Weekly Influenza and COVID-19 Surveillance graphs

Public Health England

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.
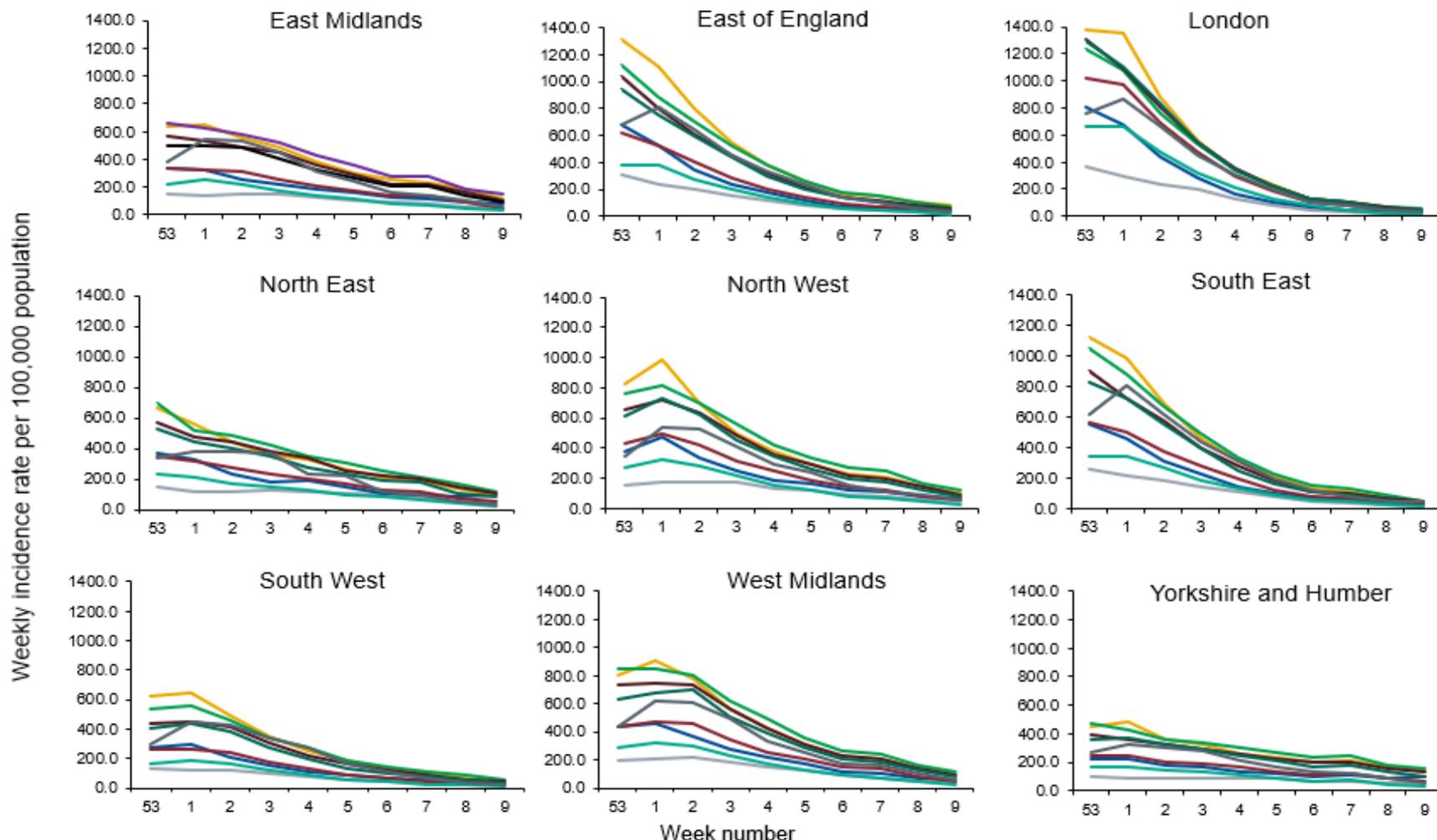
The figures presented in this slide set are based on data from week 9 (between 1 and 7 March 2021).

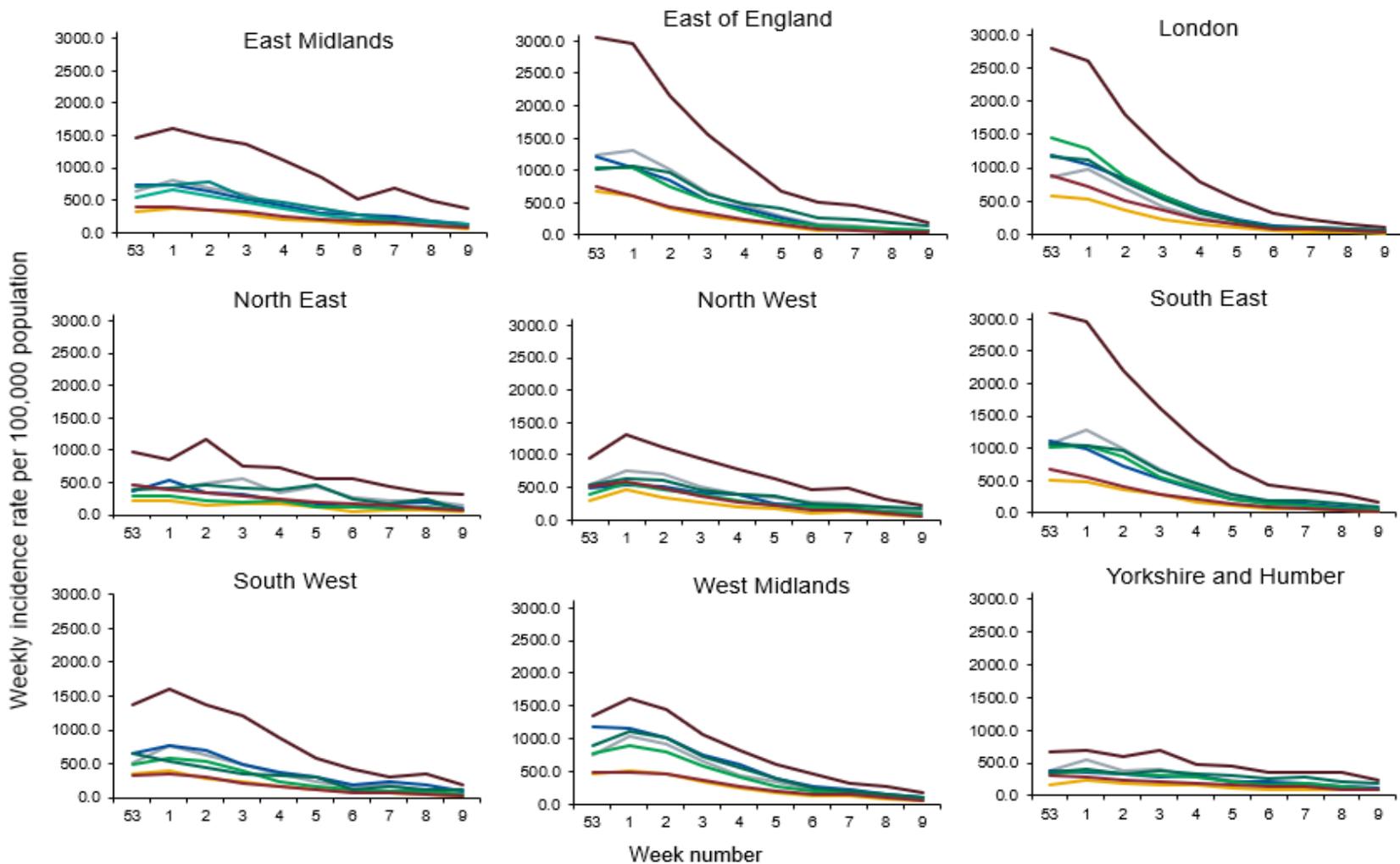# Confirmed COVID-19 cases in England

Weekly COVID-19 incidence per 100,000 population by age group and region, weeks 53 to 9

