



Weekly Influenza and COVID-19 Surveillance graphs

PHE publishes a weekly national influenza and COVID-19 surveillance report which summarises 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.

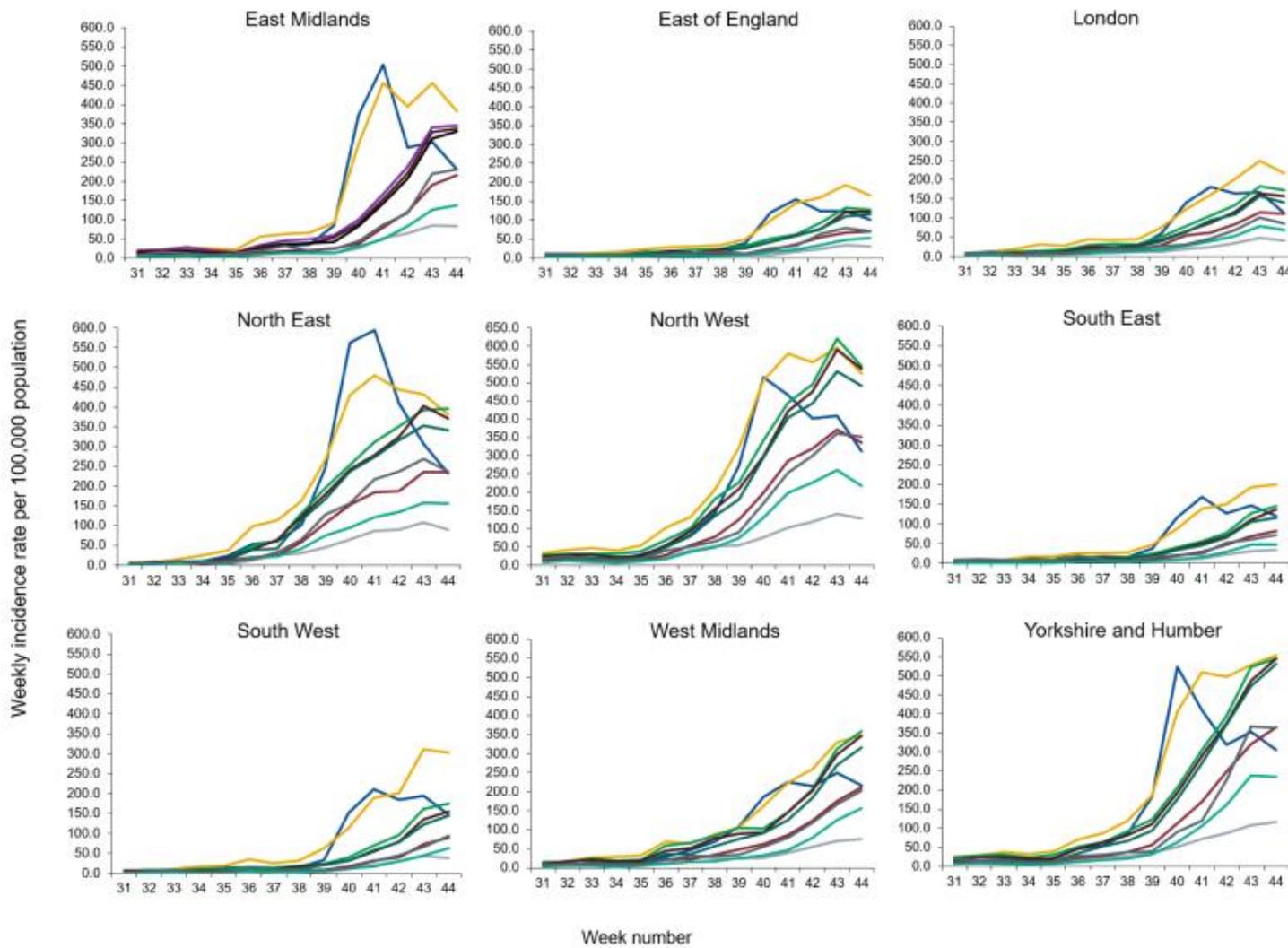
The figures presented in this slide set are based on data from week 44 (between 26 October 2020 and 1 November 2020).



Confirmed COVID-19 cases in England



Weekly COVID-19 incidence per 100,000 population by age group and region, weeks 31-44



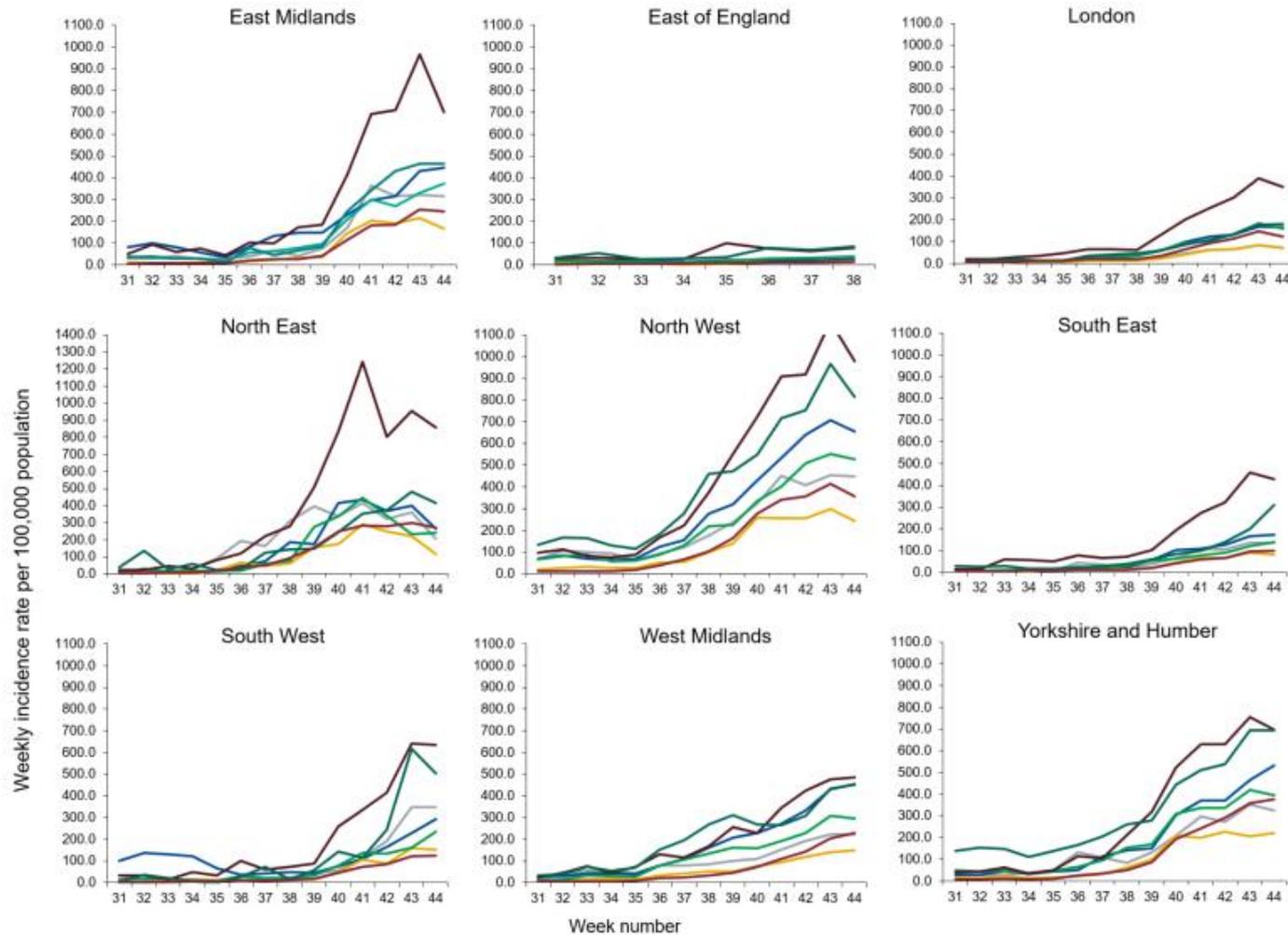
- 0-9
- 10-19
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80+

*Rates have been
calculated using mid-2019
ONS population estimates*

[Return to main menu](#)



Weekly COVID-19 incidence per 100,000 population by ethnicity and region, weeks 31-44

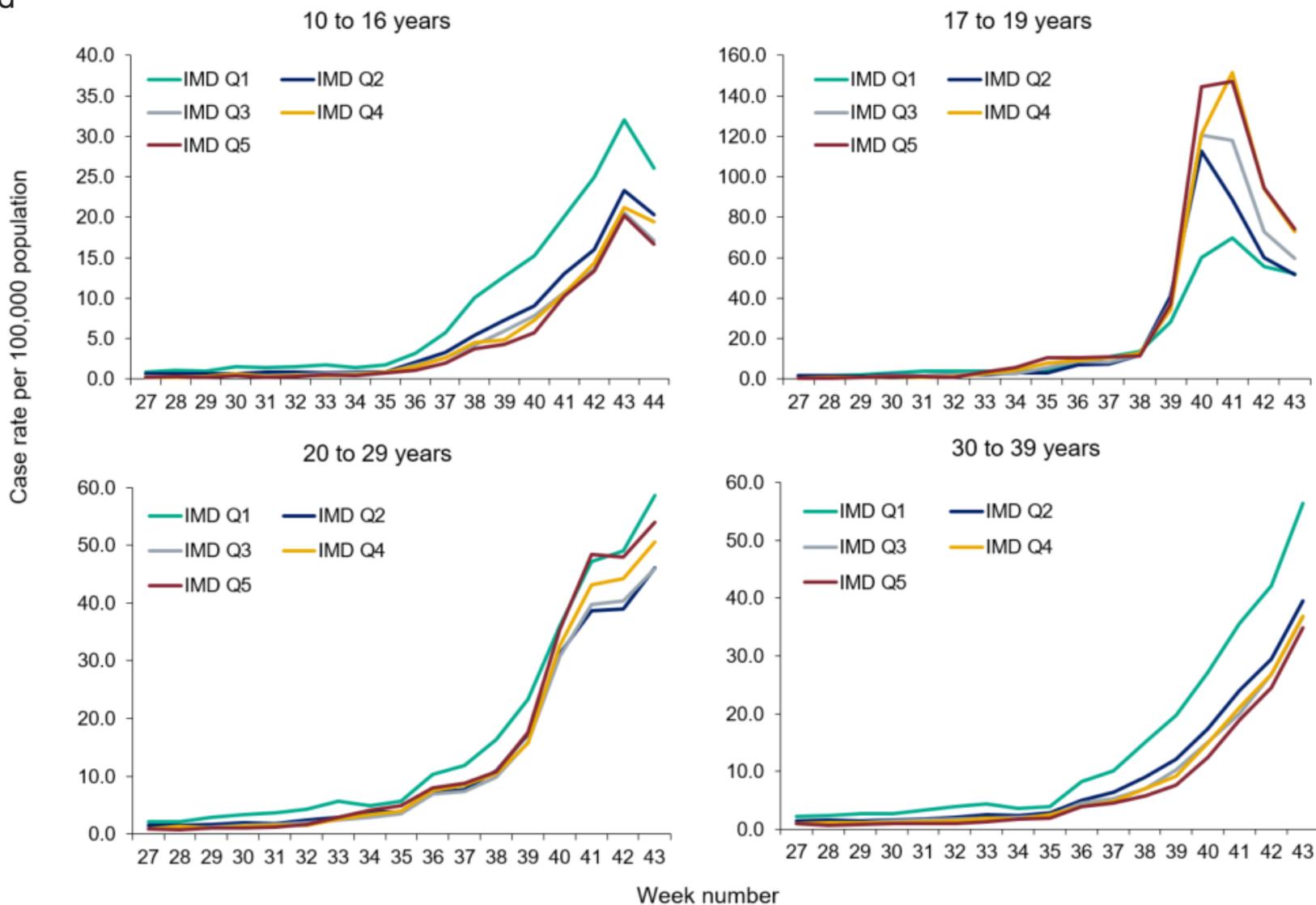


- Black/African/Caribbean/Black British
- Indian (Asian or British)
- Mixed/Multiple Ethnic Groups
- Other Asian/Asian British
- Other ethnic group
- Pakistani (Asian or British)
- White

**Rates have been calculated using mid-2018 ONS population estimates*

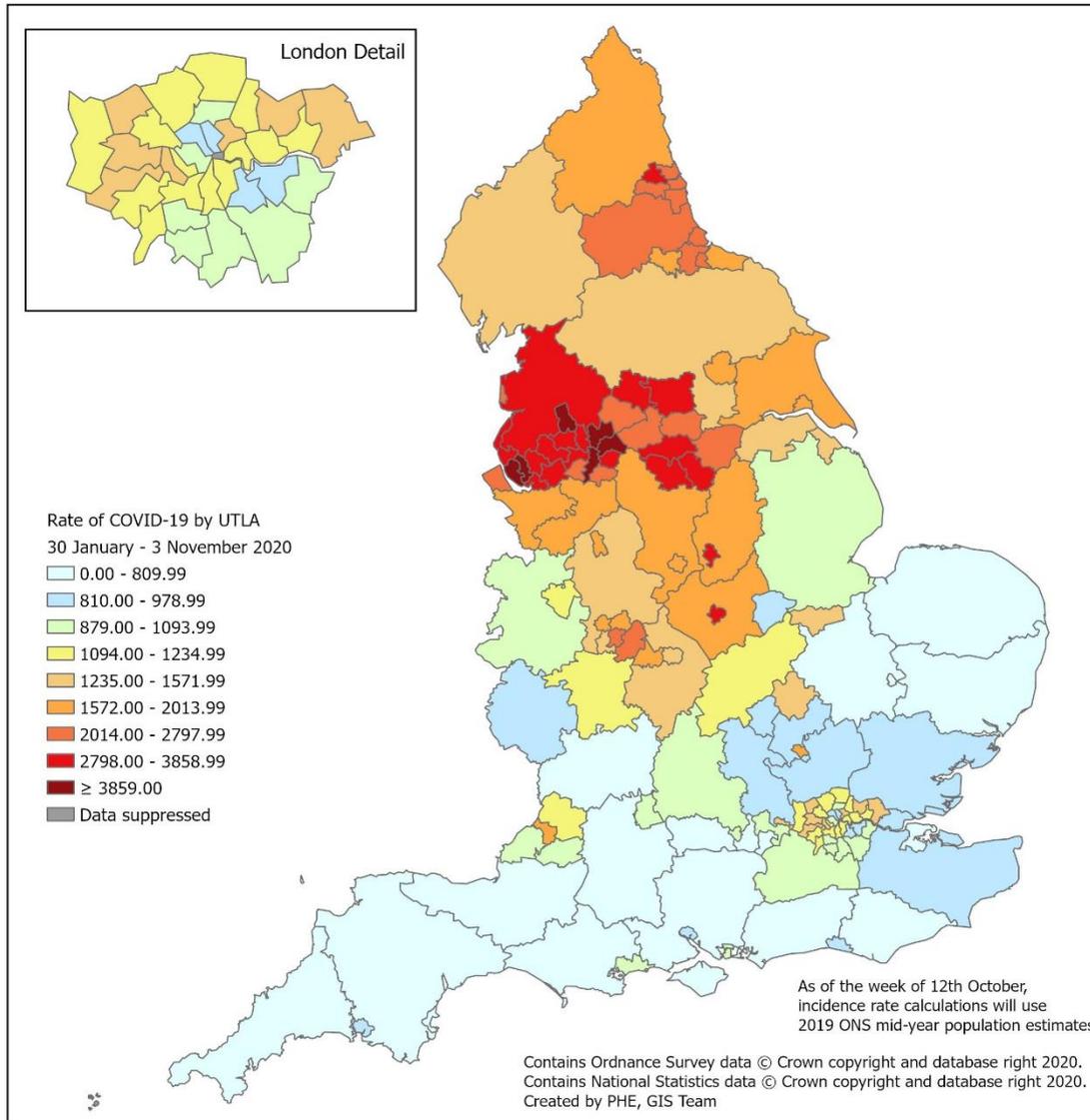


Weekly COVID-19 rate per 100,000 population by IMD quintile (1 being the most deprived and 5 being the least deprived), weeks 27-44





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)

