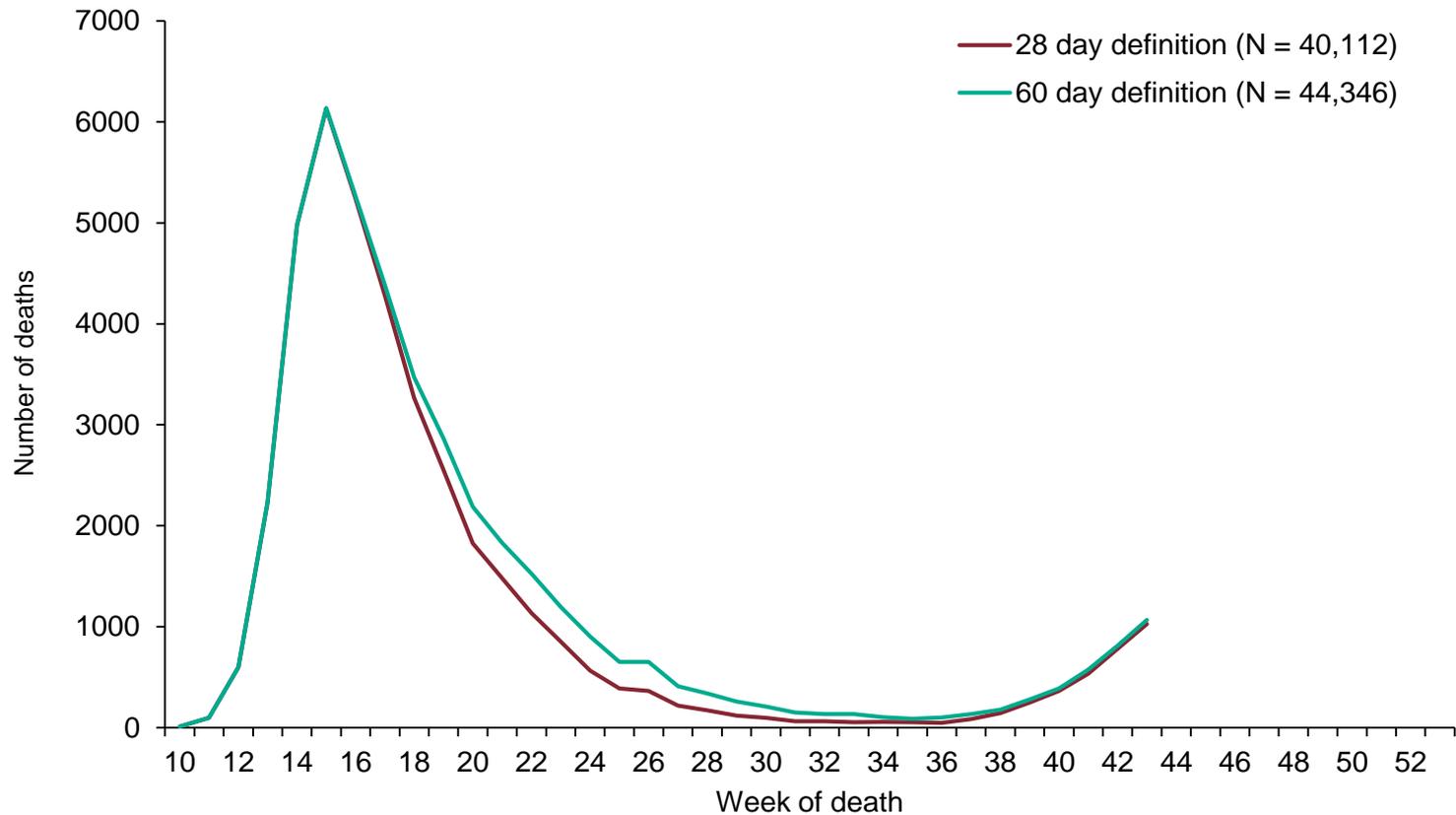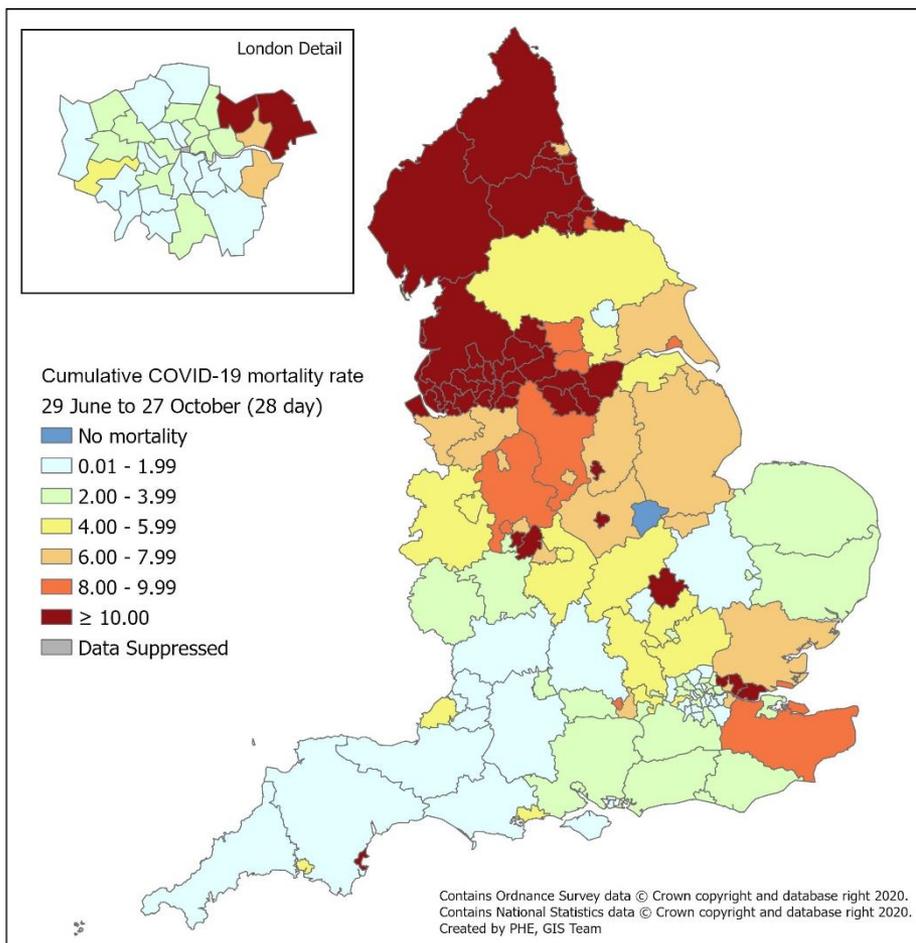
Mortality surveillance