Weekly COVID-19 rate per 100,000 population by IMD quintile (1 being the most deprived and 5 being the least deprived), weeks 53 to 9
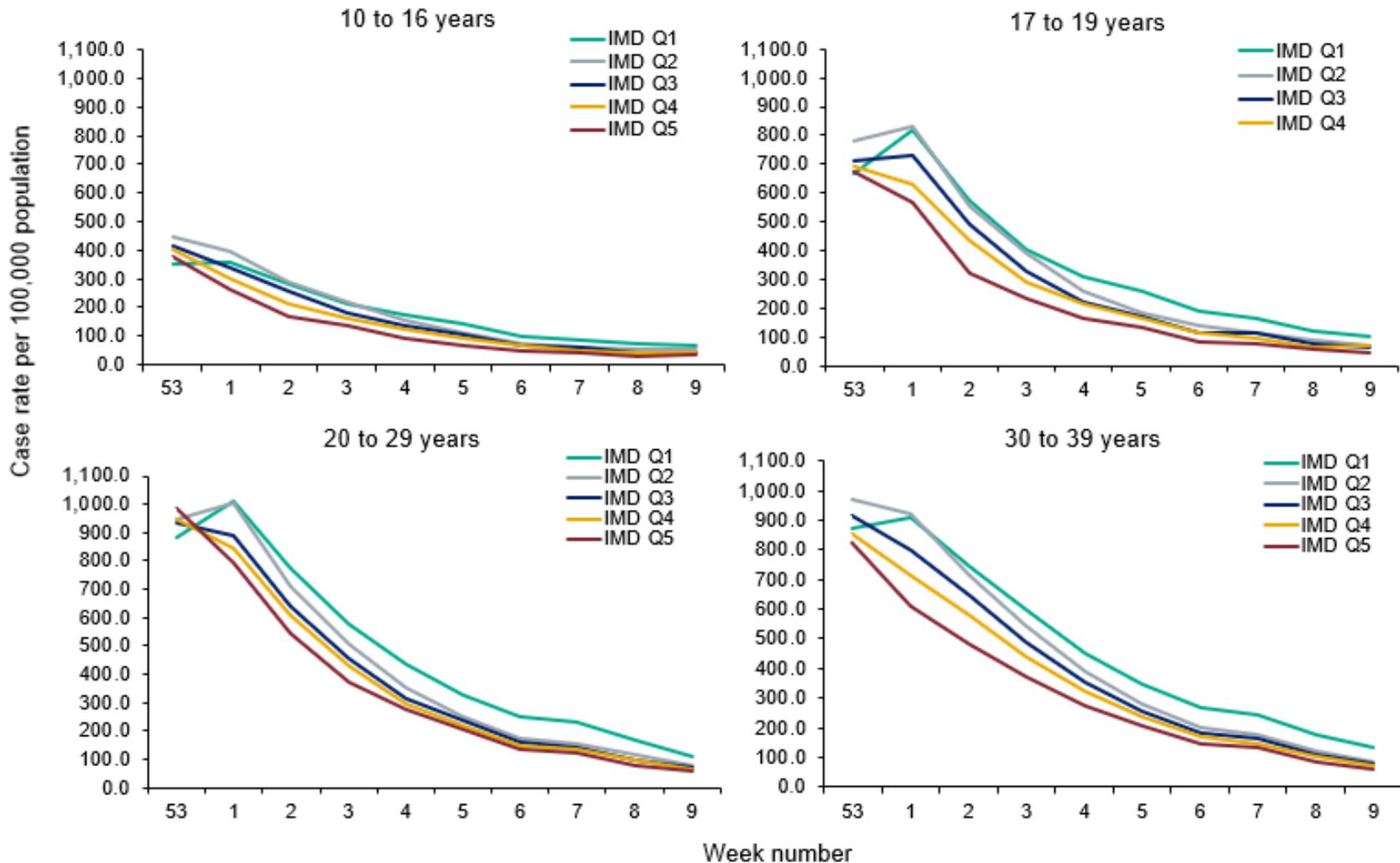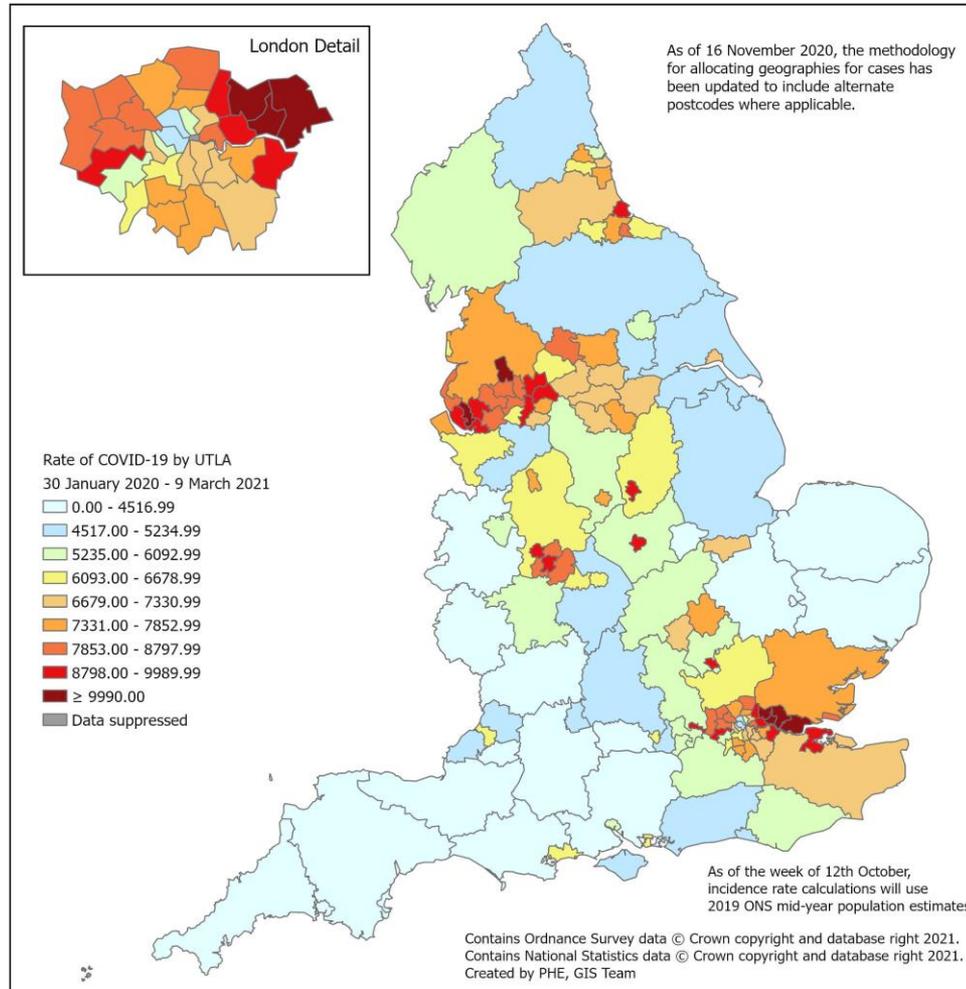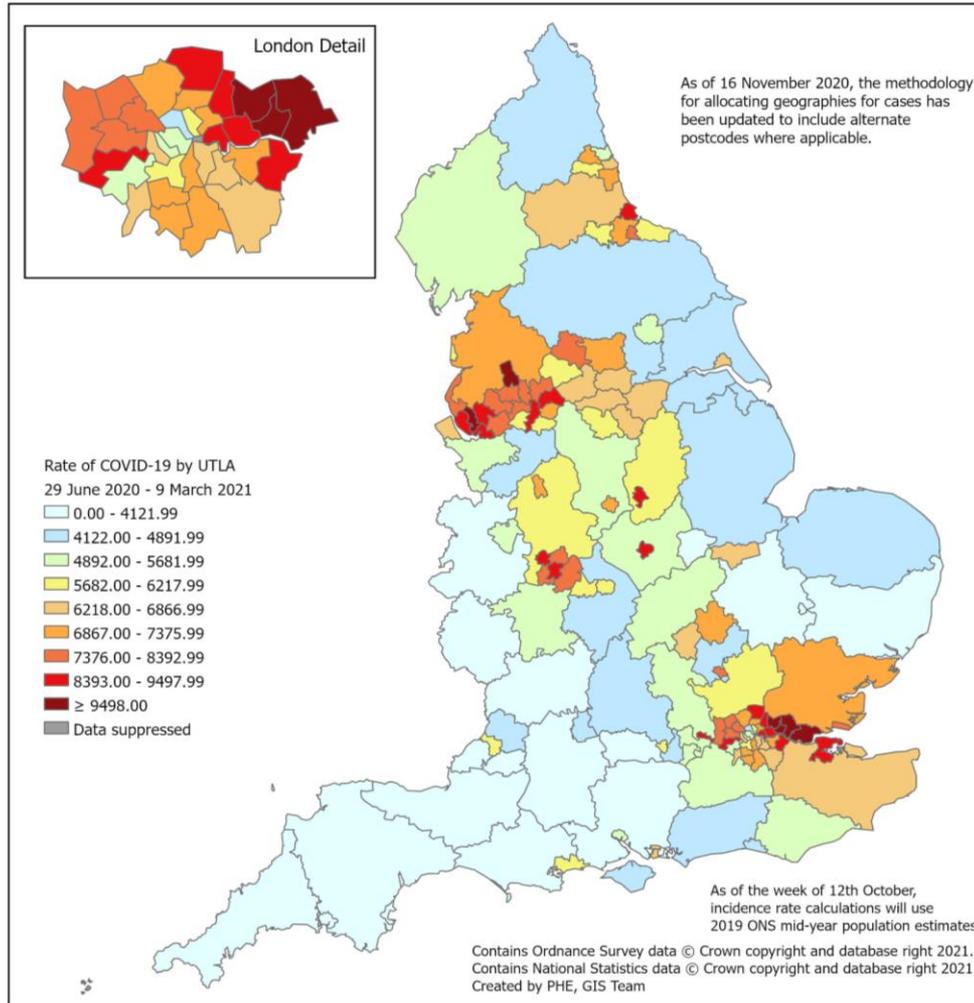
Cumulative rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged map of London area)

London Detail

As of 16 November 2020, the methodology for allocating geographies for cases has been updated to include alternate postcodes where applicable.