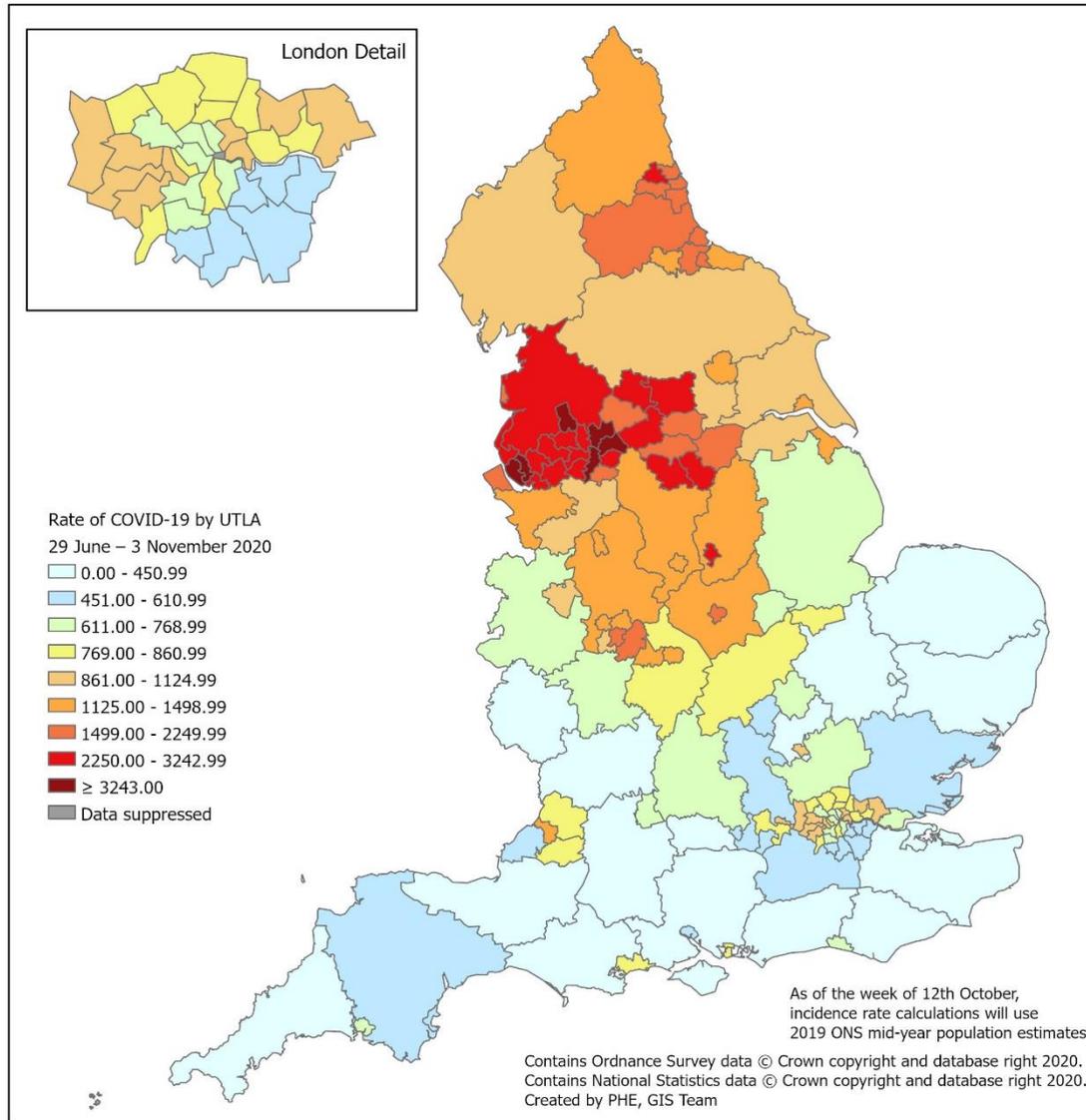


From this report onwards, rates have been calculated using mid-2019 ONS population estimates

[Return to main menu](#)



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)



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

[Return to main menu](#)

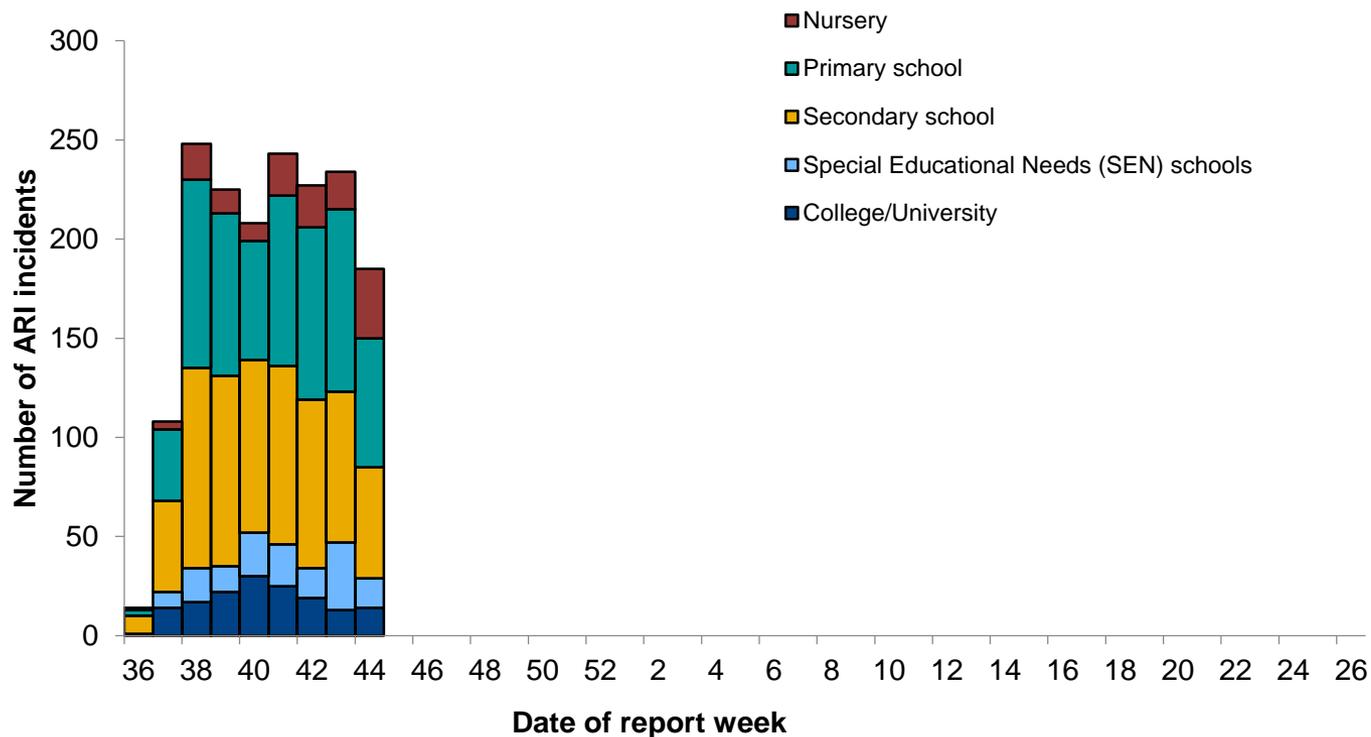


Public Health
England

Community surveillance



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





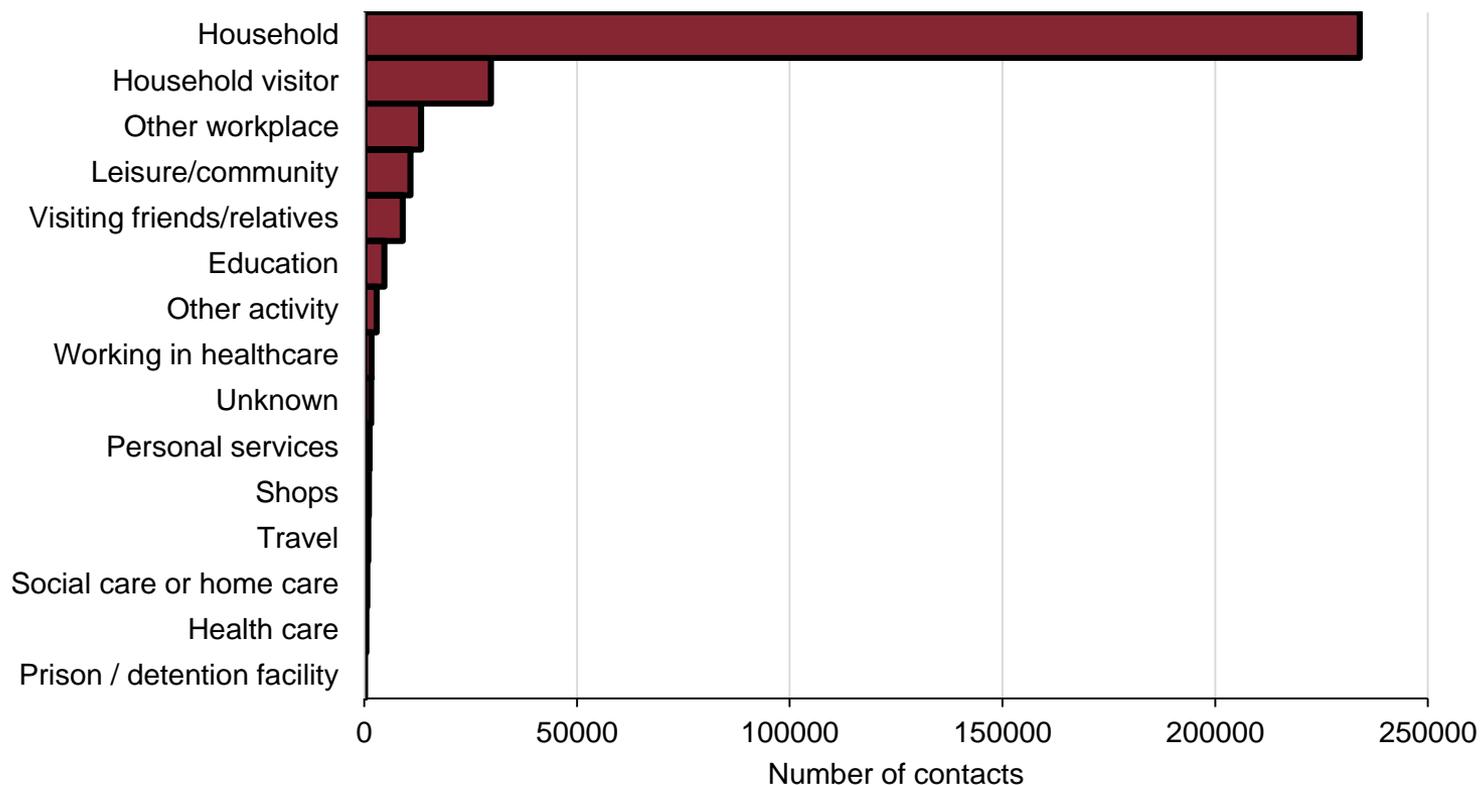
Cumulative number of confirmed COVID-19 clusters or outbreaks by type of educational setting and PHE Centre since week 36, England

PHE Centres	Nursery	Primary school	Secondary school	Special Educational Needs (SEN) schools	College/University	Total
East of England	4 (1)	12 (0)	27 (2)	6 (0)	11 (0)	60 (3)
East Midlands	17 (5)	76 (17)	59 (7)	12 (0)	18 (1)	182 (30)
London	19 (6)	114 (12)	143 (10)	22 (1)	32 (3)	330 (32)
North East	1 (0)	16 (1)	19 (0)	7 (0)	5 (0)	48 (1)
North West	15 (0)	57 (0)	74 (0)	29 (1)	9 (0)	186 (1)
South East	28 (12)	67 (16)	93 (21)	17 (5)	18 (7)	221 (61)
South West	13 (5)	36 (6)	45 (4)	1 (2)	19 (1)	124 (15)
West Midlands	21 (1)	139 (11)	115 (10)	16 (5)	21 (0)	312 (27)
Yorkshire and Humber	22 (5)	89 (5)	71 (2)	26 (1)	21 (2)	229 (15)
Total	140 (35)	606 (65)	646 (56)	146 (15)	154 (14)	1692 (185)

*Number of outbreaks for Week 44 in brackets



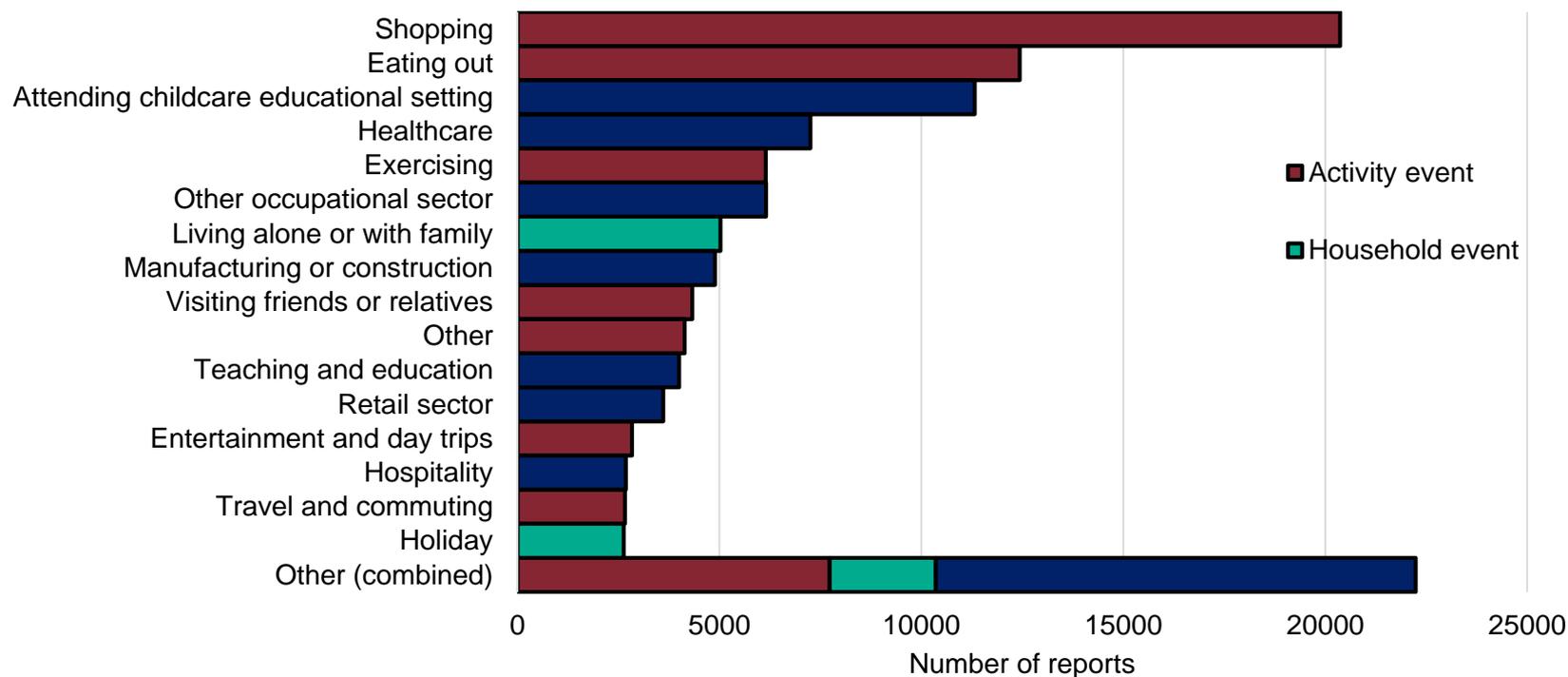
Contacts by exposure/activity setting in week 44, England (Data source: NHS Test and Trace)



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.



Events and activities reported by people testing positive, prior to symptom onset in week 44, 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.



Common locations reported by people testing positive in week 44, England (Data source: NHS Test and Trace)

Of the 98,963 cases in week 44 reported for contact tracing, 24,784 (31%) had a common exposure with at least 1 other case. 7,922 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 attending secondary and primary school.

Setting	Number of common locations reported	Proportion of all common locations reported
Supermarket (visting and working)	1114	14.1%
Pub or bar (visting)	521	6.6%
Secondary school (attending)	520	6.6%
Primary school (attending)	386	4.9%
Food and drink (working)	308	3.9%
Gym (visting)	307	3.9%
Restaurant or cafe (visting)	297	3.7%
Hospital (visting)	282	3.6%
Care home (working)	149	1.9%
Warehouse (working)	141	1.8%
Household fewer than 5 (home/shared)	138	1.7%
Hotel (home/shared)	131	1.7%
University (attending)	119	1.5%
Clothes shopping (visting)	92	1.2%
College (attending)	87	1.1%
Manufacture engineering (working)	86	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 retrospectively 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.



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



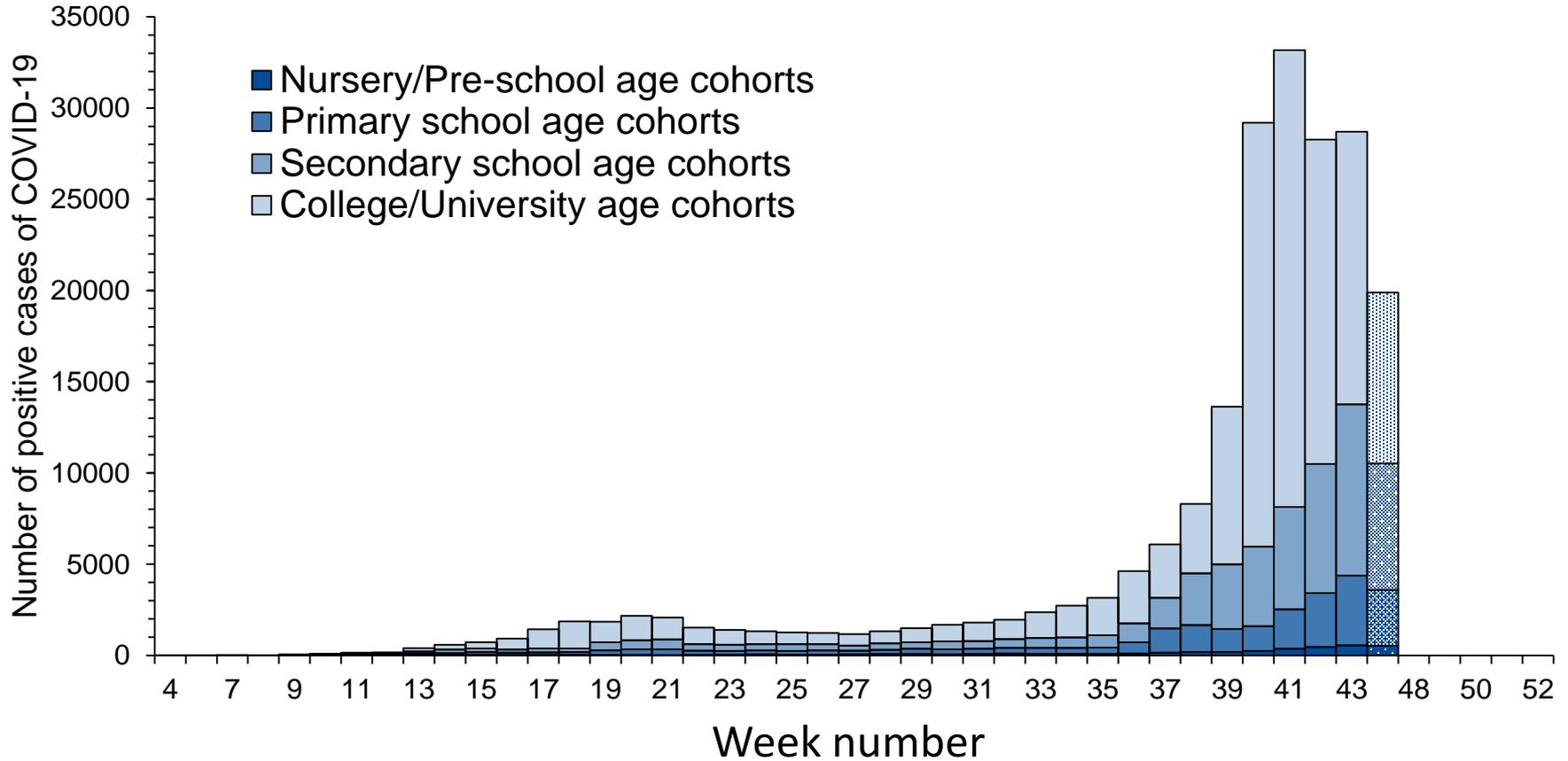
Methodology and limitations - Birth cohort – Year group