Number of deaths since week 10 by week of death and time since laboratory confirmation of COVID-19, England
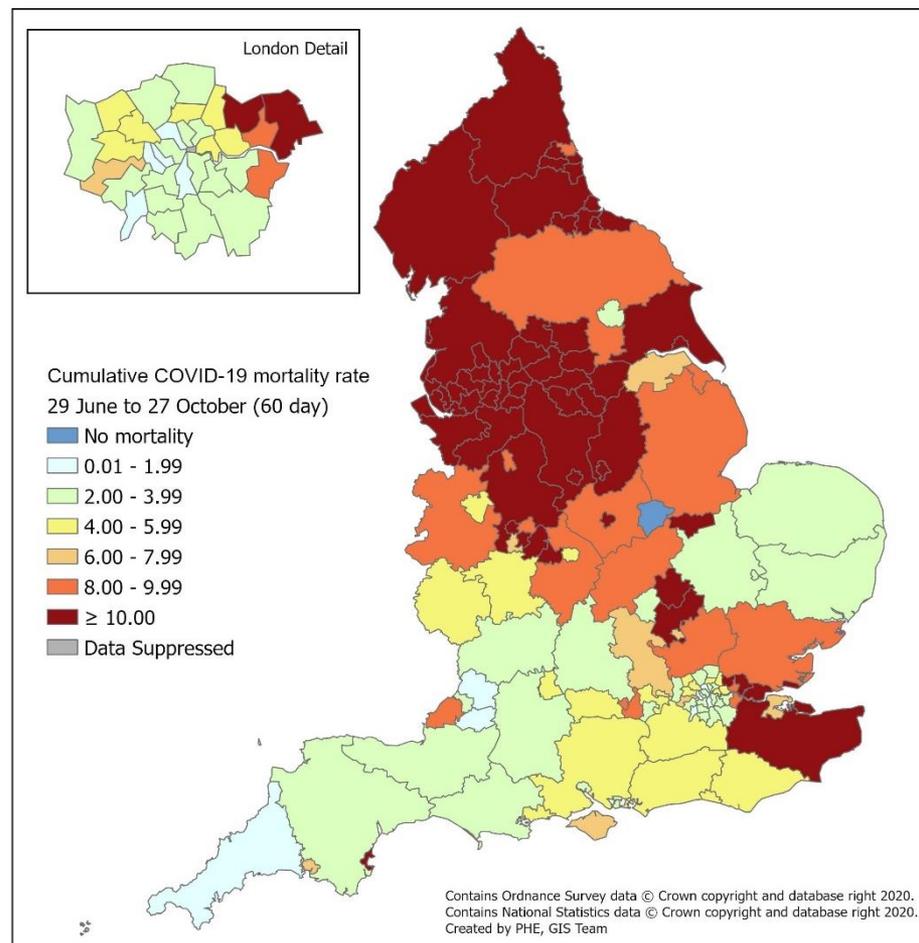