Rate of COVID-19 by UTLA
30 January 2020 - 9 March 2021
- 0.00 - 4516.99
- 4517.00 - 5234.99
- 5235.00 - 6092.99
- 6093.00 - 6678.99
- 6679.00 - 7330.99
- 7331.00 - 7852.99
- 7853.00 - 8797.99
- 8798.00 - 9989.99
- ≥ 9990.00
- 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 2021.
Contains National Statistics data © Crown copyright and database right 2021.
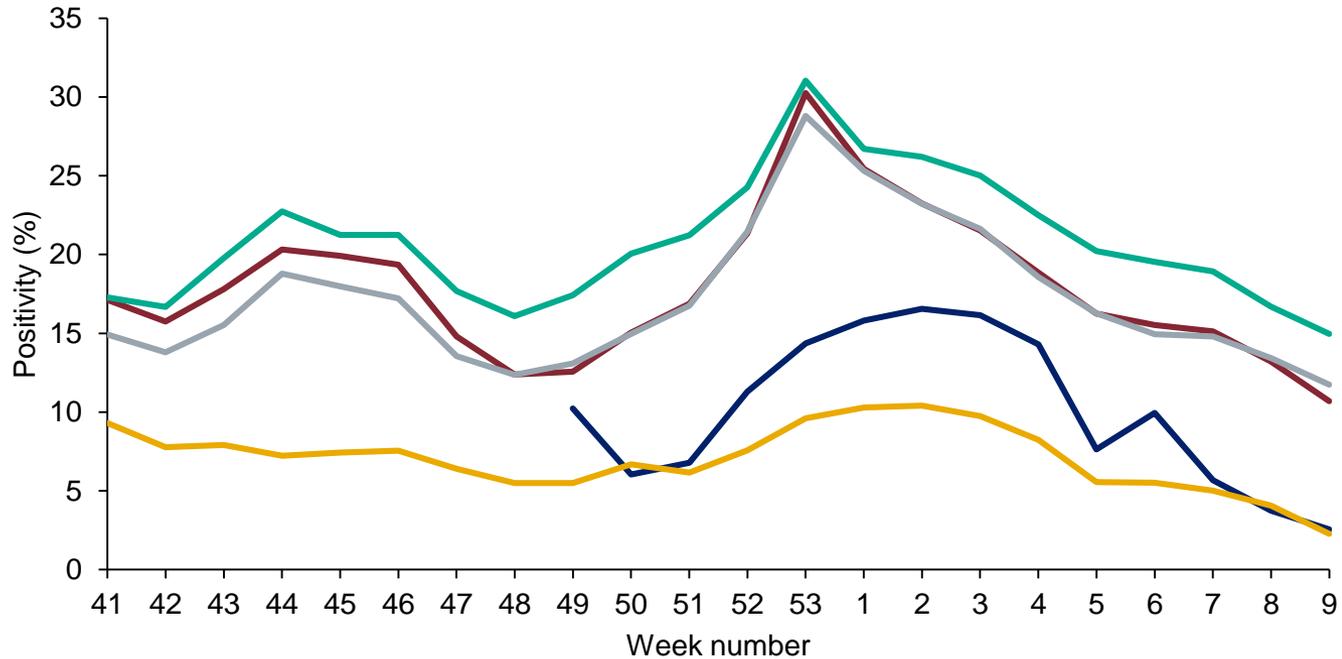Created by PHE, GIS Team

11 March 2021

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)

London Detail

As of 16 November 2020, the methodology for allocating geographies for cases has been updated to include alternate postcodes where applicable.

Rate of COVID-19 by UTLA
29 June 2020 - 9 March 2021
- 0.00 - 4121.99
- 4122.00 - 4891.99
- 4892.00 - 5681.99
- 5682.00 - 6217.99
- 6218.00 - 6866.99
- 6867.00 - 7375.99
- 7376.00 - 8392.99
- 8393.00 - 9497.99
- ≥ 9498.00
- Data suppressed

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

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Weekly positivity of laboratory confirmed COVID-19 cases by reason for test, weeks 41 to 9

Respiratory Datamart system (England)