- 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

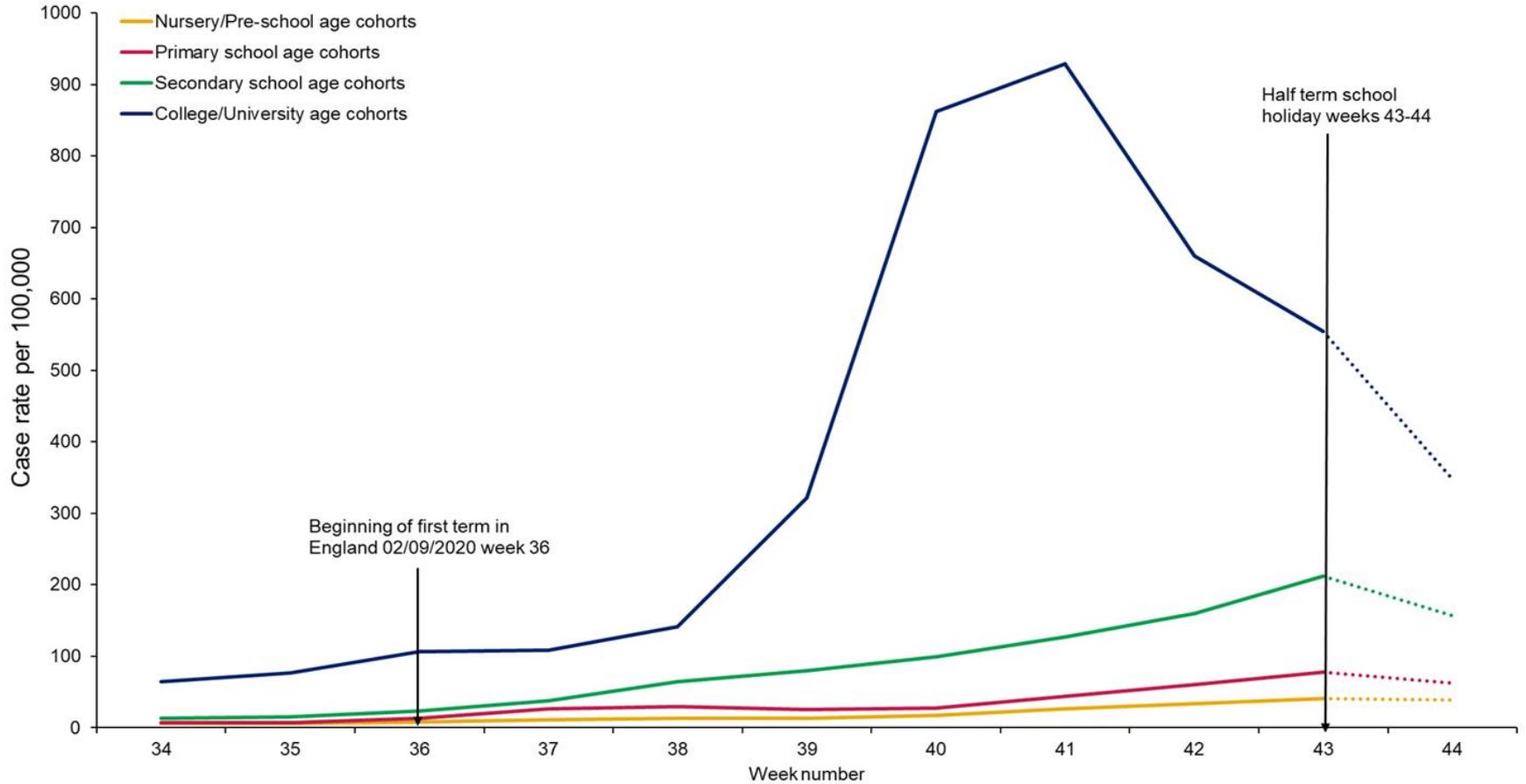


Weekly number of laboratory confirmed COVID-19 cases in nursery/preschool, primary, secondary and college/university age cohorts



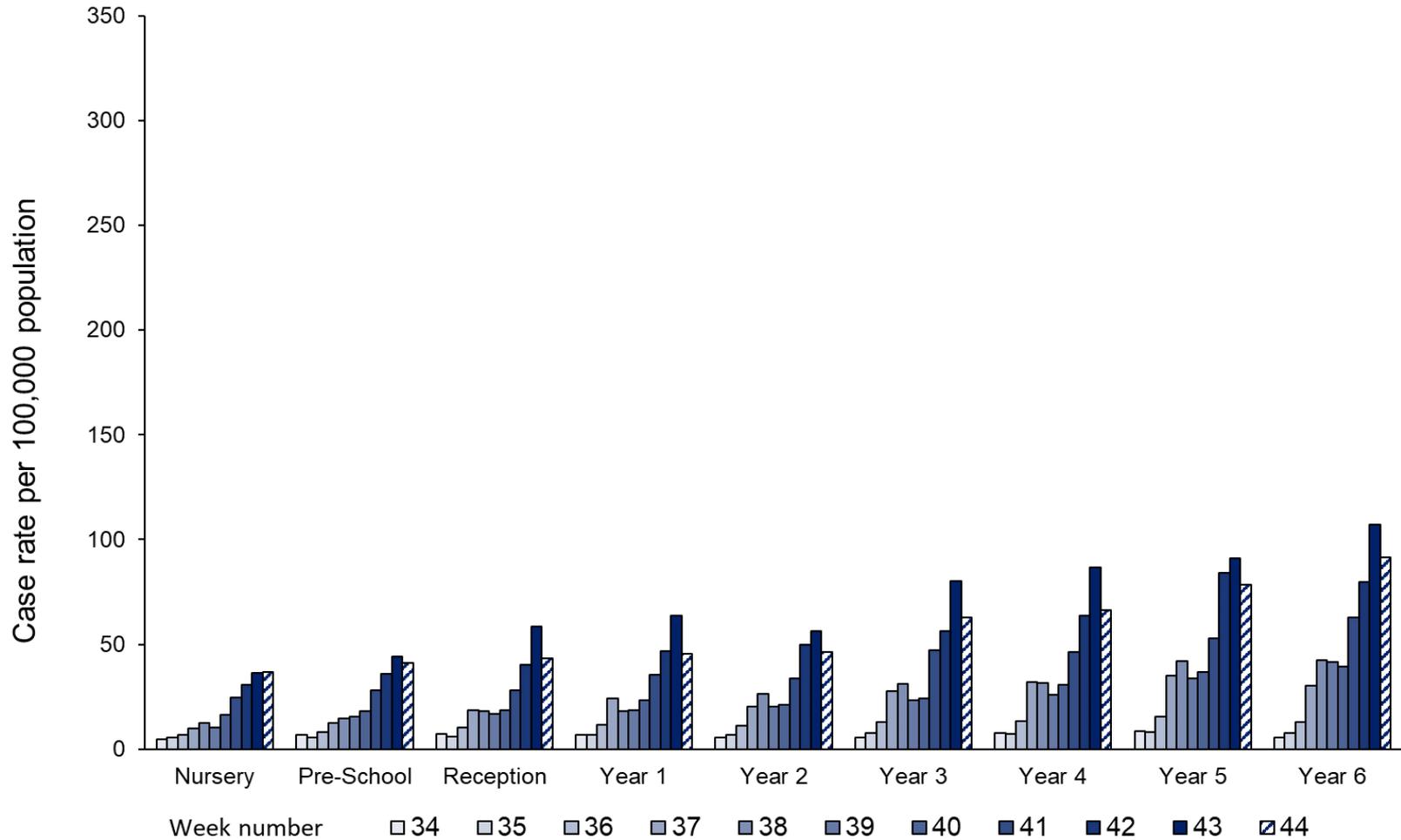


Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in nursery/preschool, primary school, secondary school and college/university age cohorts, week 34 to 44



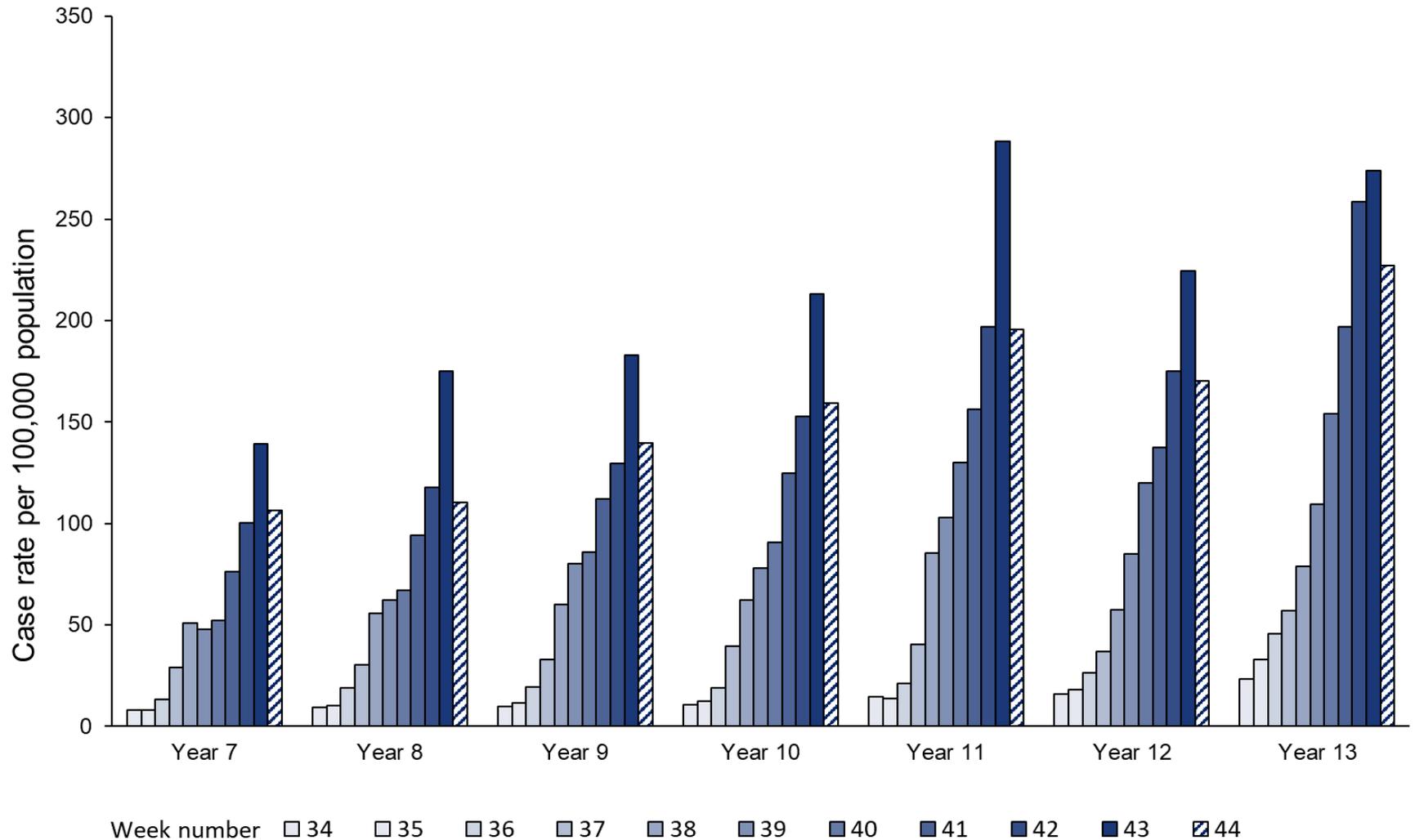


Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts presented by Year group, from nursery to Year 6, week 34 to 44



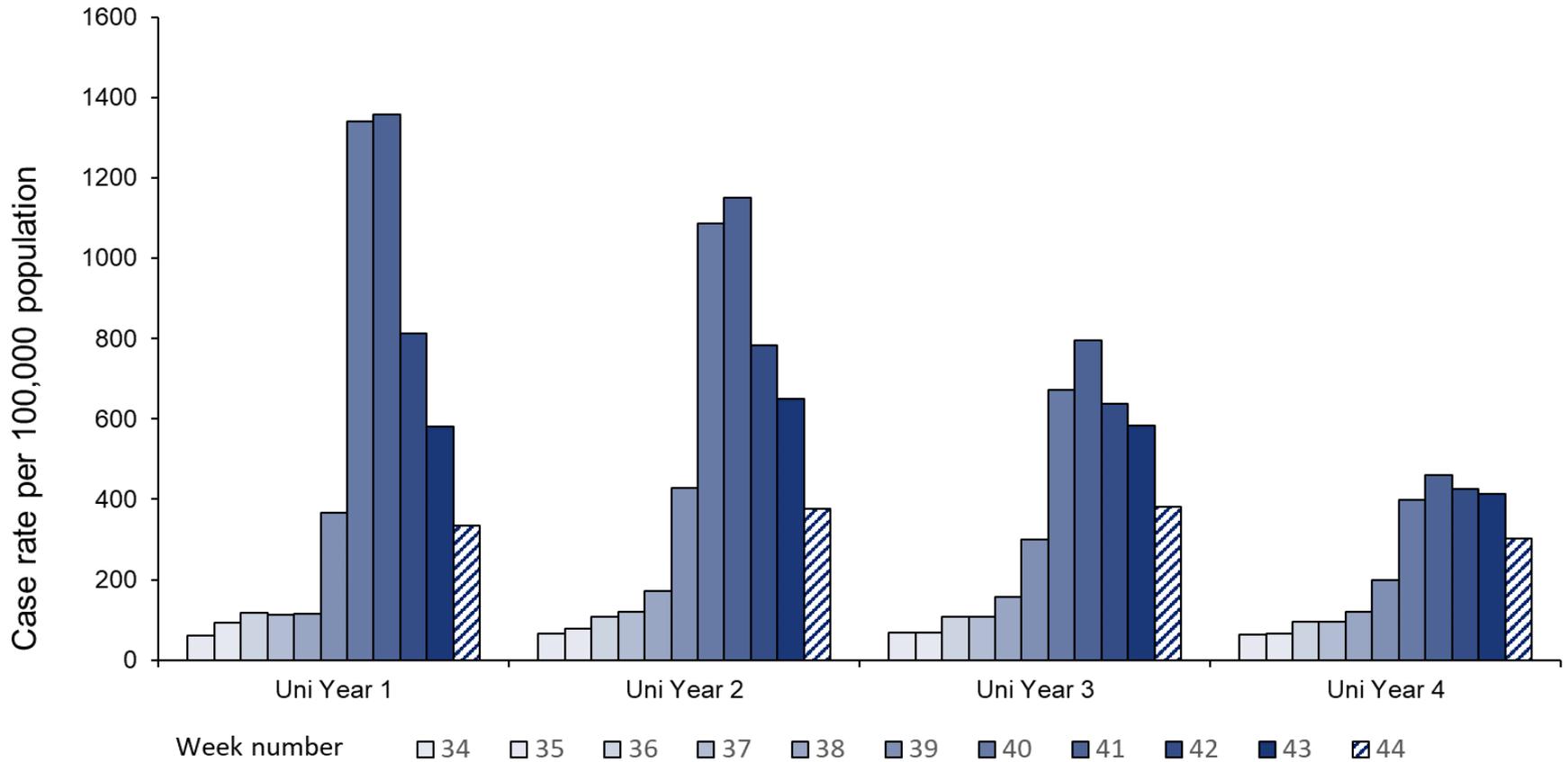


Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age groups presented by secondary school year groups (Year 7 to Year 13), week 34 to 44