29 October 2020

Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2 since week 27 by (a) 28 day definition and (b) 60 day definition

Public Health England

(a)

Cumulative COVID-19 mortality rate
29 June to 27 October (28 day)

- No mortality
- 0.01 - 1.99
- 2.00 - 3.99
- 4.00 - 5.99
- 6.00 - 7.99
- 8.00 - 9.99
- ≥ 10.00
- Data Suppressed

London Detail

Contains Ordnance Survey data © Crown copyright and database right 2020.
Contains National Statistics data © Crown copyright and database right 2020.
Created by PHE, GIS Team

(b)

Cumulative COVID-19 mortality rate
29 June to 27 October (60 day)

- No mortality
- 0.01 - 1.99
- 2.00 - 3.99
- 4.00 - 5.99
- 6.00 - 7.99
- 8.00 - 9.99
- ≥ 10.00
- Data Suppressed

London Detail

Contains Ordnance Survey data © Crown copyright and database right 2020.
Contains National Statistics data © Crown copyright and database right 2020.
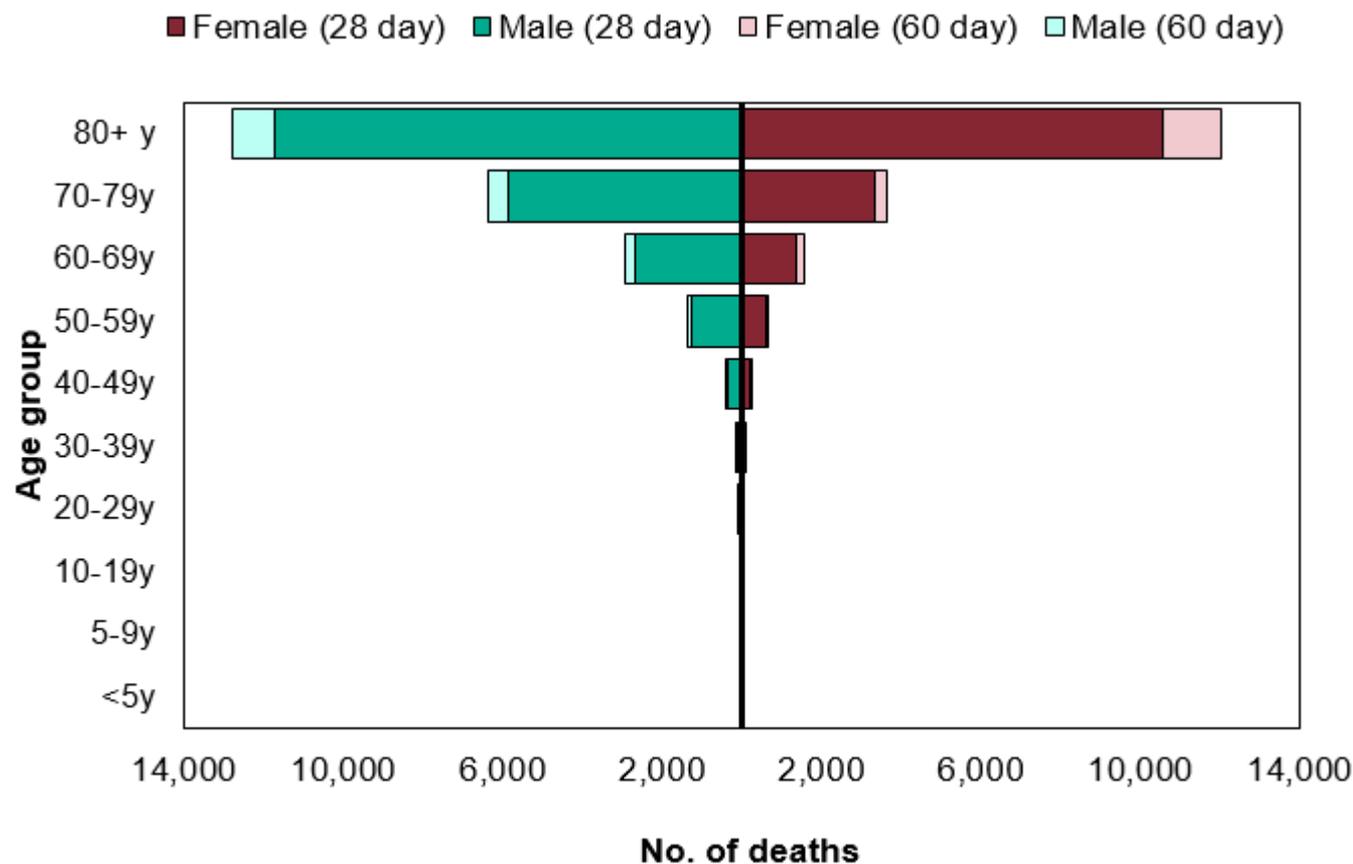Created by PHE, GIS Team