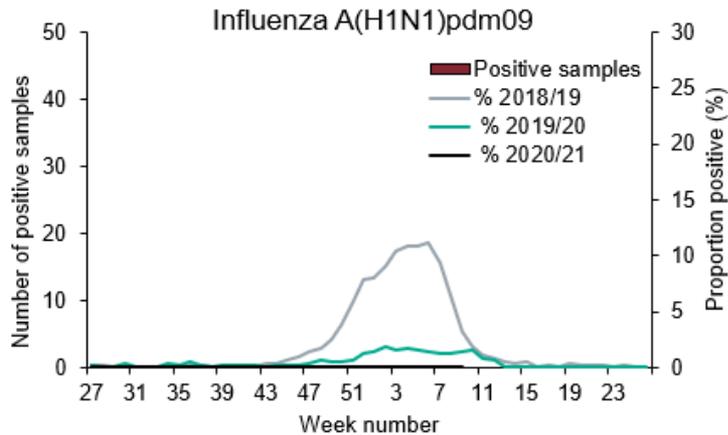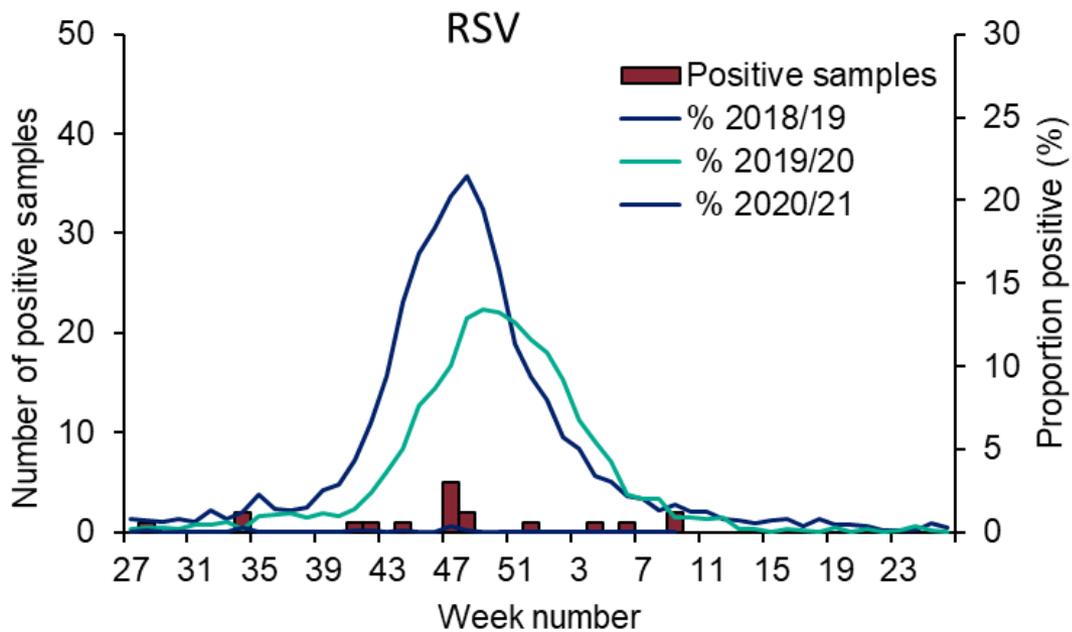# Respiratory DataMart – Influenza subtypes
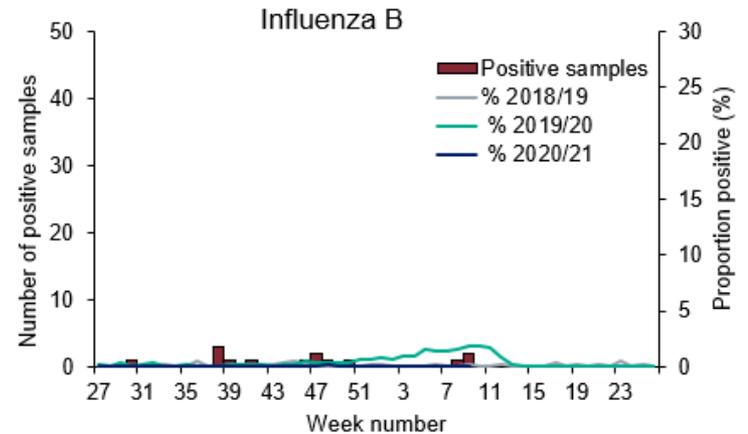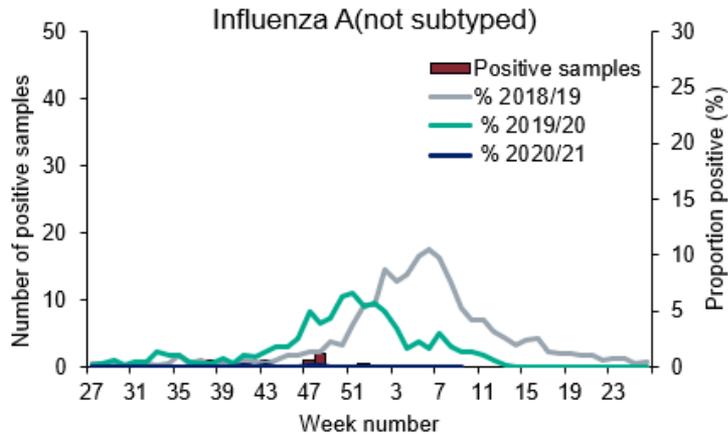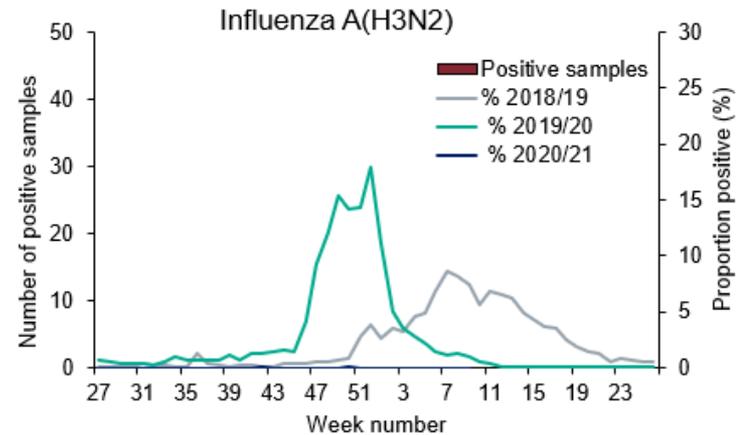
Respiratory DataMart – other respiratory viruses
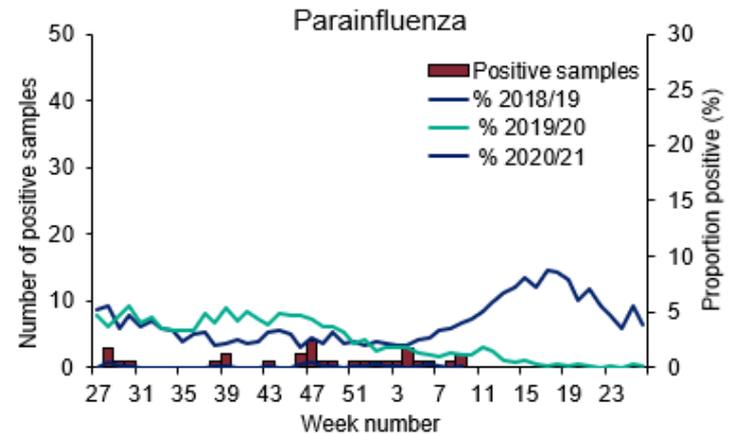
11 March 2021
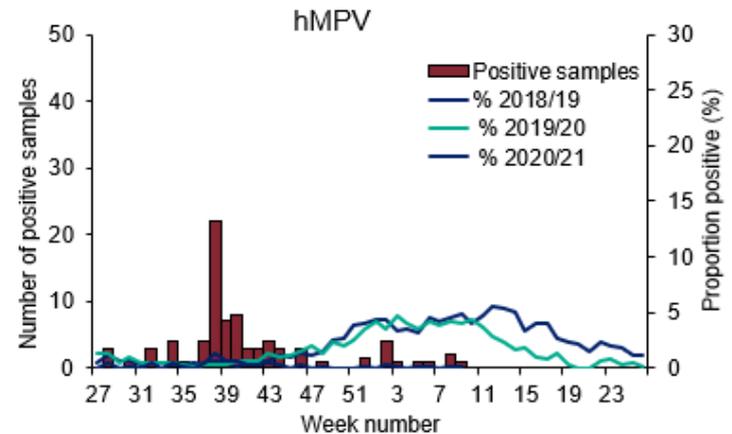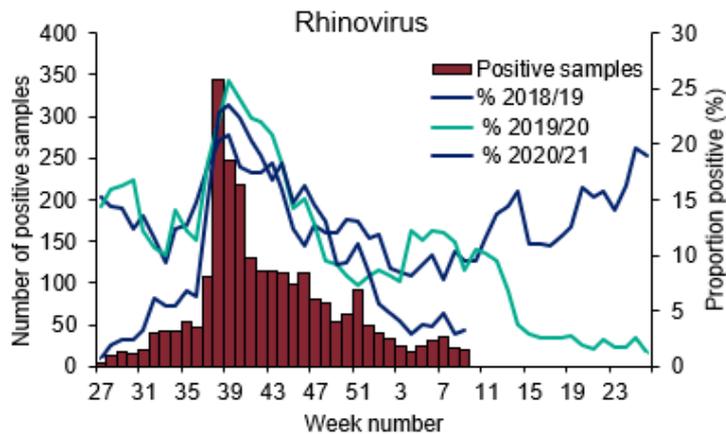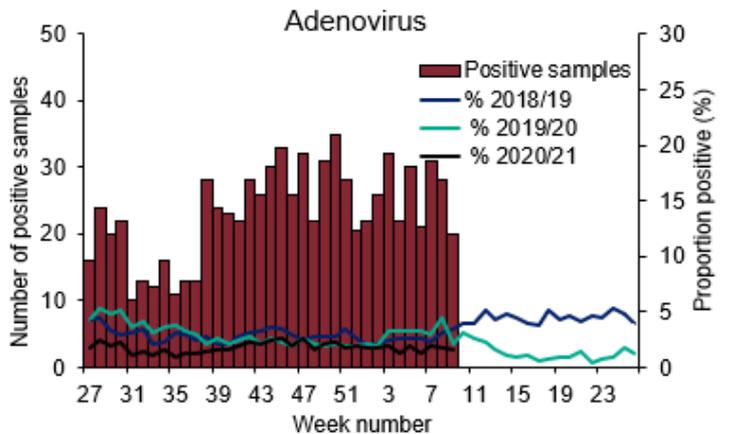
Community surveillance

COVID-19 clusters or outbreaks in educational settings

Data Information

- We report on new acute respiratory infection (ARI) incidents reported to Health Protection Teams (HPTs) and entered on HPZone in the previous reporting week in educational settings by locality
- 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 below.
- The incidents captured on HPZone represent a subset of all ongoing clusters and outbreaks in England. A variety of arrangements are in place with local authorities and other stakeholders supporting HPTs, however, data may not routinely be documented on HPZone. As a result, the number of outbreaks reported for some of the regions are underestimates

Caveats

- A national school helpline started operating on 17 September 2020 and a Universities helpline started operating on 7 October schools in England were closed for half-term during weeks 43 or/ and 44.
- From Week 1 2021 the third national lockdown came into effect and schools were closed with the exception of vulnerable children and children of key workers. Early years settings have remained open.