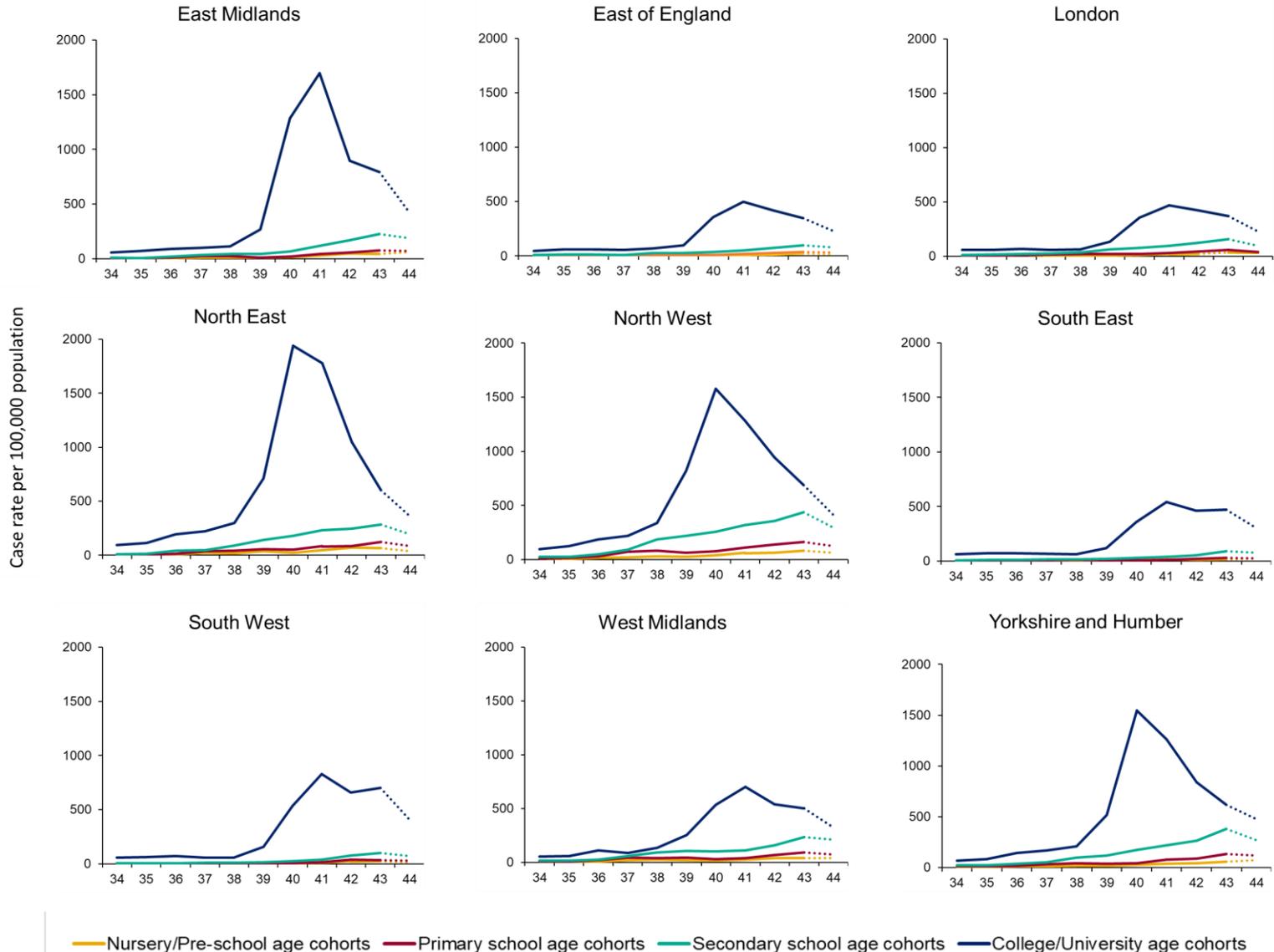


Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts corresponding to university/college year groups, week 34 to 44



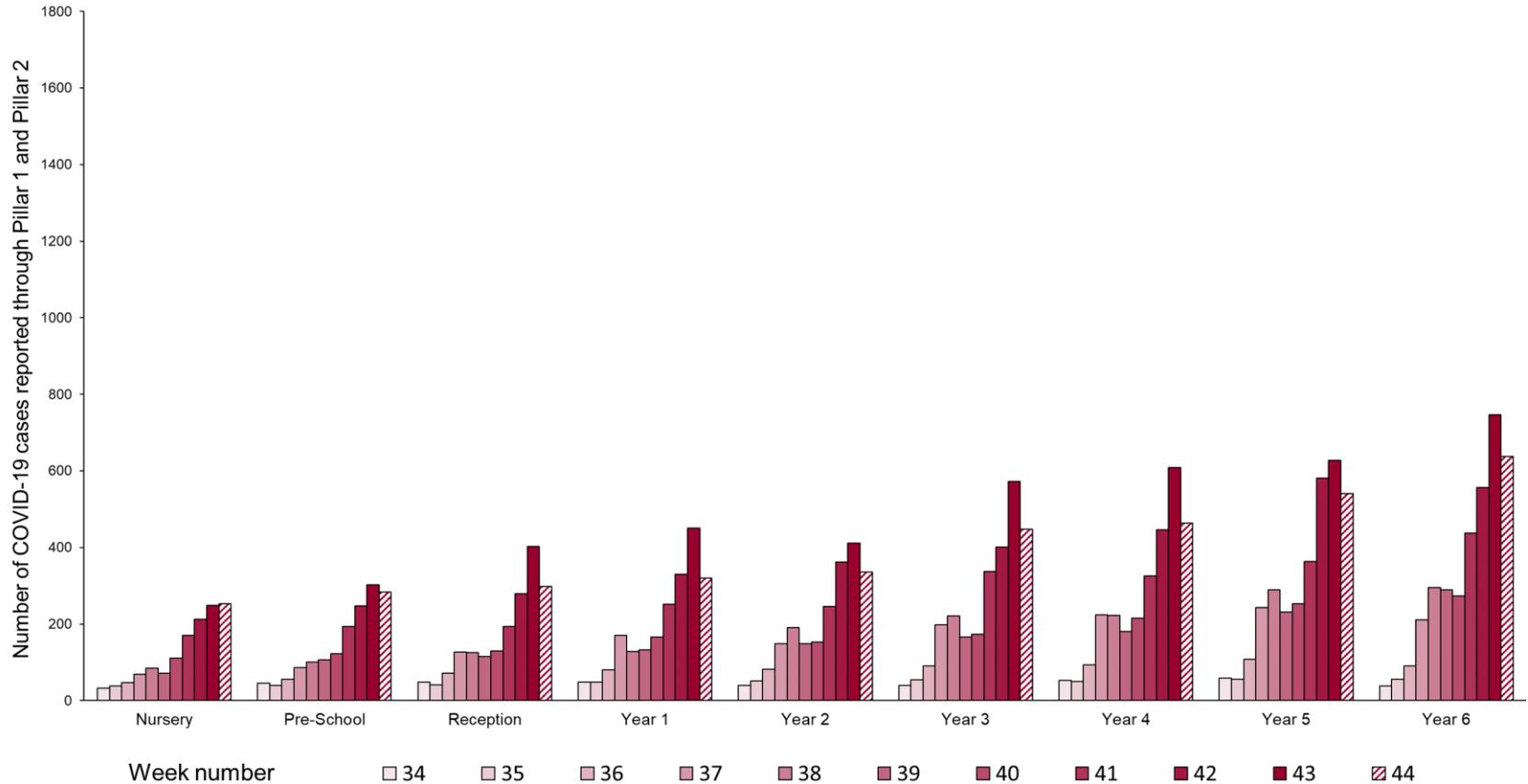


Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population by educational age cohorts and PHE region, week 34 to 44



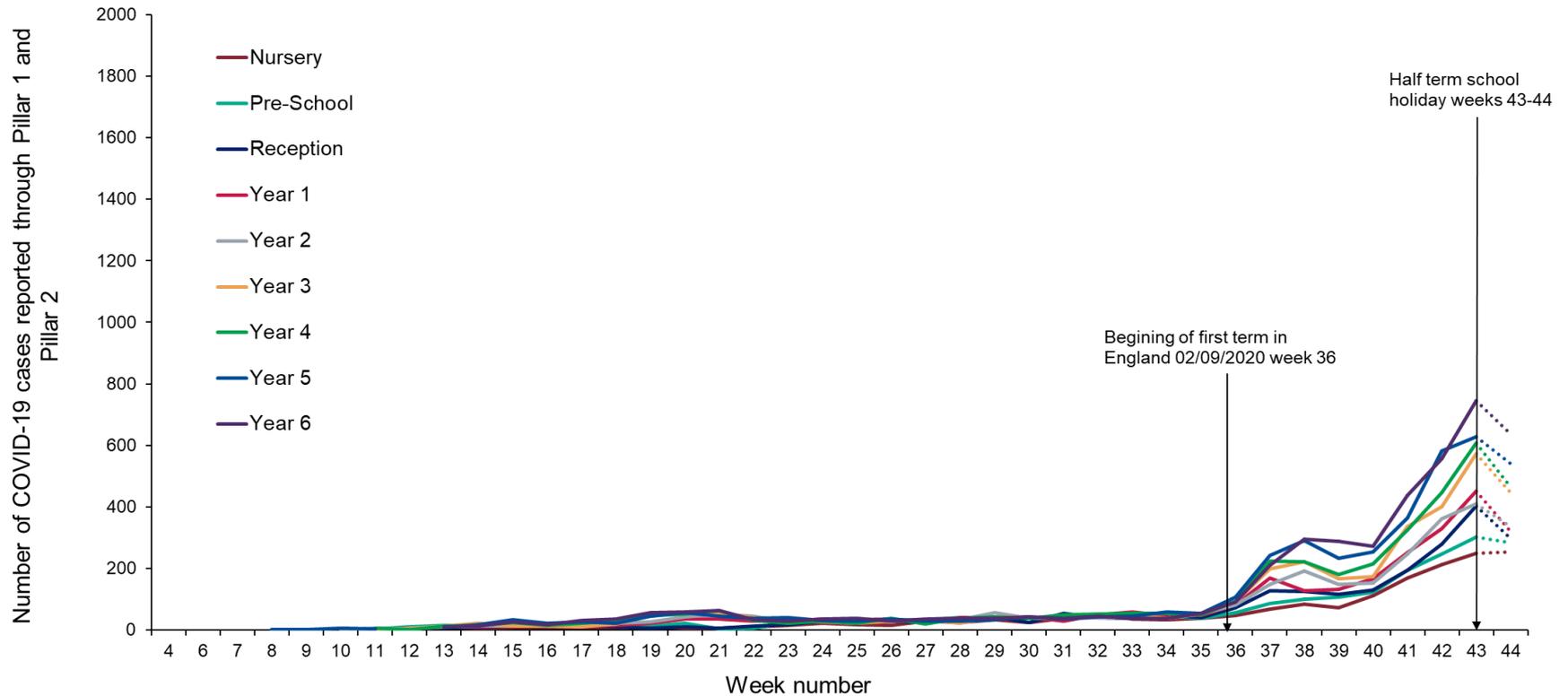


Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6, week 34 to 44



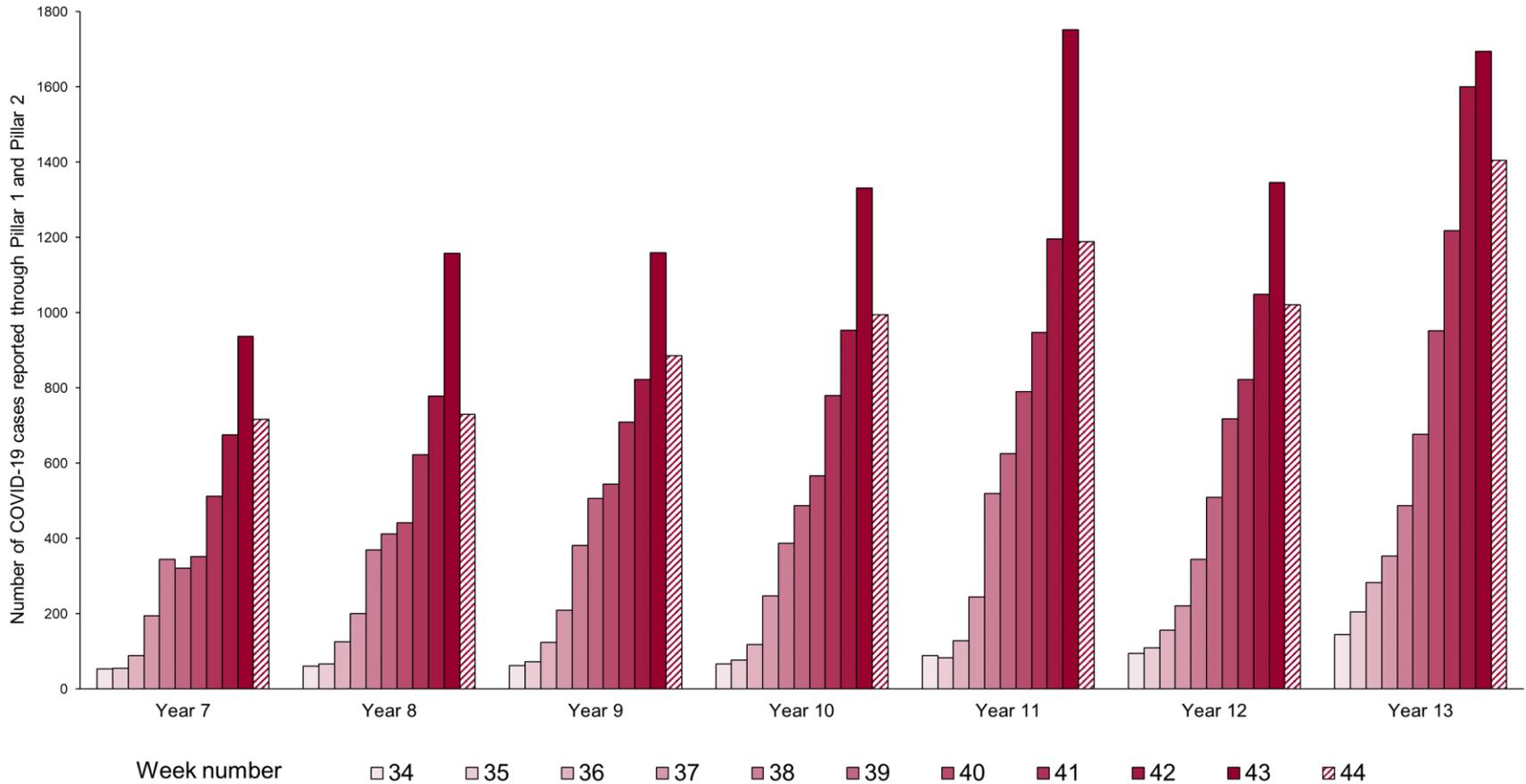


Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6



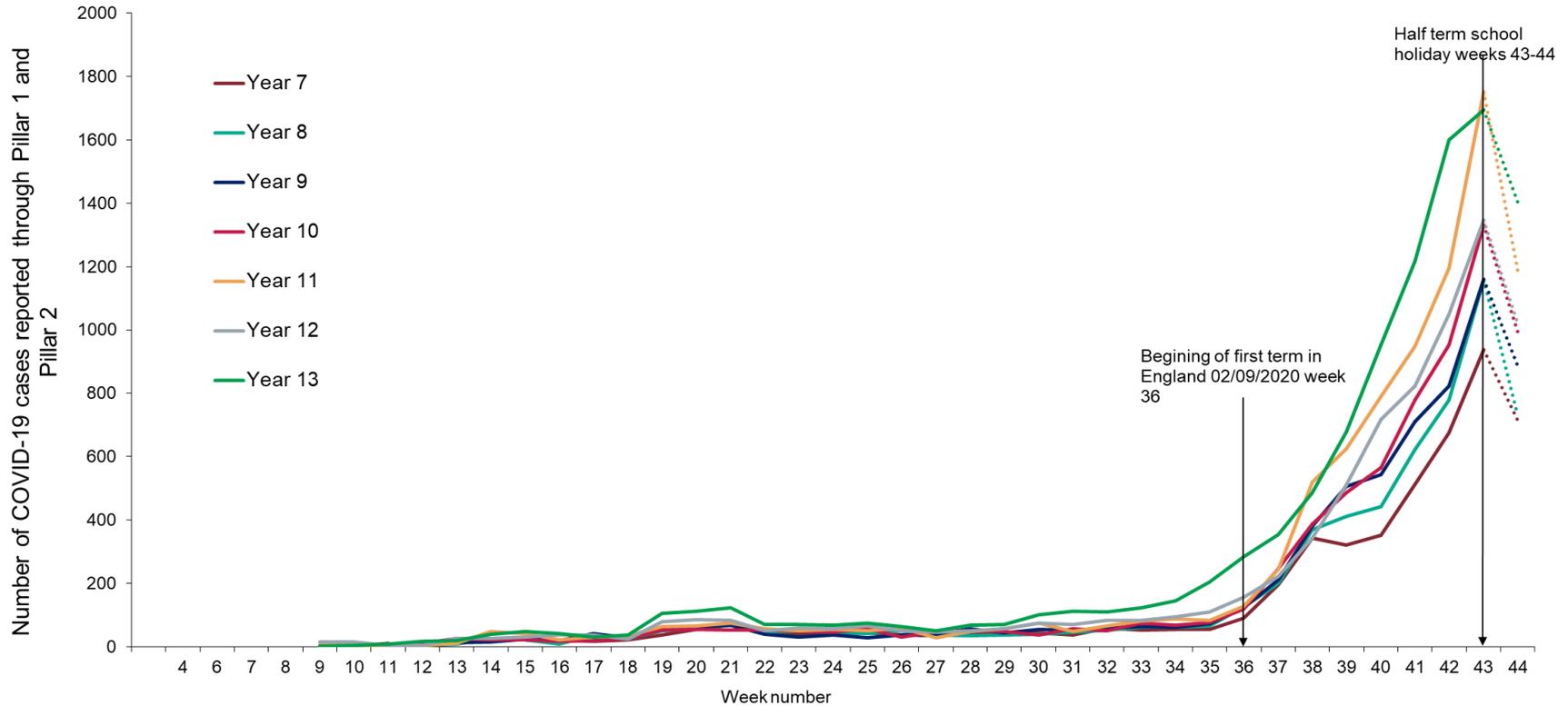


Weekly number of new laboratory confirmed COVID-19 cases in educational age groups presented by secondary school year groups (Year 7 to Year 13), week 34 to 44