From this report onwards, rates have been calculated using mid-2019 ONS population estimates

29 October 2020

Age/sex pyramid of laboratory confirmed COVID-19 cases, cumulative data up to 13th October 2020

Median age at death (28 day): 82 years
Median age at death (60 days) 82 years

COVID-19 sero-prevalence surveillance

Sero-prevalence estimates in adults aged 65 years and older (RCGP & SEU)

| Time period	EuroImmun					Abbott			
	Positive	Ind	Negative	Total	Population weighted % positive (95% CI)	Positive	Negative	Total	Population weighted % positive (95% CI)
Royal College of General Practioners' Research and Surveillance Centre (RCGP-RSC)									
1 May - 30 June	122	20	4260	4402	3.4% (2.8% - 4.2%)	152	4282	4434	3.9% (3.2% - 4.7%)
1 July - 29 Sept	115	21	3566	3702	3.4% (2.7% - 4.2%)	140	3579	3719	4.2% (3.5% - 5.1%)
PHE Seroepidemiology Unit (SEU)									
1 May - 30 June	-	-	-	-	-	40	396	436	9.4% (6.5% - 13.4%)
1 July - 23 Sept	29	2	421	452	4.9% (3.1% - 7.7%)	37	431	468	6.3% (4.2% - 9.2%)

Prevalence was estimated from 8153 samples from patients aged between 65 and 100 years old, who had a routine blood test via the Royal College of General Practioners' Research and Surveillance Centre (RCGP-RSC) network during the period 1st May – 29th September and for 904 residual samples from patients aged between 65 and 100 years old from the PHE Seroepidemiology Unit (SEU) collection using the Abbott and EuroImmun assays. For the Abbott assay % pos is given as % positive or indeterminate/equivocal, with an indeterminate assay cut-off of 0.8.

Population seropositivity estimates for those aged 65 years and older from the RCGP collection were 3.9% (95% CI 3.2%-4.7%) in May/June and 4.2% (95% CI 3.5%-5.1%) for samples collected from July-September. Estimates were slightly lower using the less sensitive EuroImmun assay, suggesting that seroprevalence has remained fairly stable since May. These estimates are similar to the seroprevalence estimated from the oldest blood donors during the same period.

Seropositivity was higher for samples tested from the SEU collection at 9.4% (95% CI 6.5%-13.4%) in May/June and have fallen slightly to 6.3% (95% CI 4.2%-9.2%) in July – September. The higher prevalence observed in the SEU collection may be due to more exposure in this set of patients (possibly through attending hospitals), although sample sizes are smaller and confidence limits overlap for the more recent collections.