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

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

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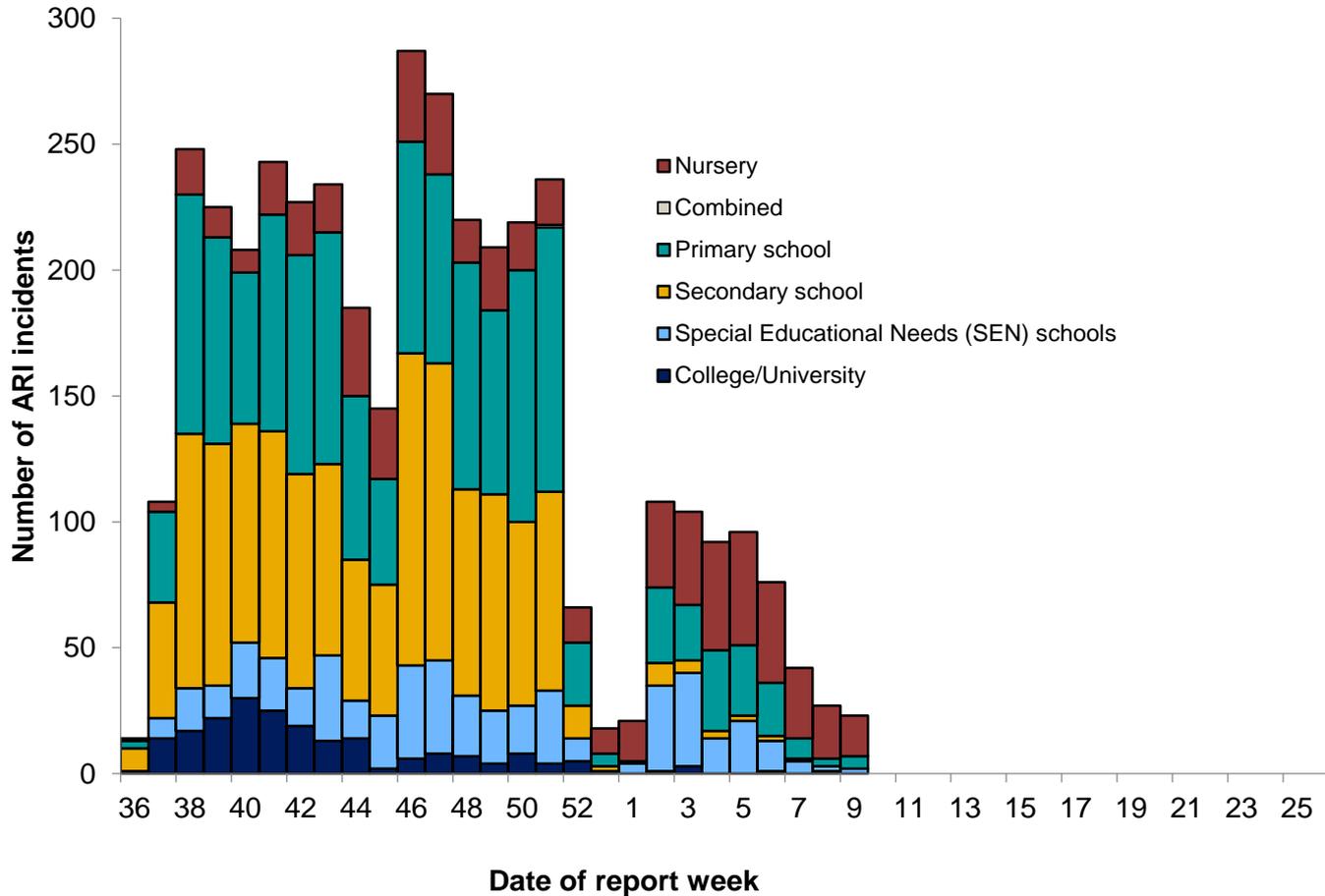
Cumulative number of confirmed COVID-19 clusters or outbreaks by type of educational setting and PHE Centre since week 36, England

| PHE Centres	Nursery	Primary School	Secondary School	Combined	Special Educational Needs (SEN) schools	College University	Total
East of England	8 (0)	16 (0)	40 (0)	0 (0)	9 (0)	13 (0)	86 (0)
East Midlands	97 (3)	153 (1)	104 (0)	0 (0)	52 (0)	22 (0)	428 (4)
London	113 (4)	335 (0)	354 (0)	1(0)	56 (0)	42 (0)	901 (4)
North East	1 (0)	18 (0)	24 (0)	0 (0)	9 (0)	6 (0)	58 (0)
North West	32 (2)	72 (0)	89 (0)	0 (0)	53 (0)	11 (0)	257 (2)
South East	142 (0)	265 (0)	305 (0)	1 (0)	108 (0)	35 (0)	856 (0)
South West	35 (0)	83 (0)	91 (0)	1 (1)	56 (1)	26 (0)	292 (2)
West Midlands	96 (2)	234 (4)	171 (0)	0 (0)	68 (1)	24 (0)	593 (7)
Yorkshire and Hum	95 (5)	179 (0)	119 (0)	0 (0)	64 (0)	25 (0)	482 (5)
Total	619 (16)	1355 (5)	1297 (0)	3 (1)	475 (2)	204 (0)	3953 (24)

*Number of outbreaks for Week 9 in brackets

Contacts by exposure/activity setting in week 9, England
(Data source: NHS Test and Trace)
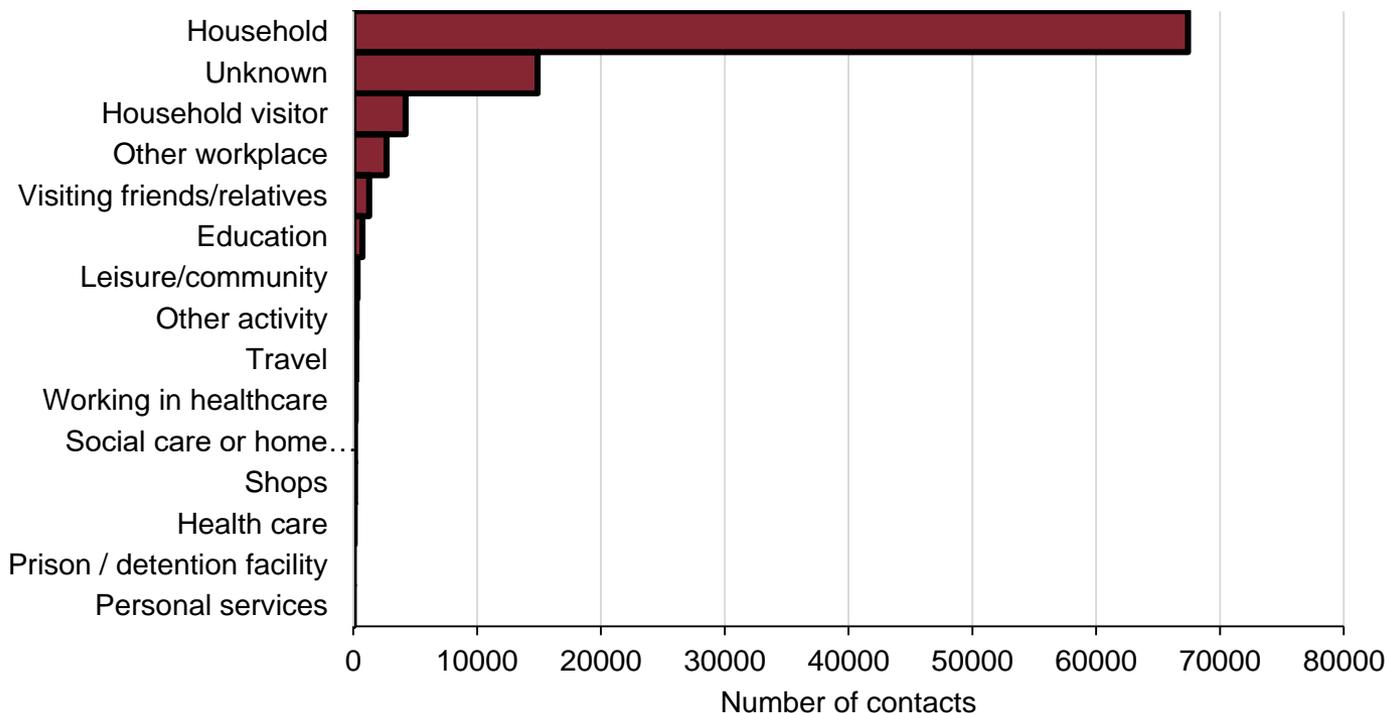
Note: categories have been grouped as follows: leisure / community includes eating out, attending events and celebrations, exercising, worship, arts, entertainment or recreation, community activities and attending play groups or organised trips; other workplace includes: retail, manufacturing or construction, 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 include hairdressers, barbers, tattooists and nail bars.