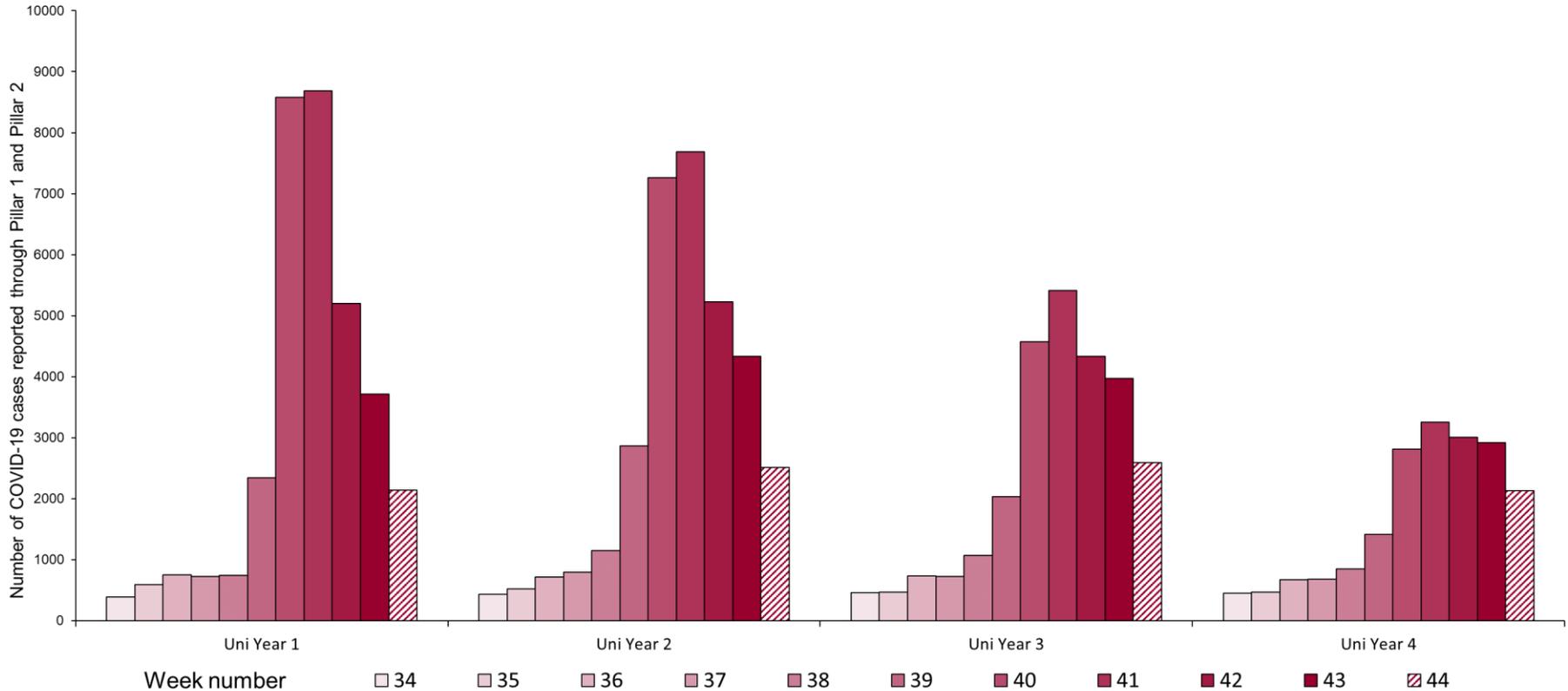


Weekly number of new laboratory confirmed COVID-19 cases in educational age groups presented by secondary school year groups (Year 7 to Year 13)



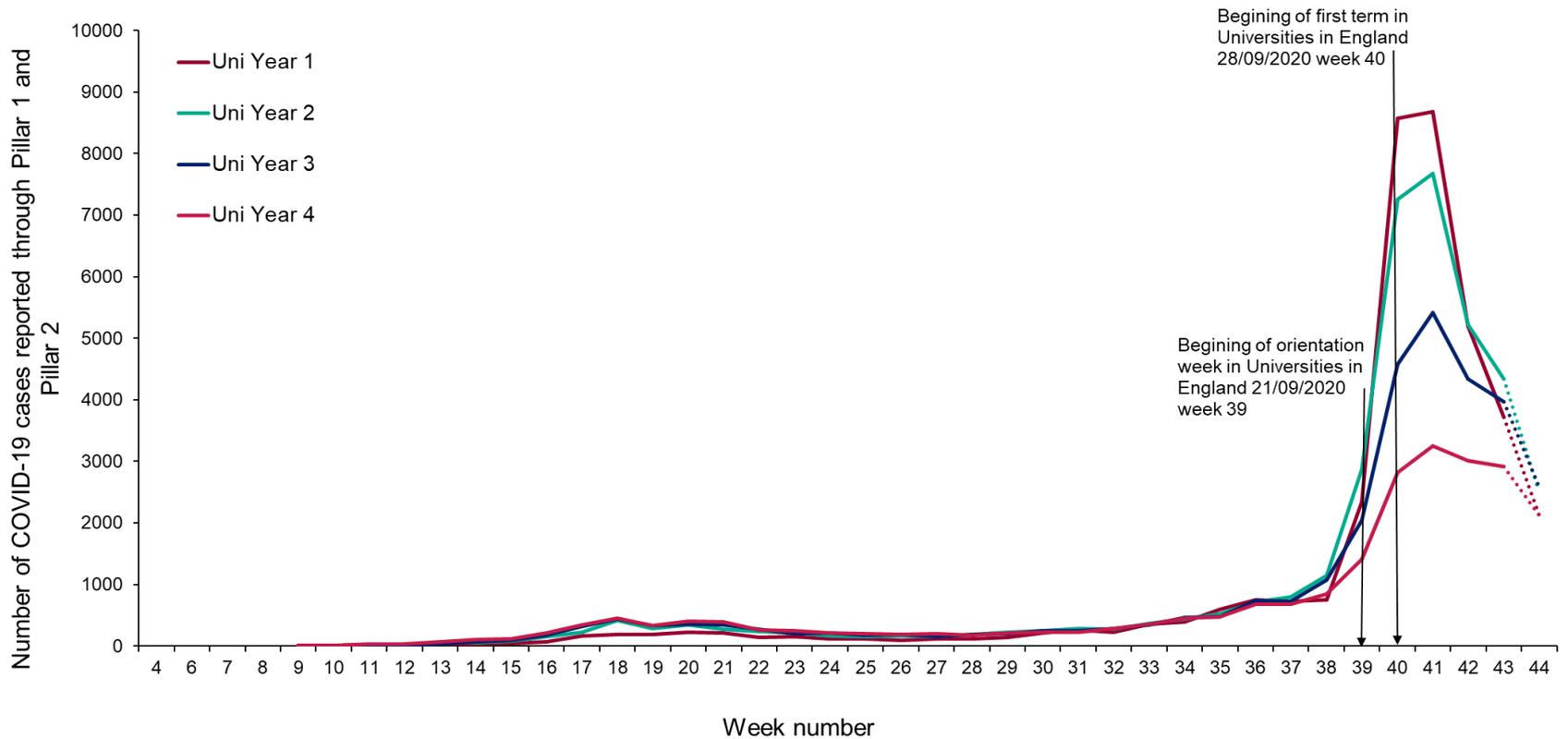


Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups, week 34 to 44



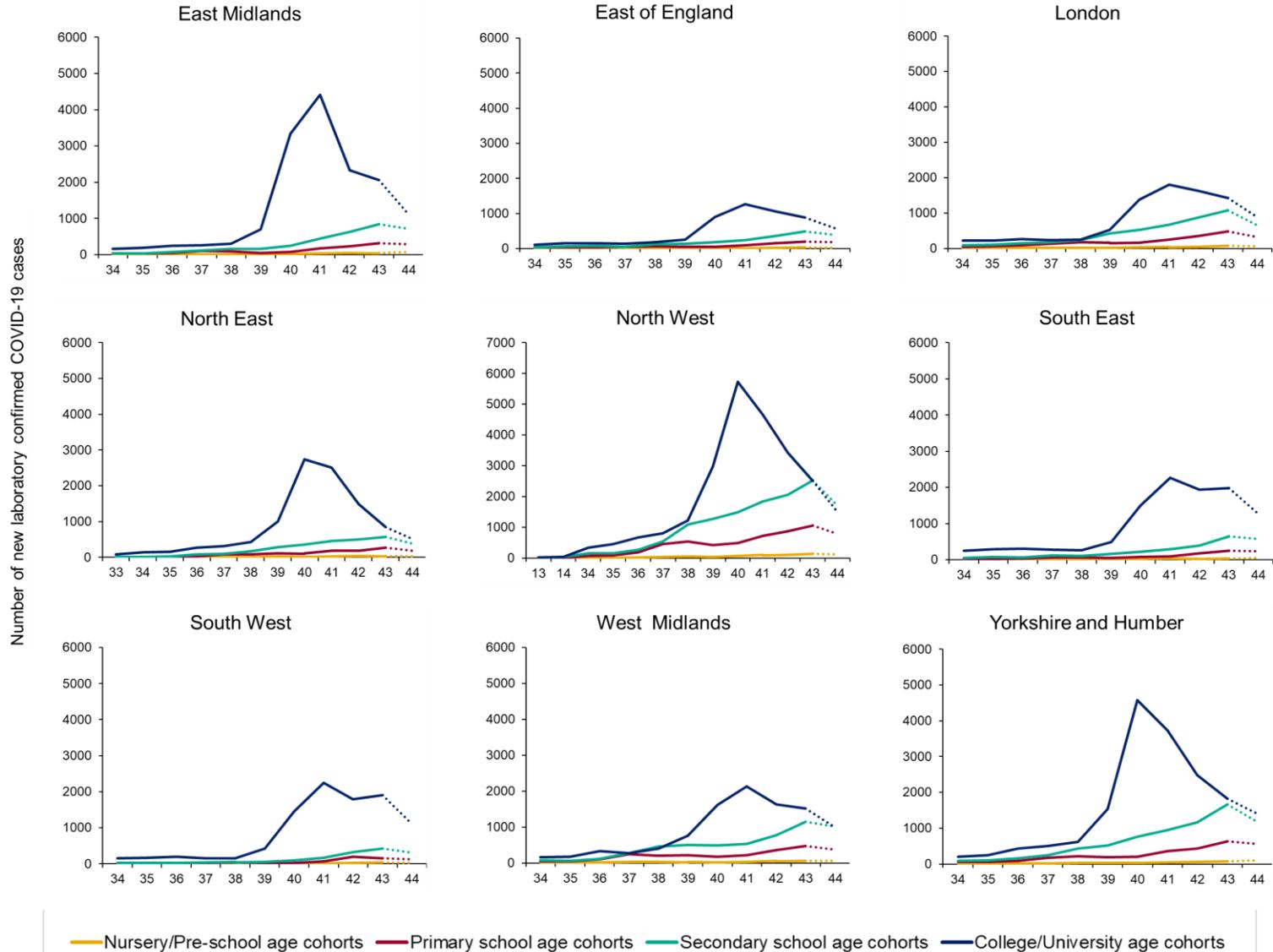


Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups



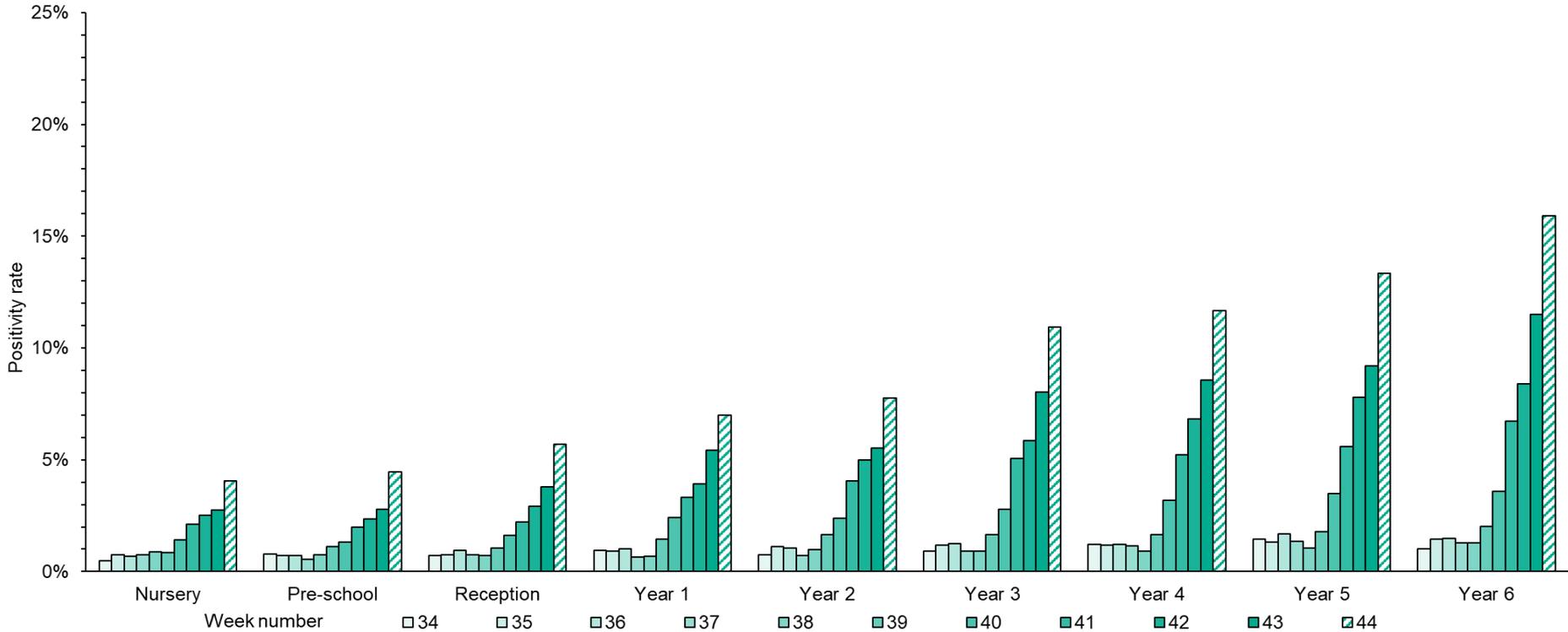


Weekly number of new laboratory confirmed COVID-19 cases by educational age cohorts and PHE region, week 34 to 44



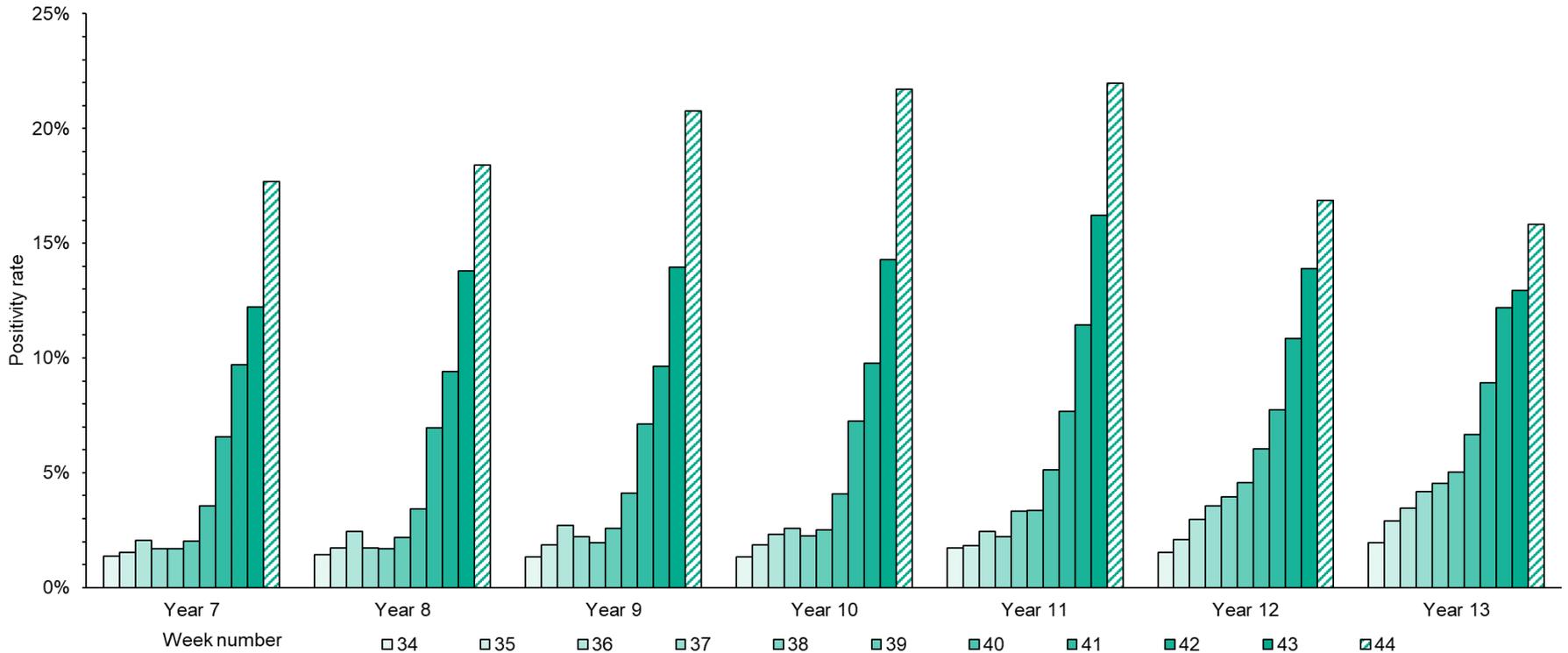


Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6, week 34 to 44



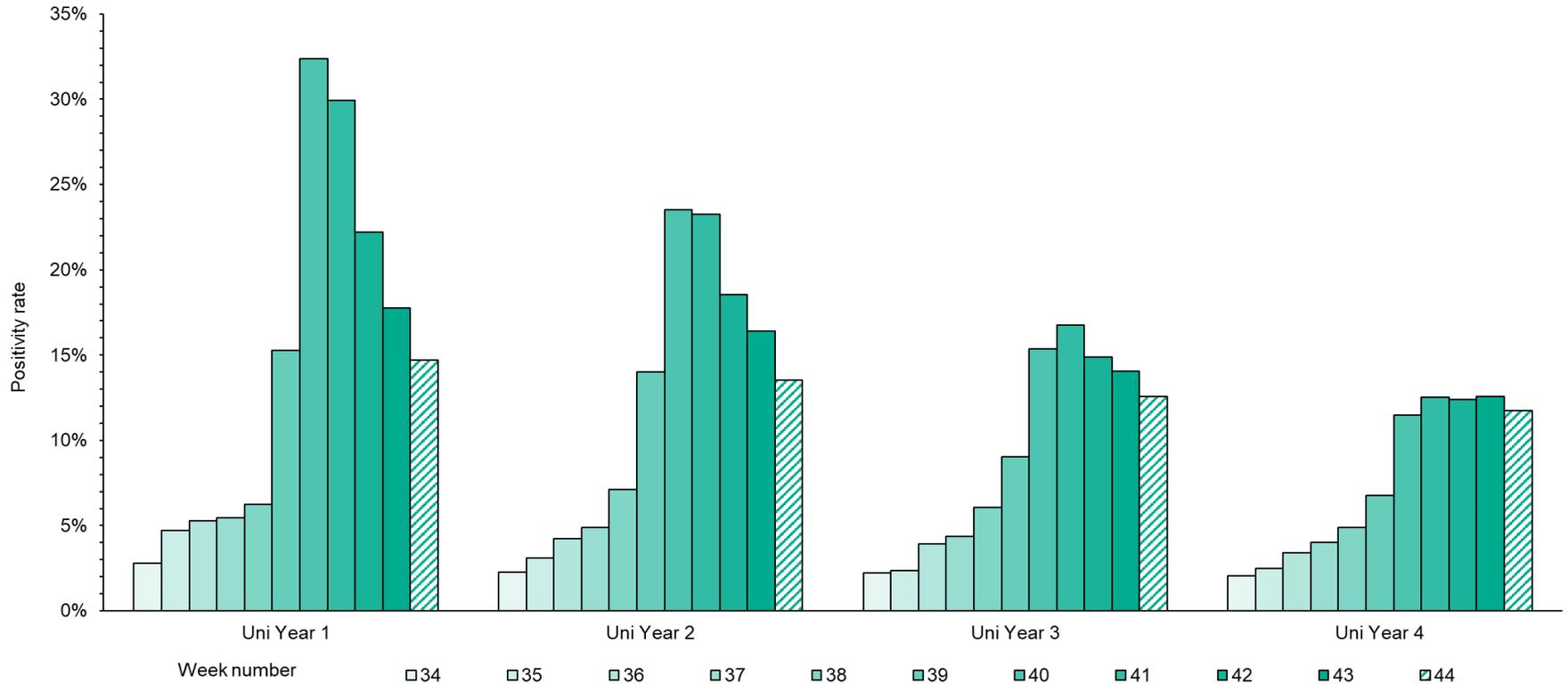


Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by secondary school year group (Year 7 to Year 13), week 34 to 44