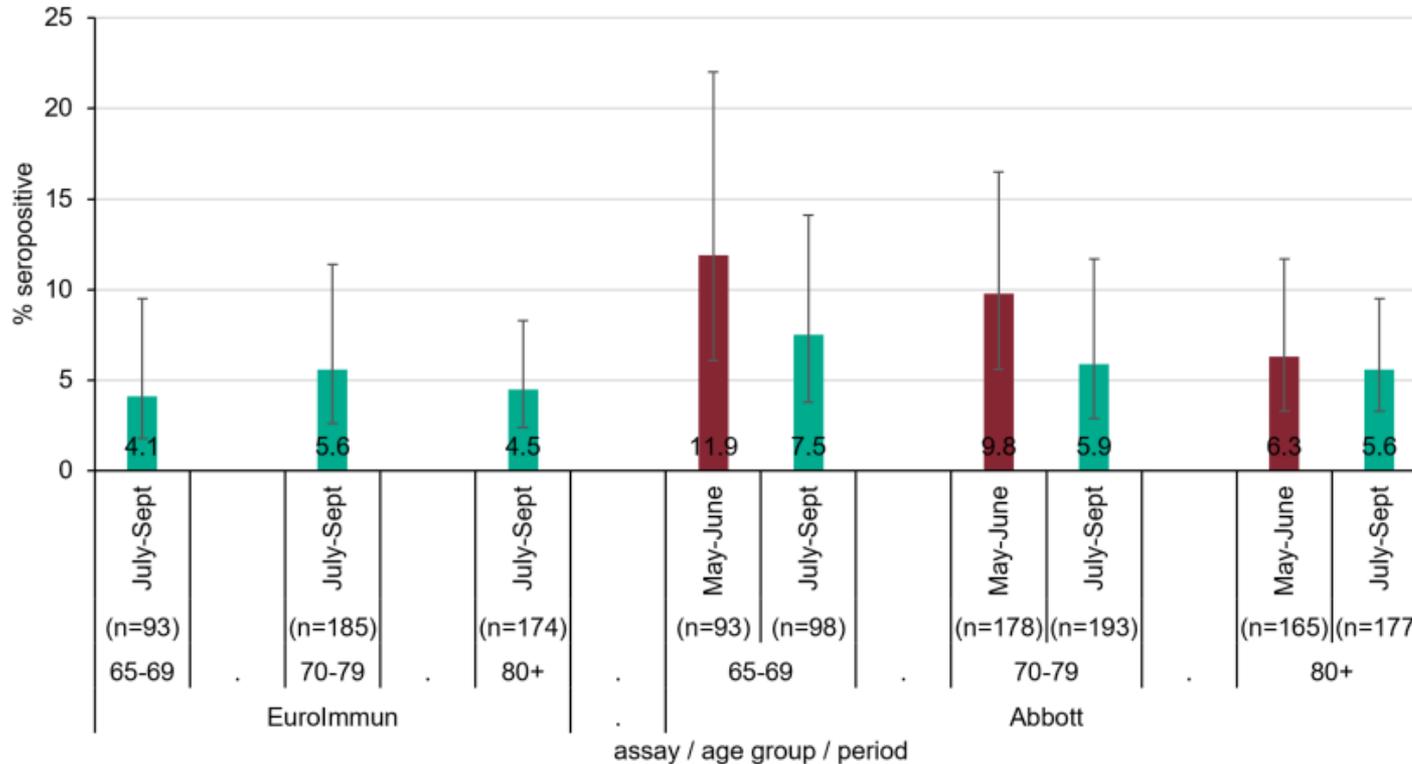# Sero-prevalence estimates by age group in the over 65 years, RCGP
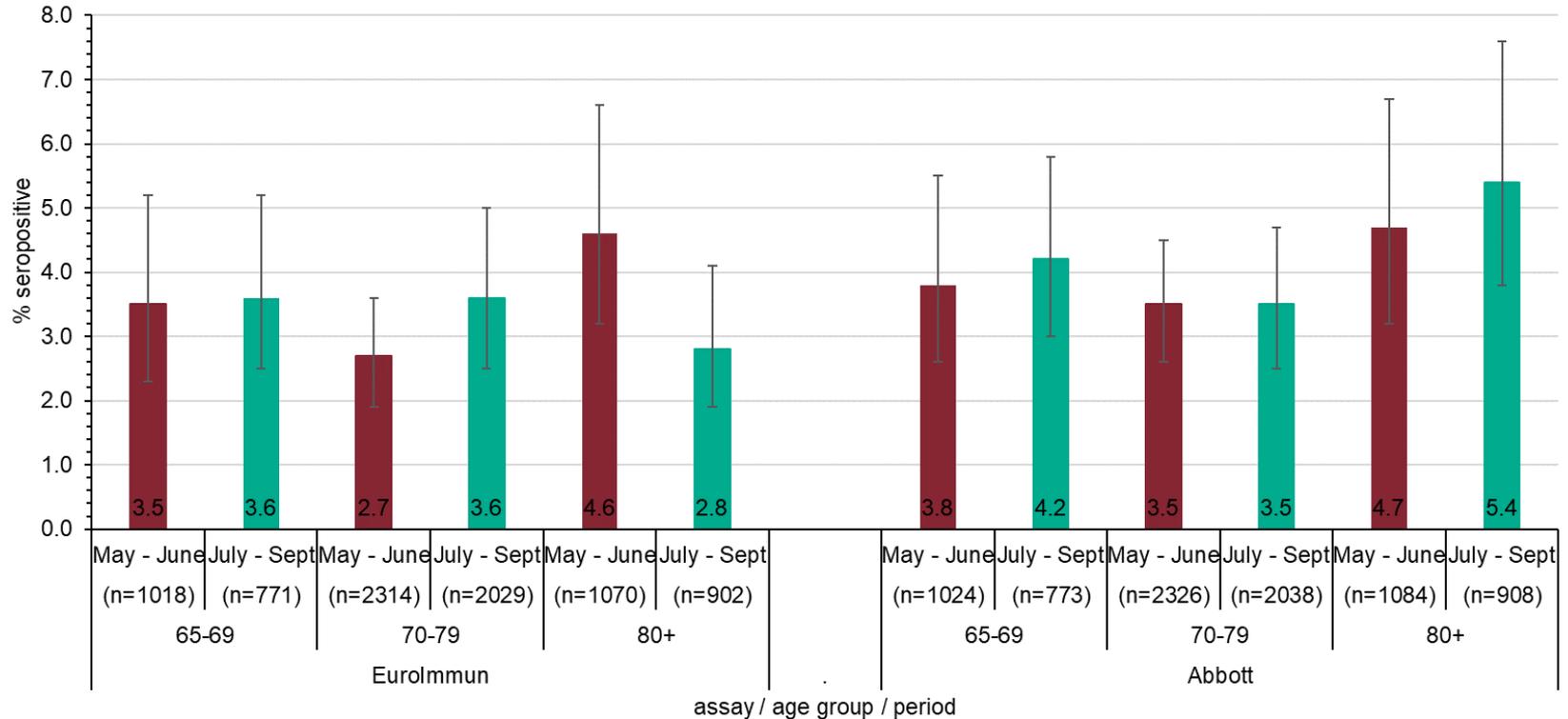
The graph above represents population weighted SARS-CoV-2 antibody seropositivity by age group in the over 65 year old RCGP collection, 1st May – 30th June and 1st July – 29th September using the EuroImmun and Abbott assays.

When stratified by age, there was a higher positivity in the RCGP collection in individuals over 80 years, at least in May-June, which could be due to the inclusion of care home residents in this collection. Sero-positivity was higher in the 80+ age group in July-September in comparison to the earlier period, although confidence limits were overlapping, and this was only seen using the Abbott assay. Previous work comparing the two assays has shown that recent seroconversion is perhaps detected earlier with the Abbott than EuroImmun assay.

Sero-prevalence estimates by age group in the over 65 years, SEU

The graph above represents population weighted SARS-CoV-2 antibody seropositivity by age group in the over 65 year old SEU collection, 1st May – 30th June and 1st July – 23rd September using the Abbott and EuroImmun assays.

In the SEU collection, seropositivity declined with age, and was lowest in the over 80-year olds, particularly in May/June. Estimated seroprevalence is lower in July-September, which may again reflect increased exposures in hospitals during the first epidemic peak.