Return to main menu

Events and activities reported by people testing positive, prior to symptom onset in week 9, England
(Data source: NHS Test and Trace)
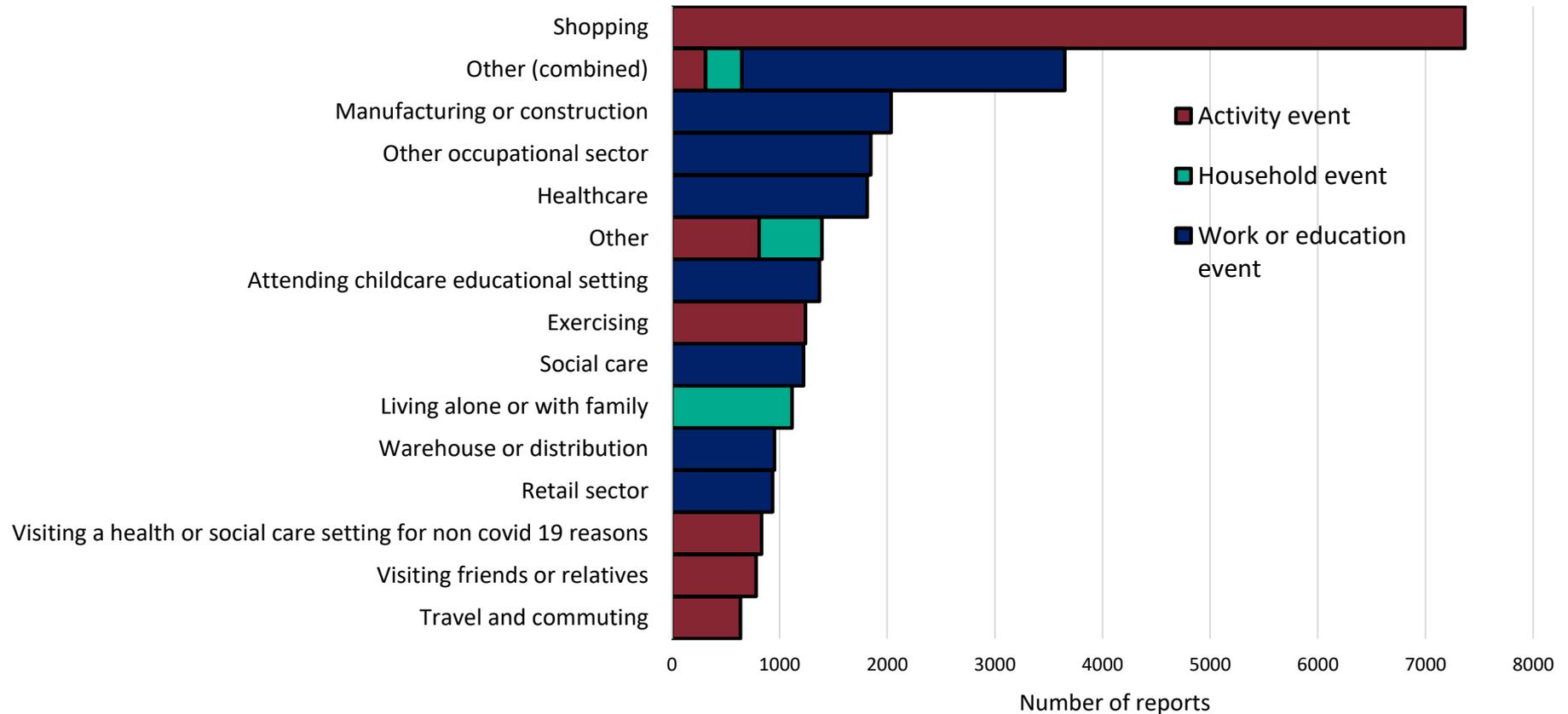
Note: 'Other' includes a wide range of different activities and settings, each of which has small numbers of individuals, as well as activities which did not fit any specific category and were added as Other by the case. This includes: all within 'activities': Arts, entertainment or recreation; Civil 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.

11 March 2021

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

- From early December 2020 a mass testing programme has been rolled out in Higher Education Institutions using Lateral Flow Devices ahead of students returning home for the Christmas break. This will impact testing trends and positivity data during this period.

- From January 2021 a mass testing programme using Lateral Flow Devices has been gradually rolled out among teachers and secondary school students ahead of students returning to school on the 8 March. This has impacted testing trends and positivity data reported from the end of February onwards, particularly in the secondary school-aged cohorts.

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

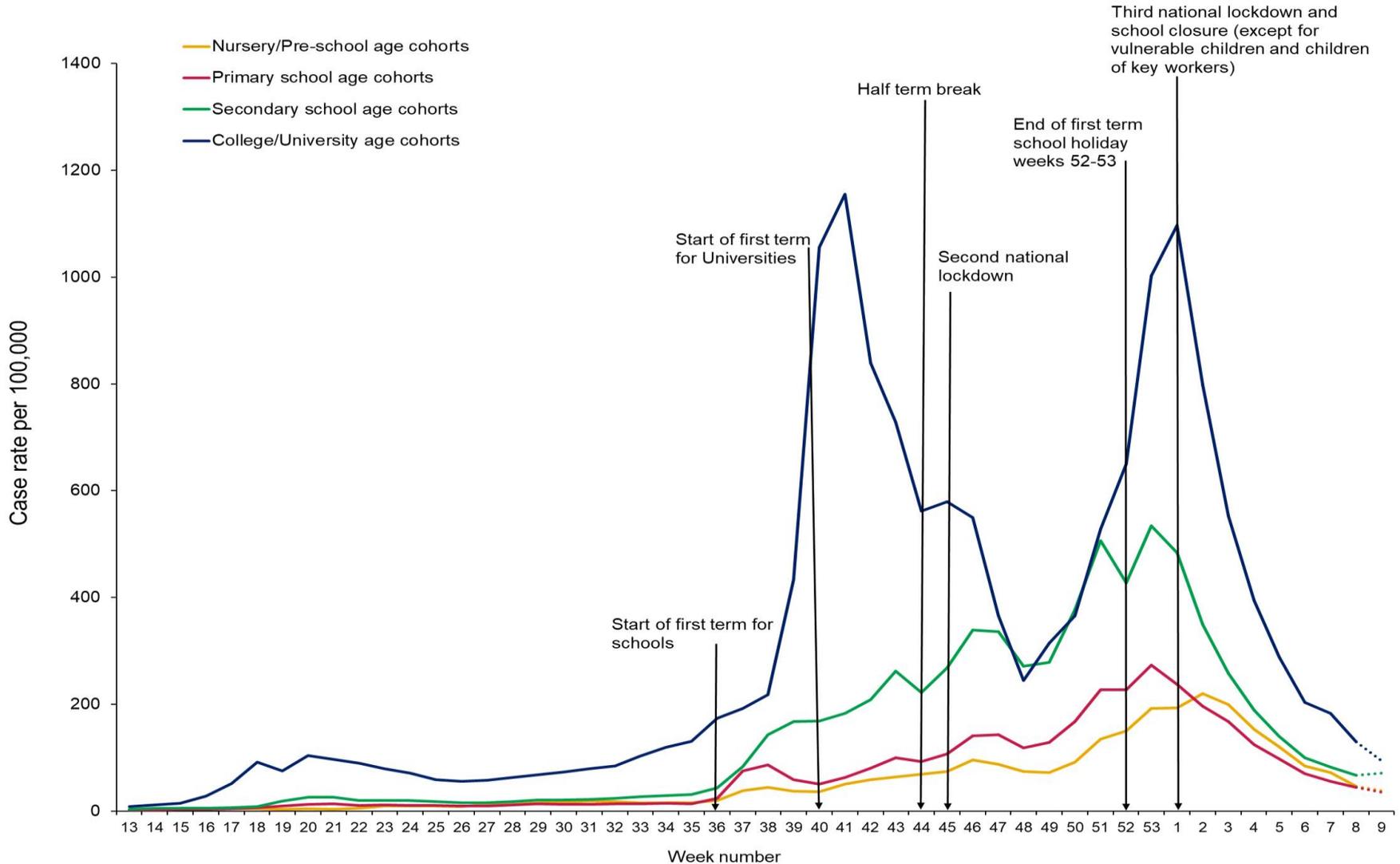| Birth cohort			Year group
01/09/1998	to	31/08/1999	Uni Year 4
01/09/1999	to	31/08/2000	Uni Year 3
01/09/2000	to	31/08/2001	Uni Year 2
01/09/2001	to	31/08/2002	Uni Year 1
01/09/2002	to	31/08/2003	Year 13
01/09/2003	to	31/08/2004	Year 12
01/09/2004	to	31/08/2005	Year 11
01/09/2005	to	31/08/2006	Year 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
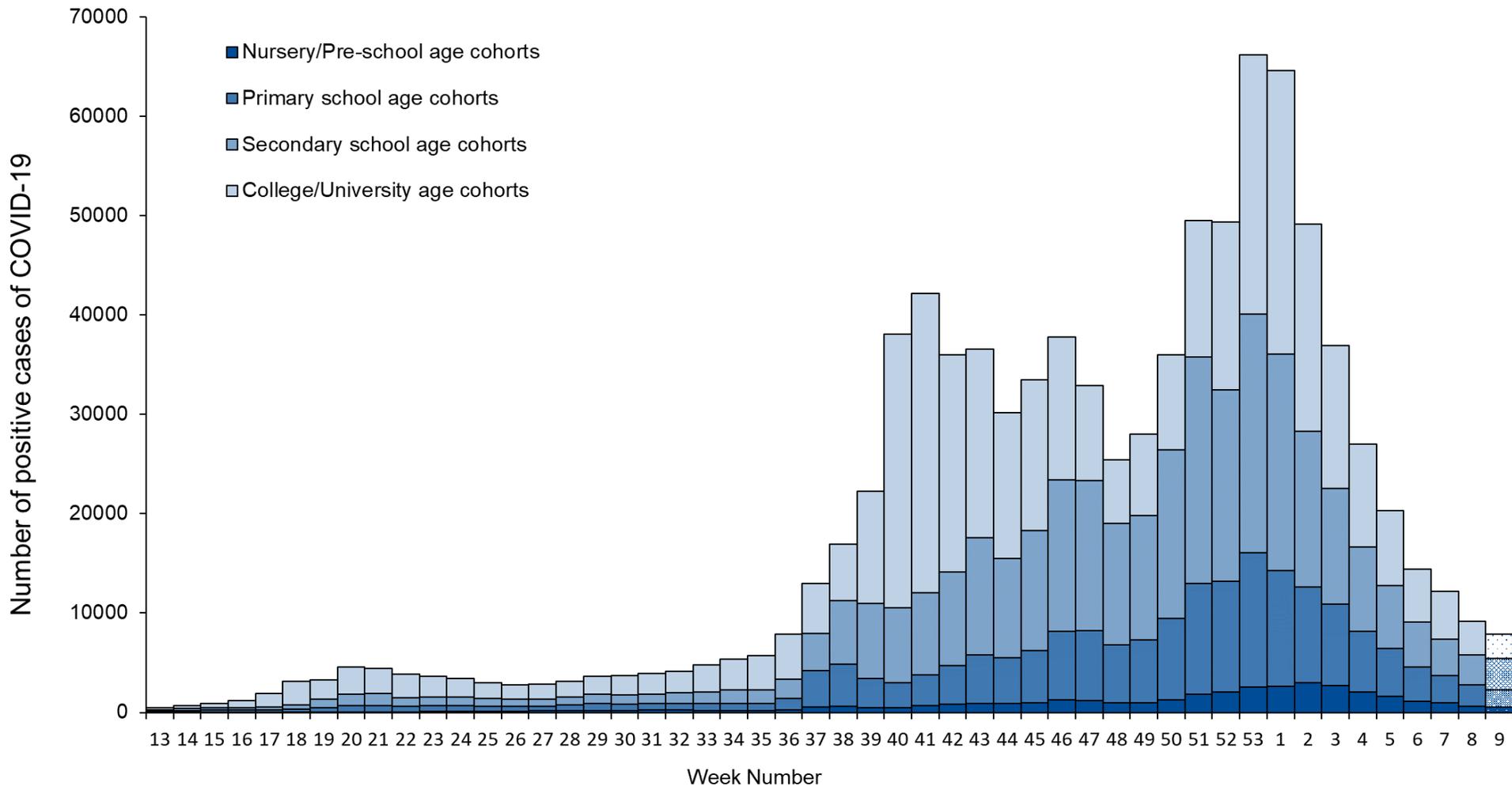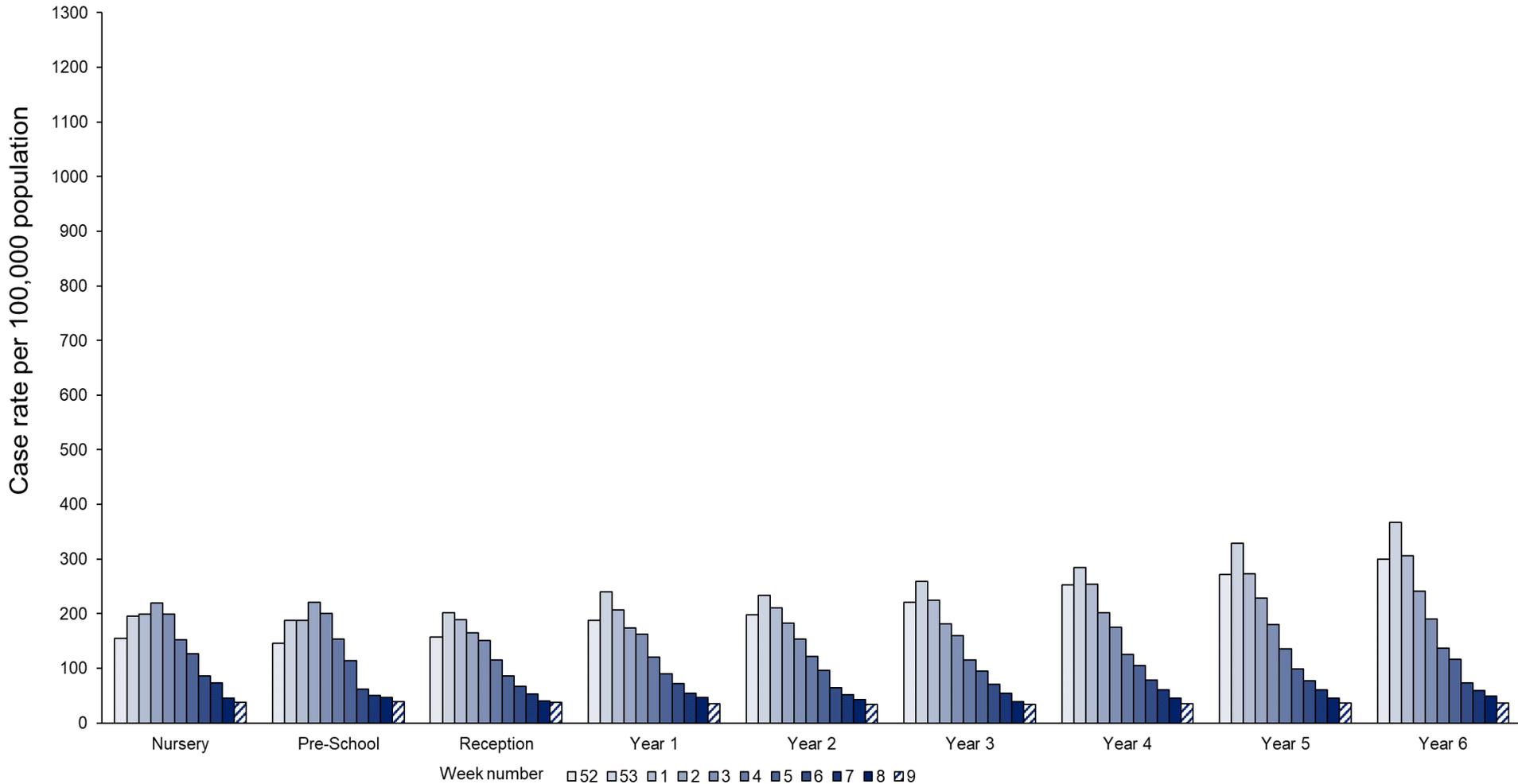
Return to main menu