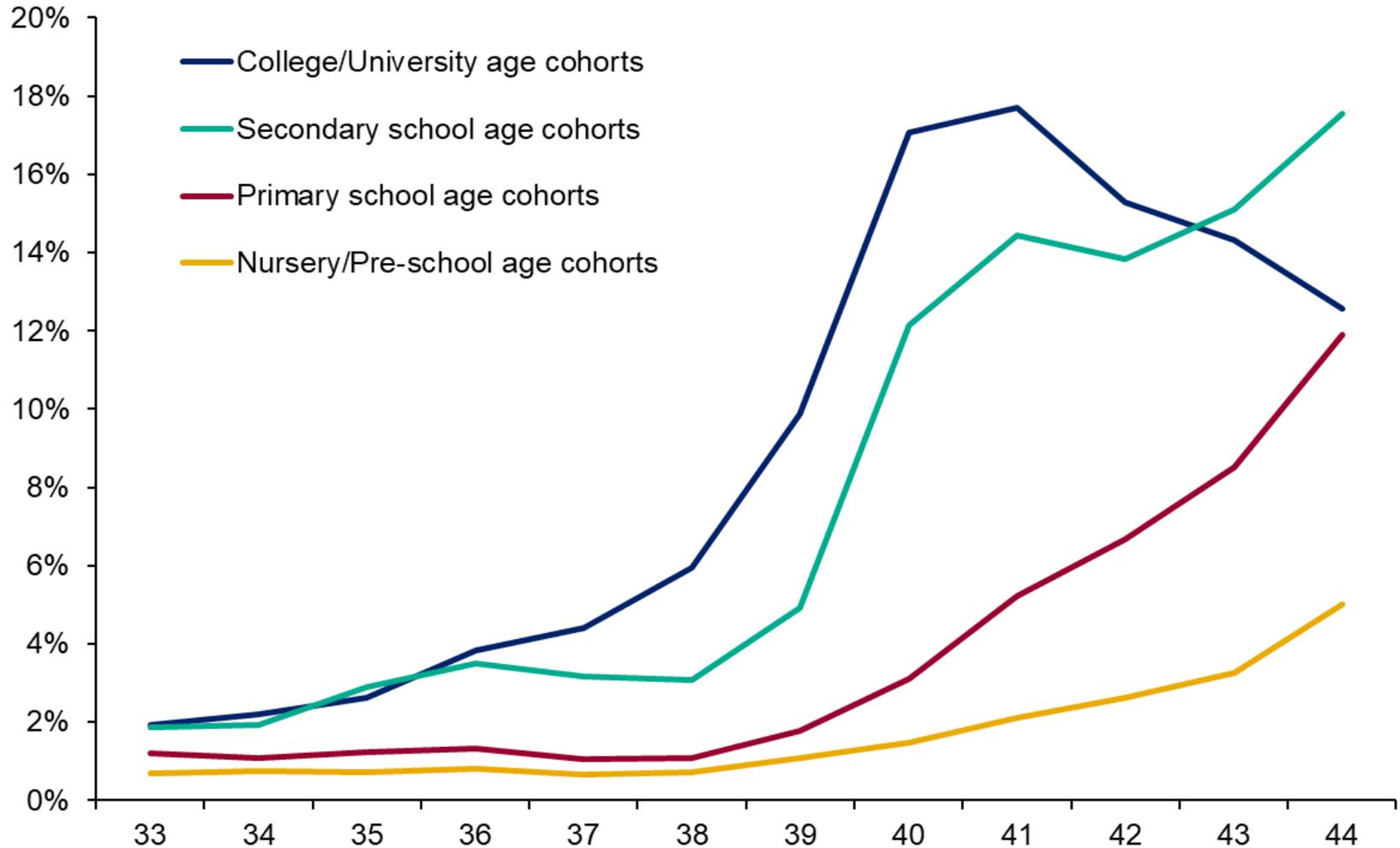


Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups, week 34 to 44



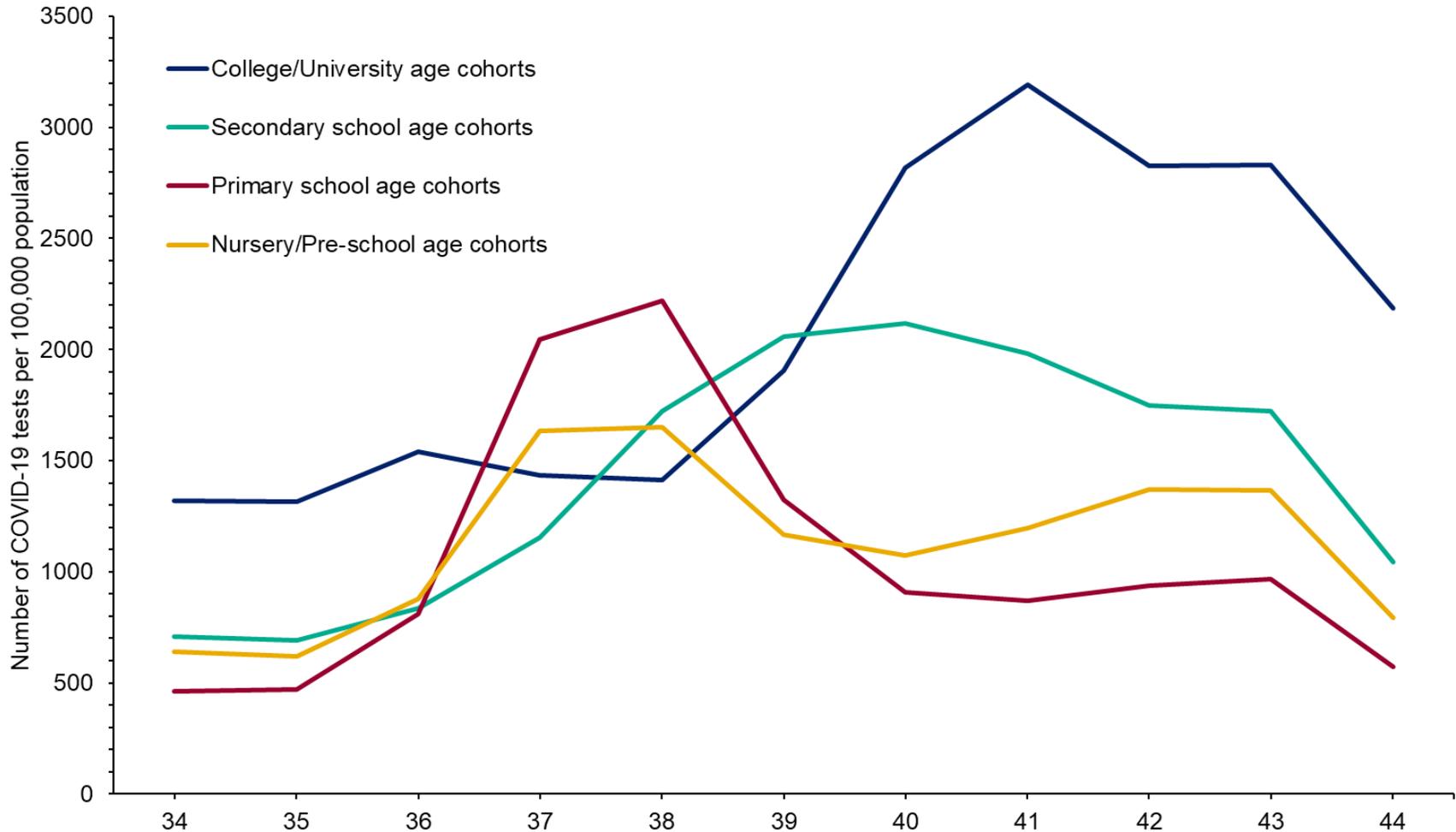


Weekly positivity rates of confirmed COVID-19 cases, in nursery/preschool, primary school, secondary school and college/University age cohorts, week 34 to 44





Weekly rate of new COVID-19 tests performed per 100,000 population in nursery/preschool, primary school, secondary school and college/University age cohorts, week 34 to 44

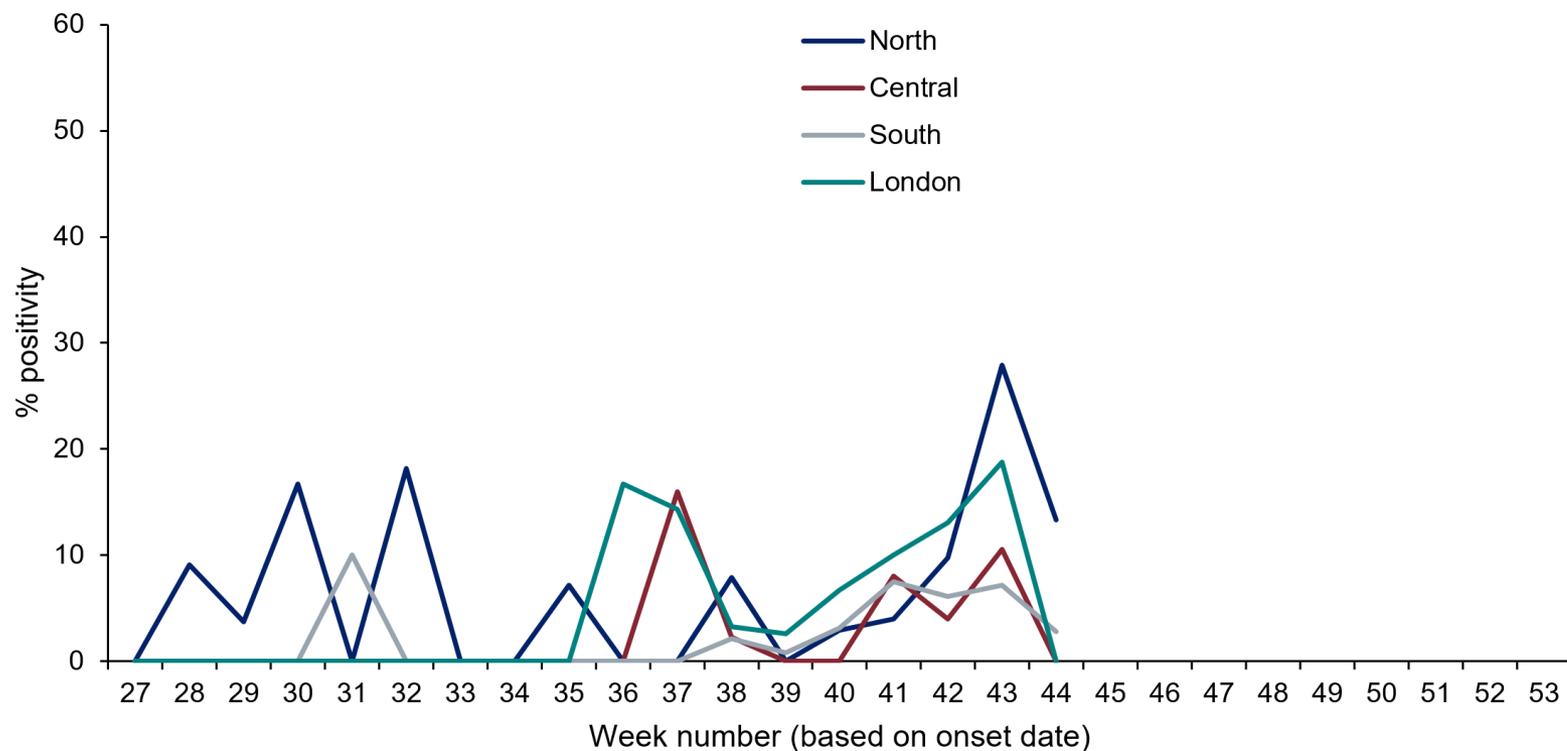




Primary care surveillance



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

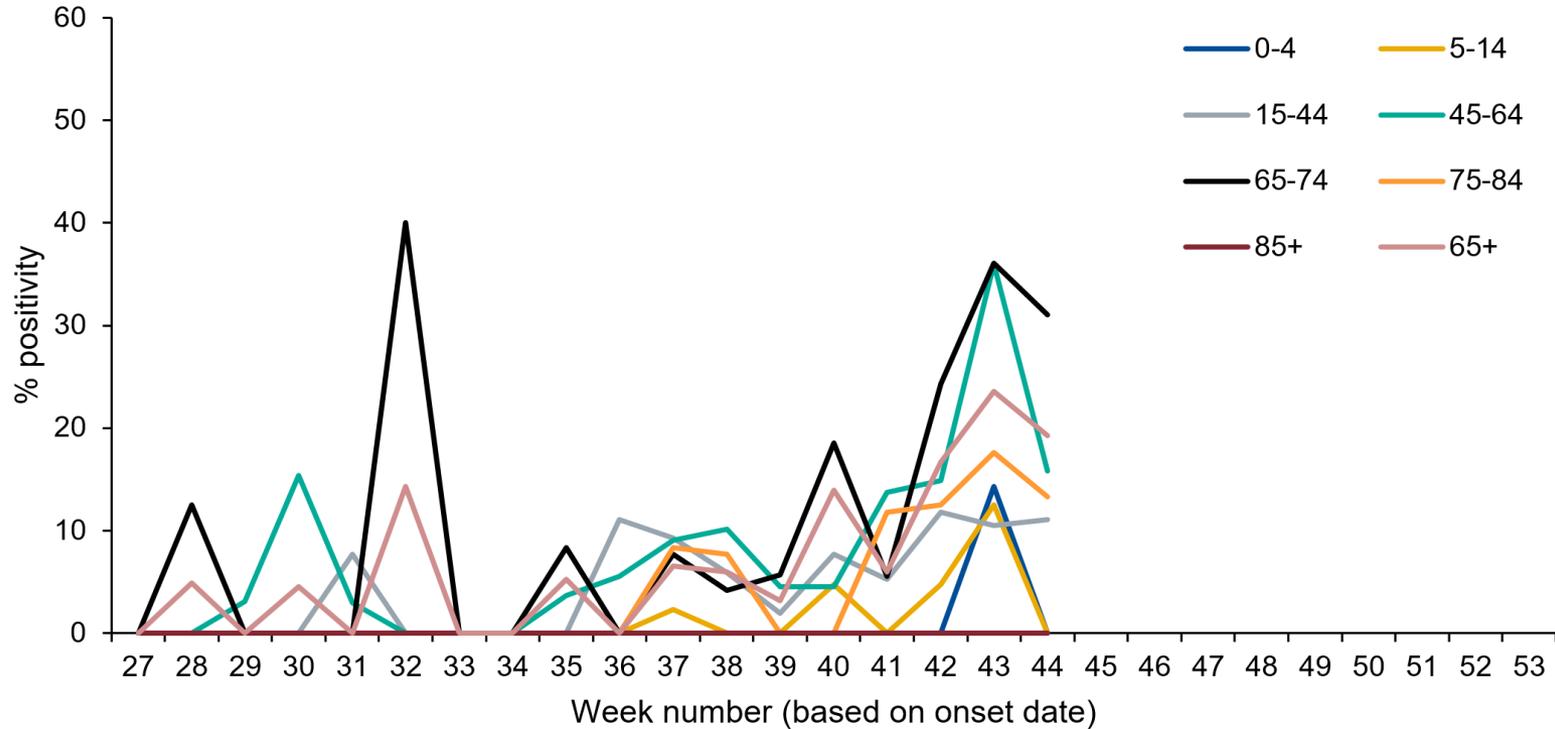


For the most recent week, more samples are expected to be tested therefore the graph should be interpreted with caution.