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in nursery/preschool, primary school, secondary school and college/university age cohorts
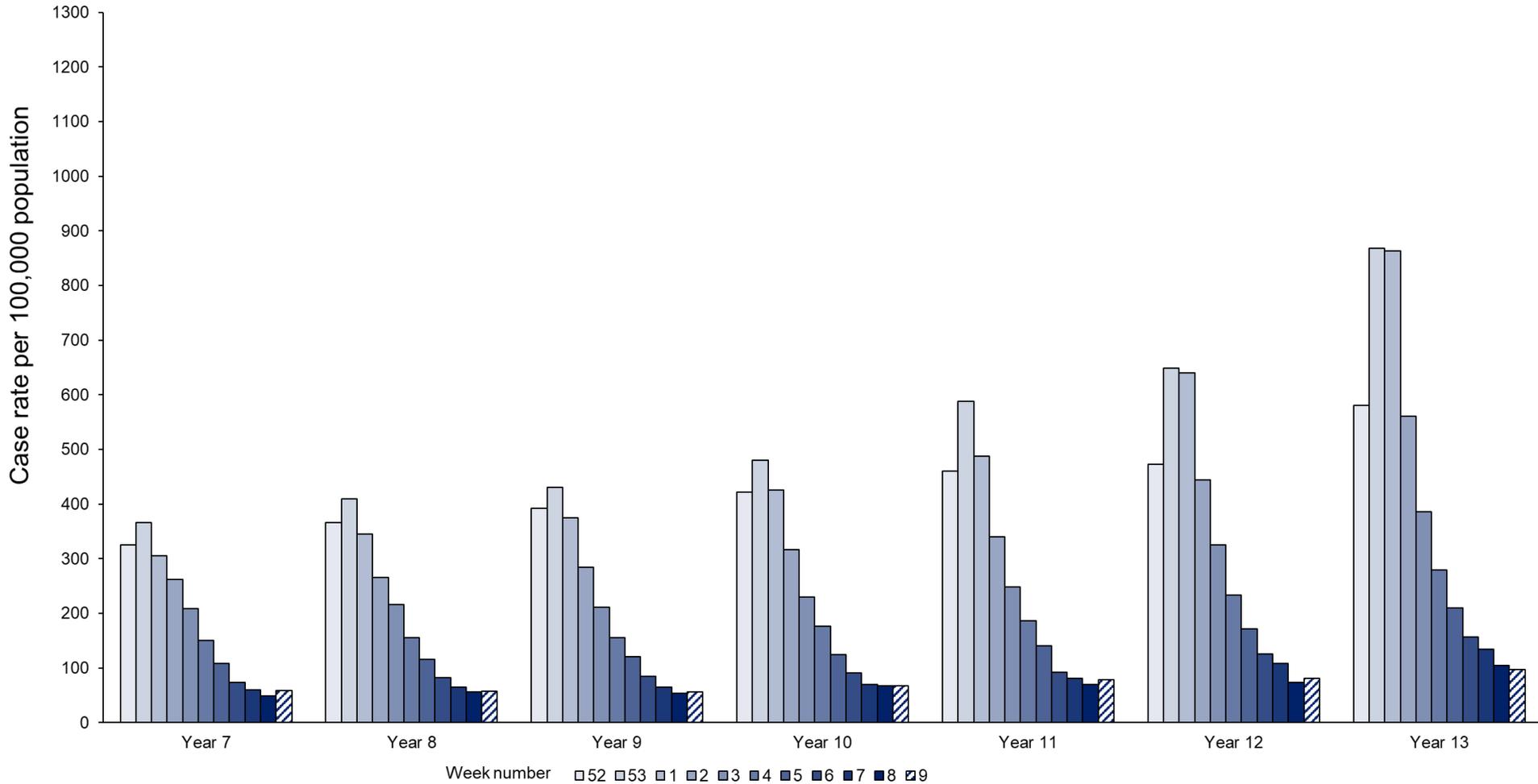
Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts presented by Year group, from nursery to Year 6, week 52 to 9
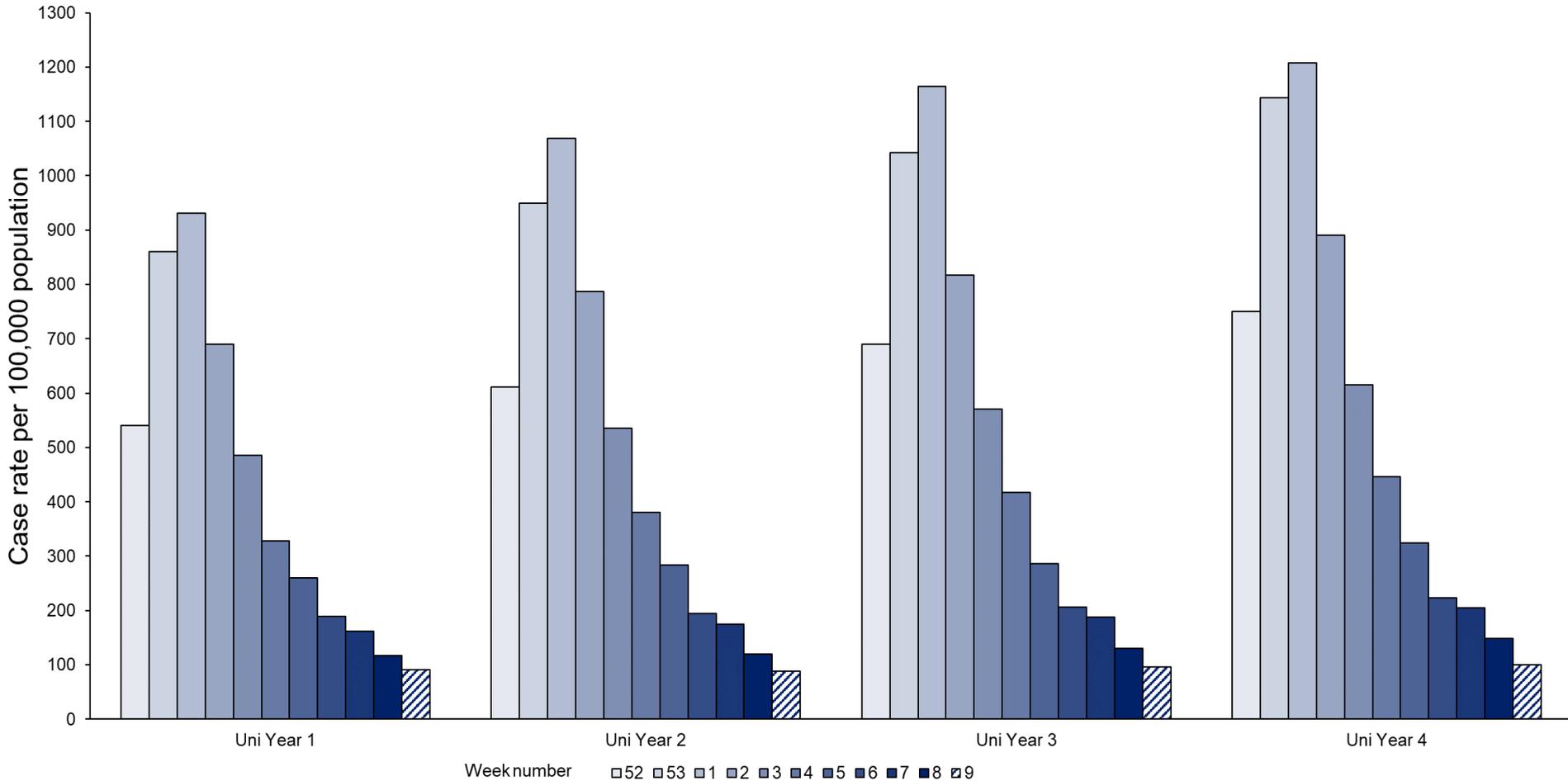
11 March 2021