Positivity (%) is not calculated when the total number tested is less than 10



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



For the most recent week, more samples 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

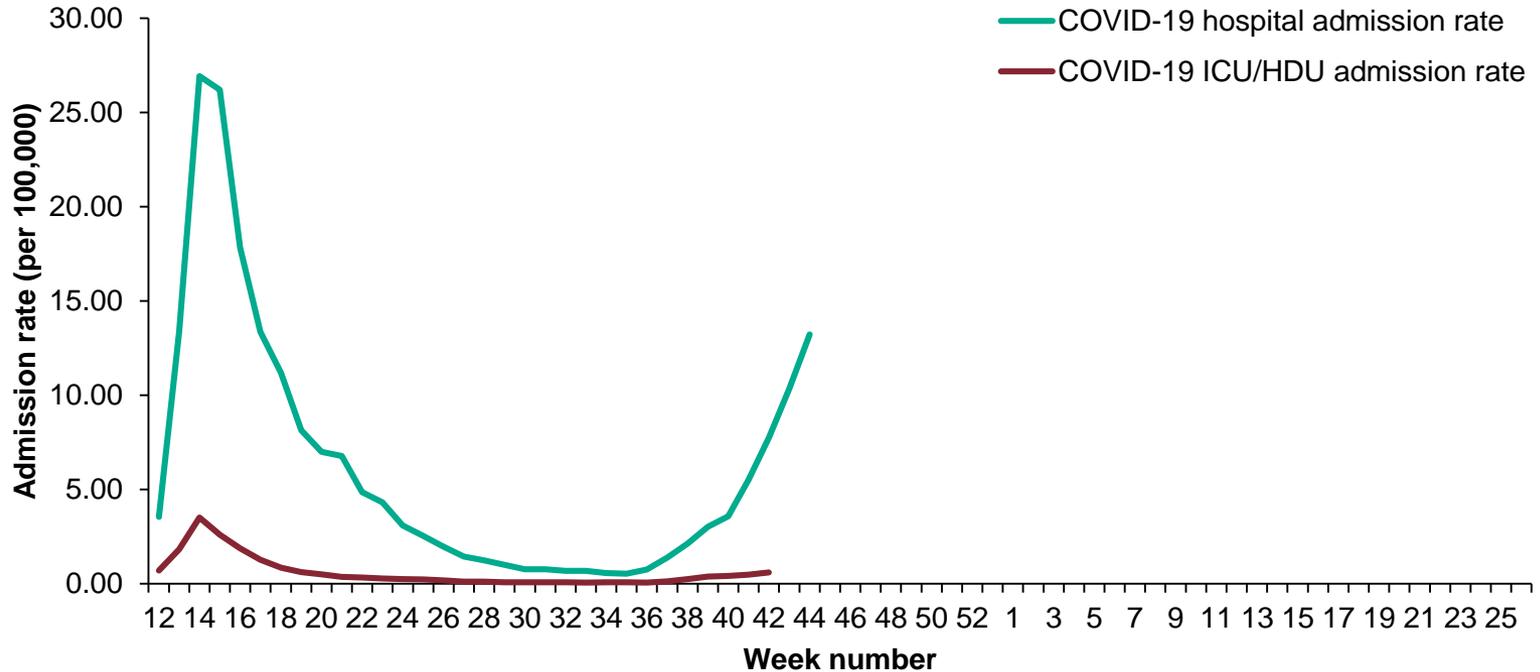


Public Health
England

Secondary Care surveillance

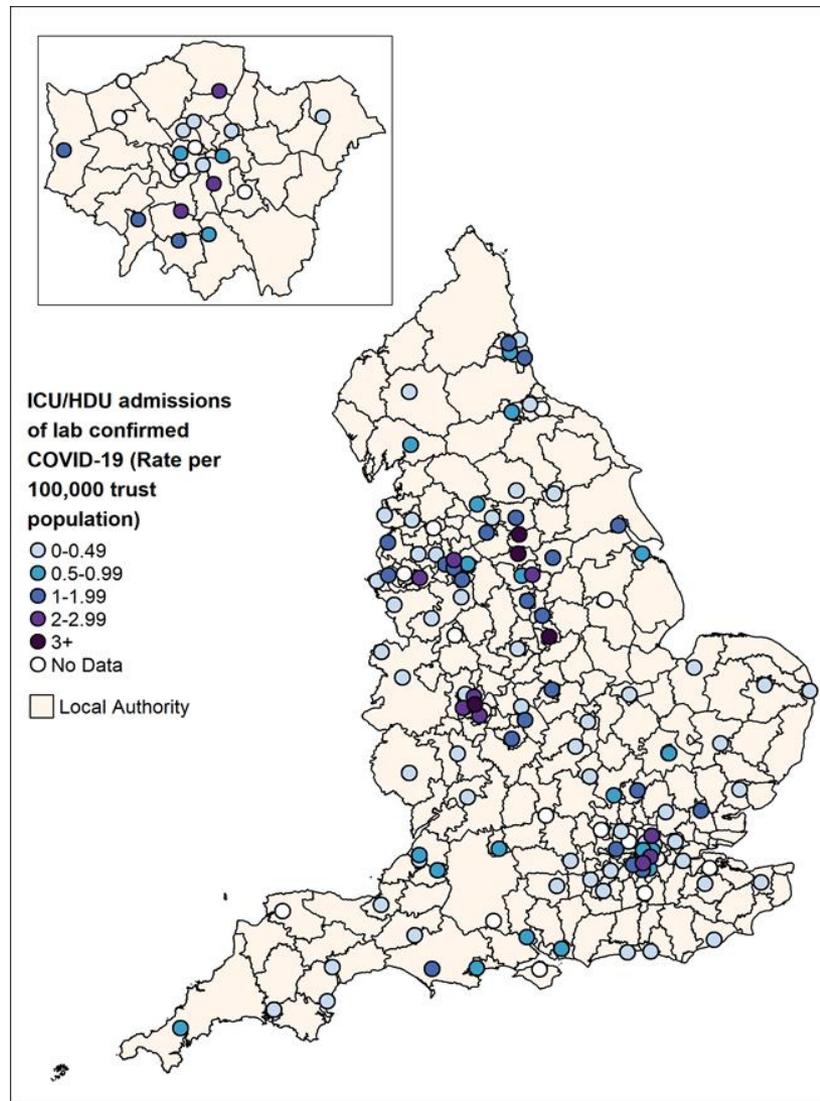
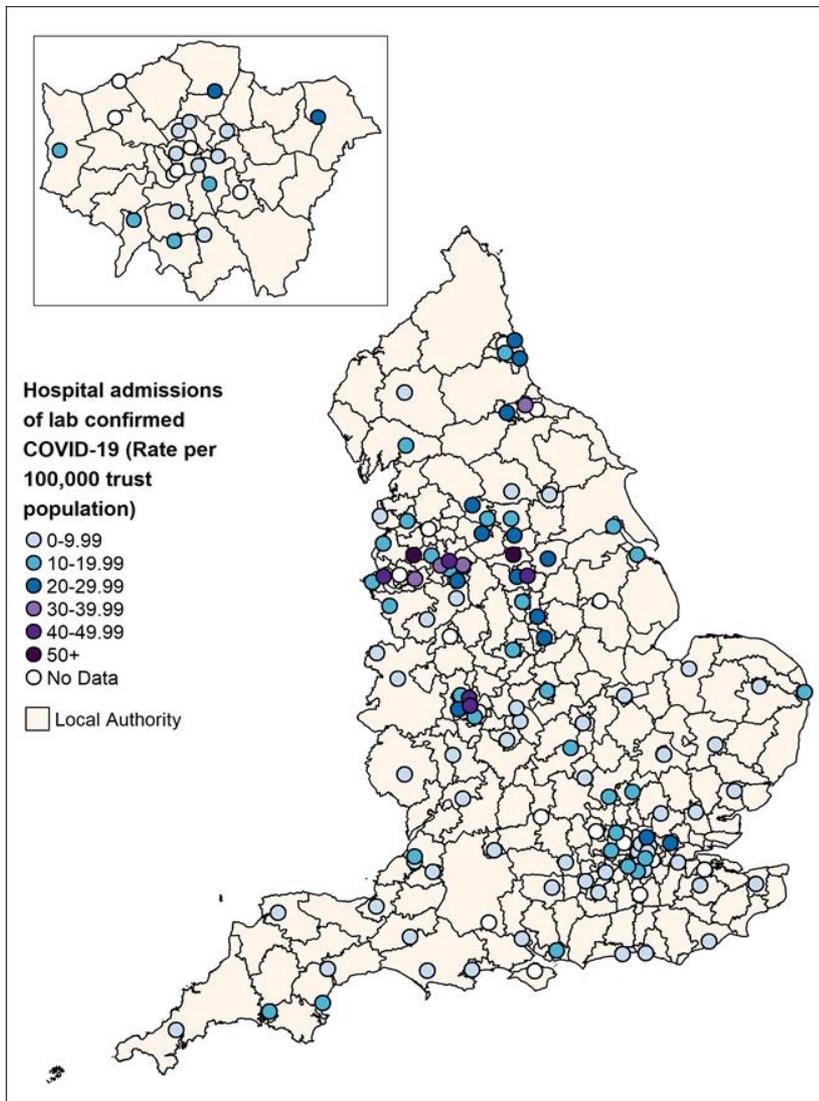


Weekly overall hospital and ICU/HDU admission rates per 100,000 of new COVID-19 positive cases reported through SARI Watch, England since week 12





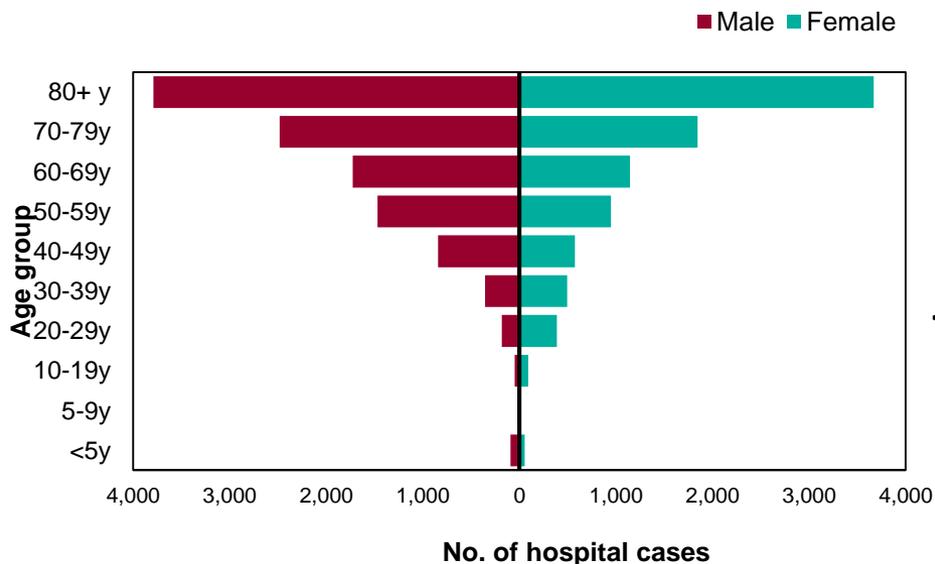
Weekly admission rates for hospital and ICU/HDU laboratory confirmed COVID-19 cases reported through SARI Watch, week 44



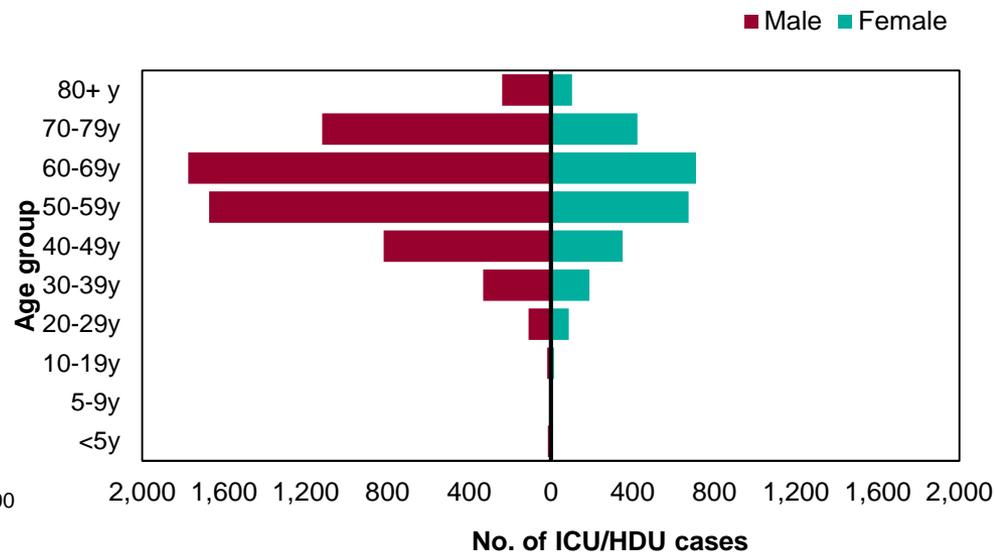


Age/sex pyramid of new (a) hospital (lower level of care) (n=20,238) and (b) ICU/HDU (n=8,661) COVID-19 cases reported through SARI Watch, England

(a)



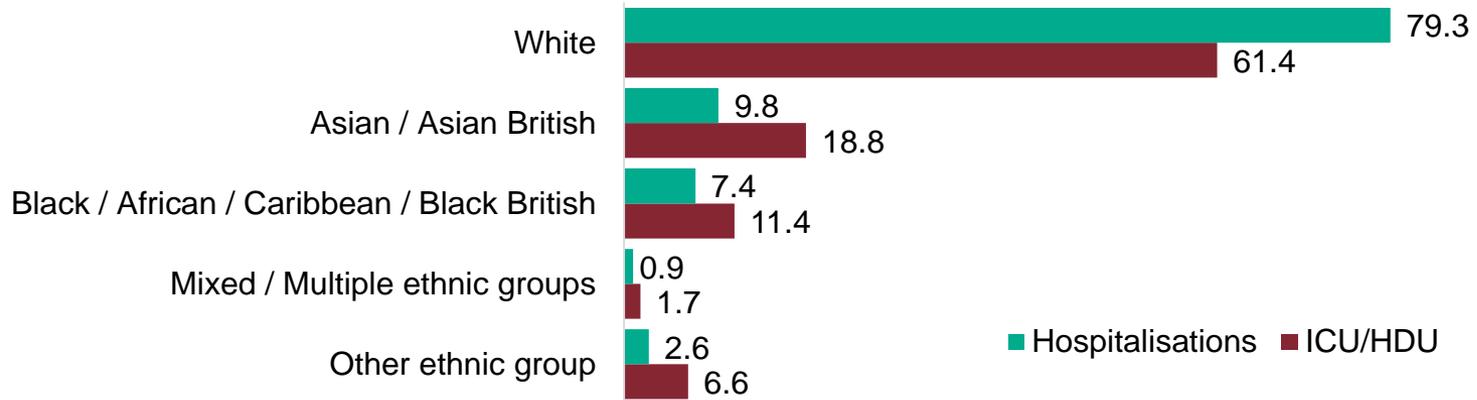
(b)



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.



Ethnic group of new hospitalisations (lower level of care) (n=19,485) and ICU/HDU (n=8,006) COVID-19 cases reported through SARI Watch, England



proportion of admitted cases (%)

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.

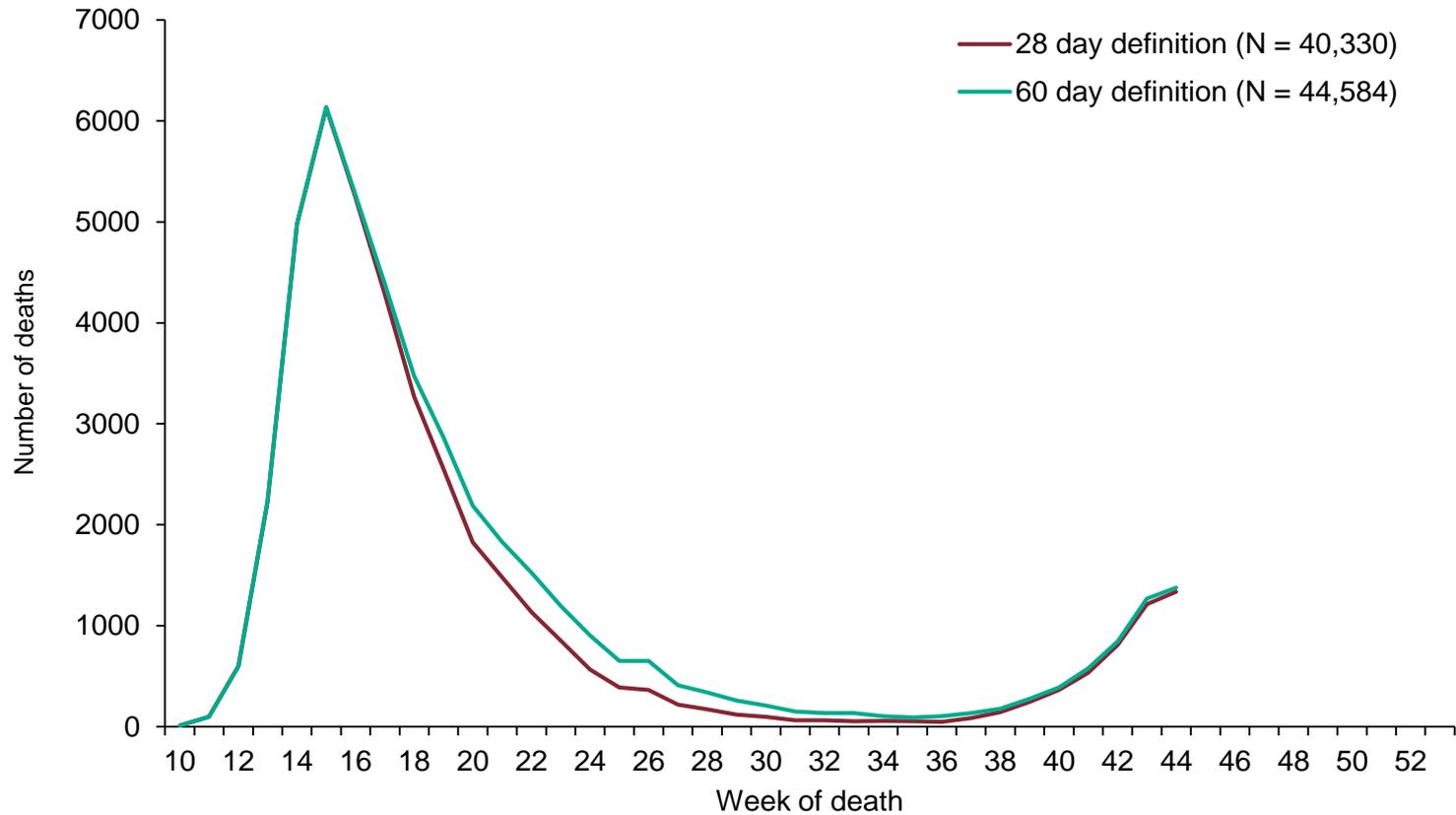


Public Health
England

Mortality surveillance



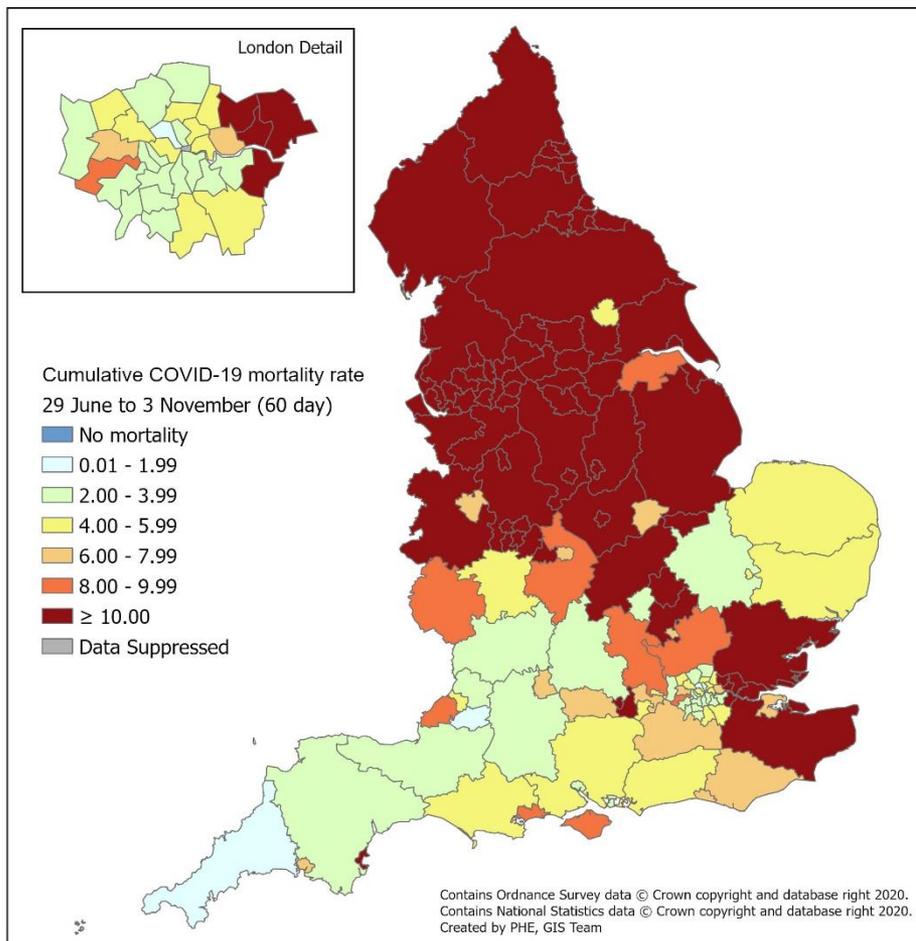
Number of deaths since week 10 by week of death and time since laboratory confirmation of COVID-19, England



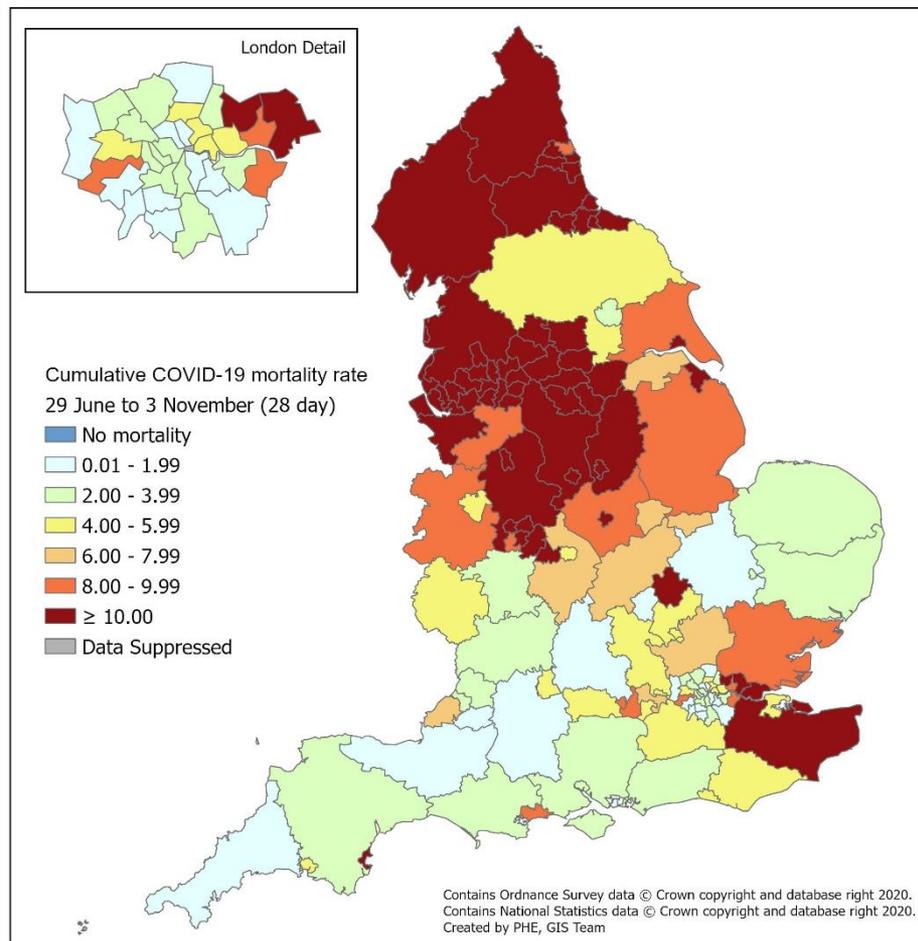


Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2 since week 27 by (a) 28 day definition and (b) 60 day definition

(a)



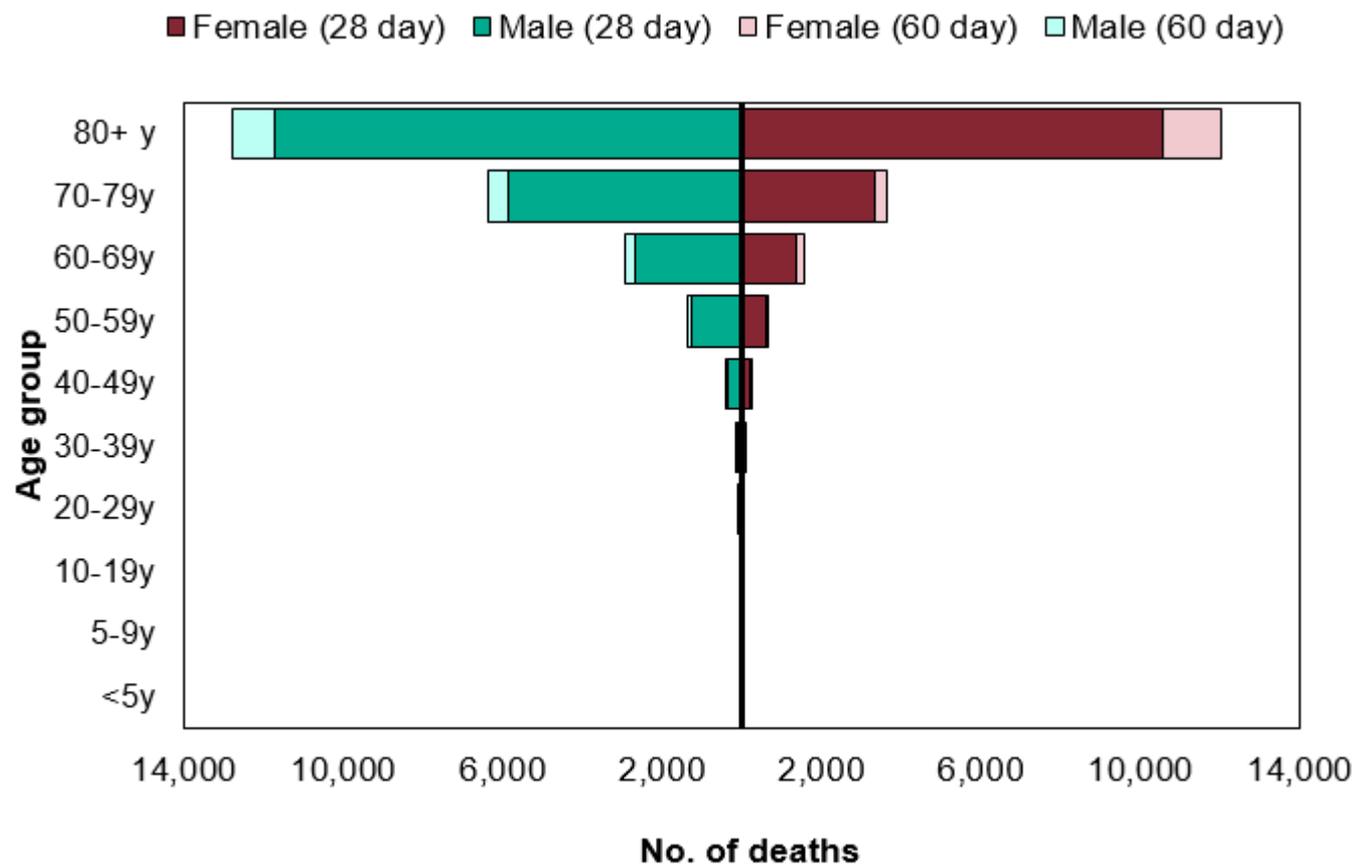
(b)



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



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



Public Health
England

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 Practitioners' 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%)

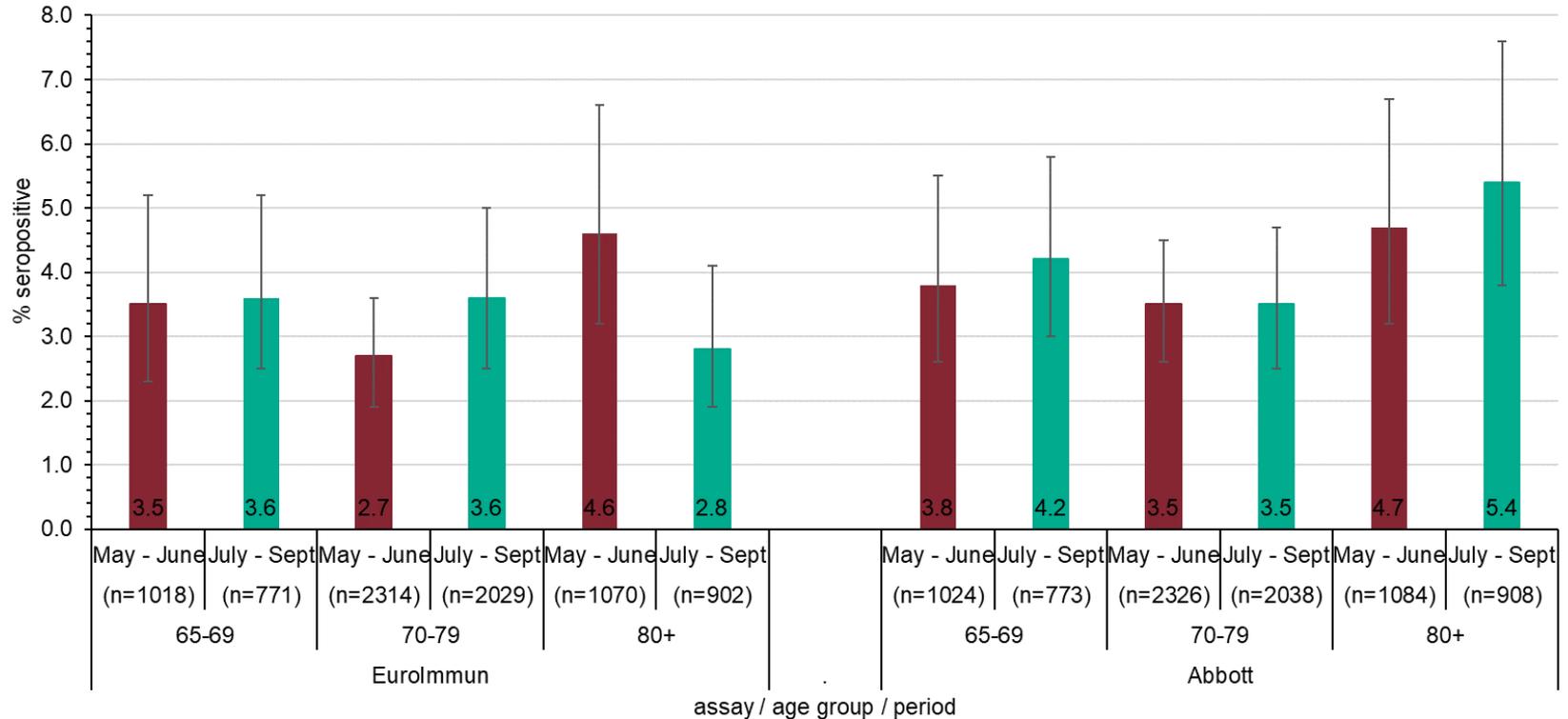
Prevalence was estimated from 8153 samples from patients aged between 65 and 100 years old, who had a routine blood test via the Royal College of General Practitioners' Research and Surveillance Centre (RCGP-RSC) network during the period 1st May – 29th September and for 904 residual samples from patients 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

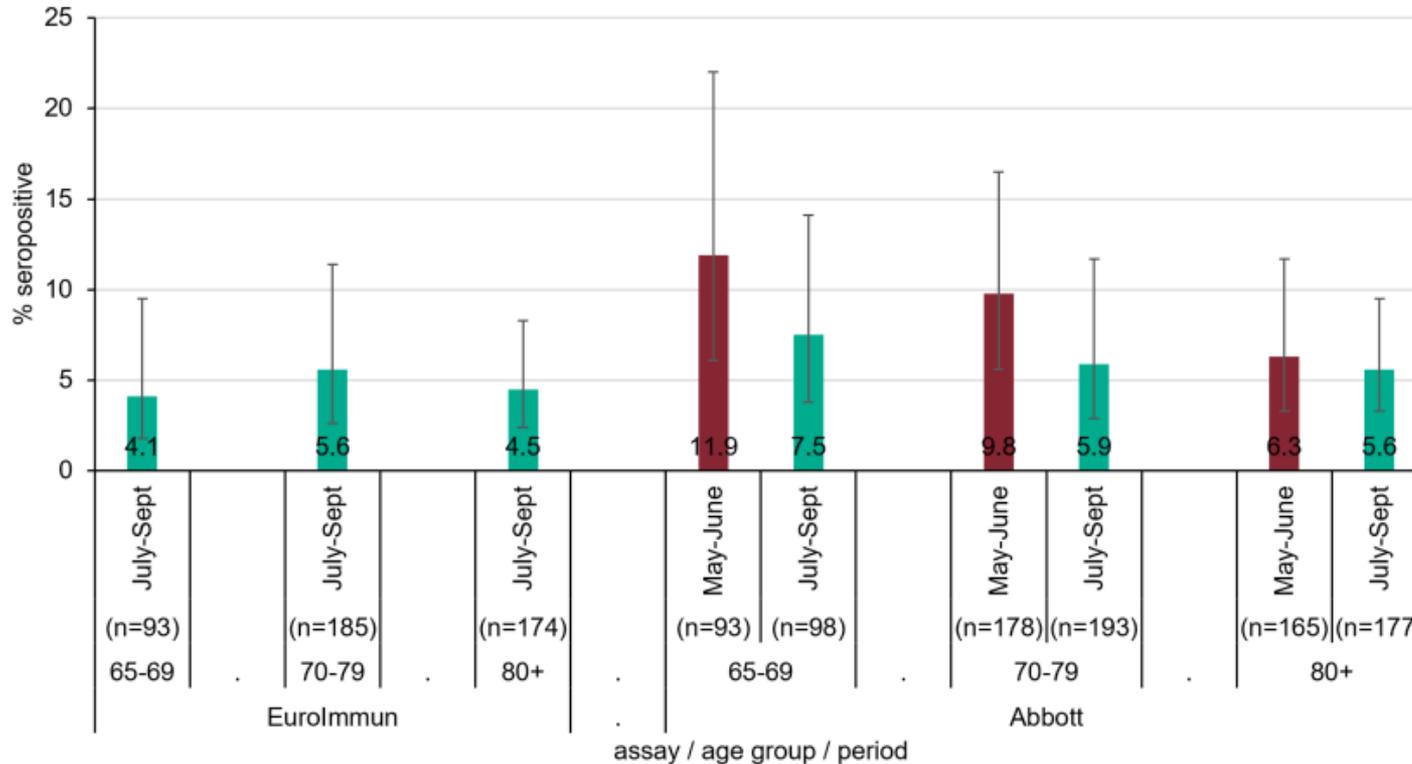


The graph above represents population weighted SARS-CoV-2 antibody seropositivity by age group in the over 65 year old RCGP collection, 1st May – 30th June and 1st July – 29th September using the EuroImmun and Abbott assays.

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.