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 52 to 9


Public Health England

11 March 2021

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population in educational age cohorts corresponding to university/college year groups, week 52 to 9

Weekly incidence of laboratory confirmed COVID-19 cases per 100,000 population by educational age cohorts and PHE region, week 52 to 9

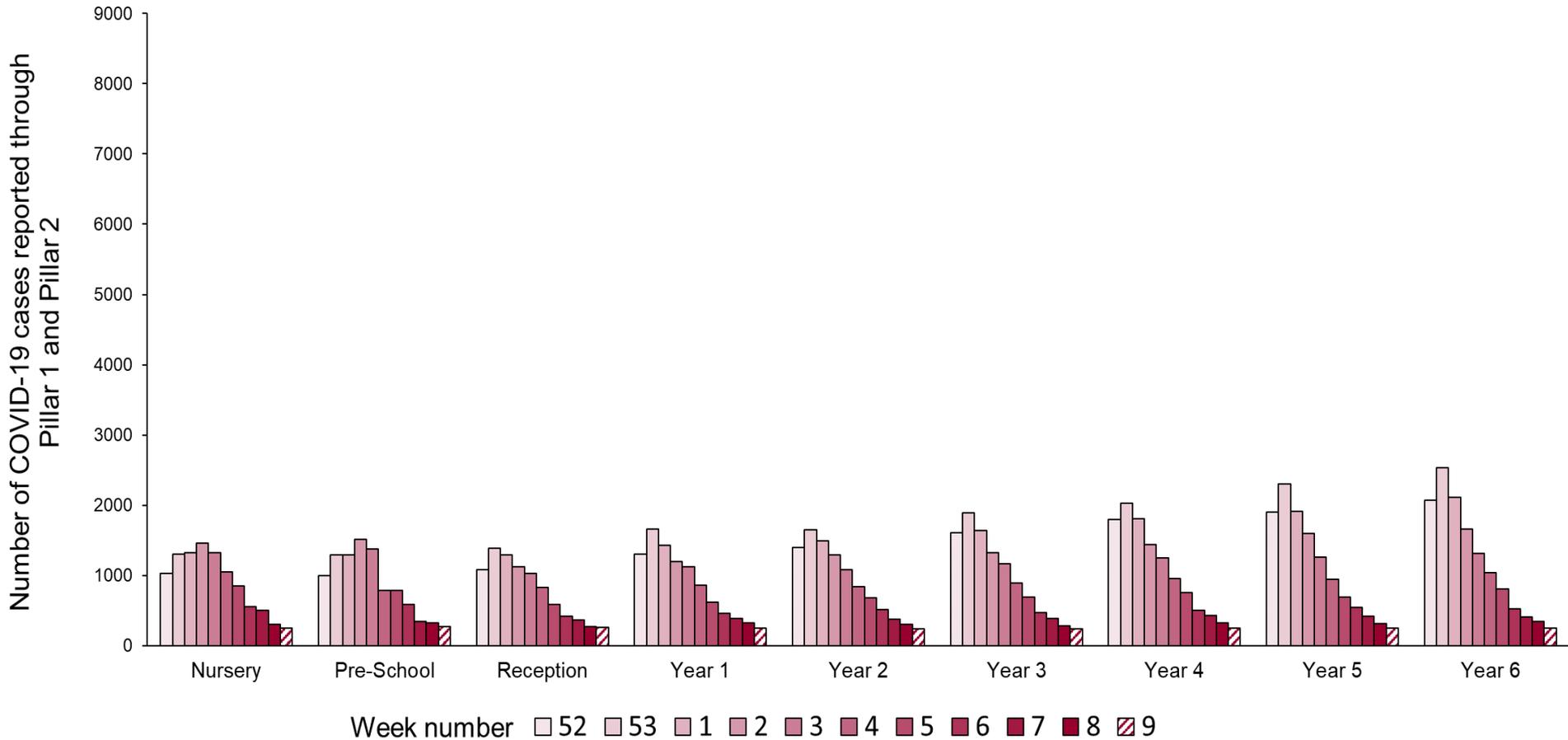Case rate per 100,000 population
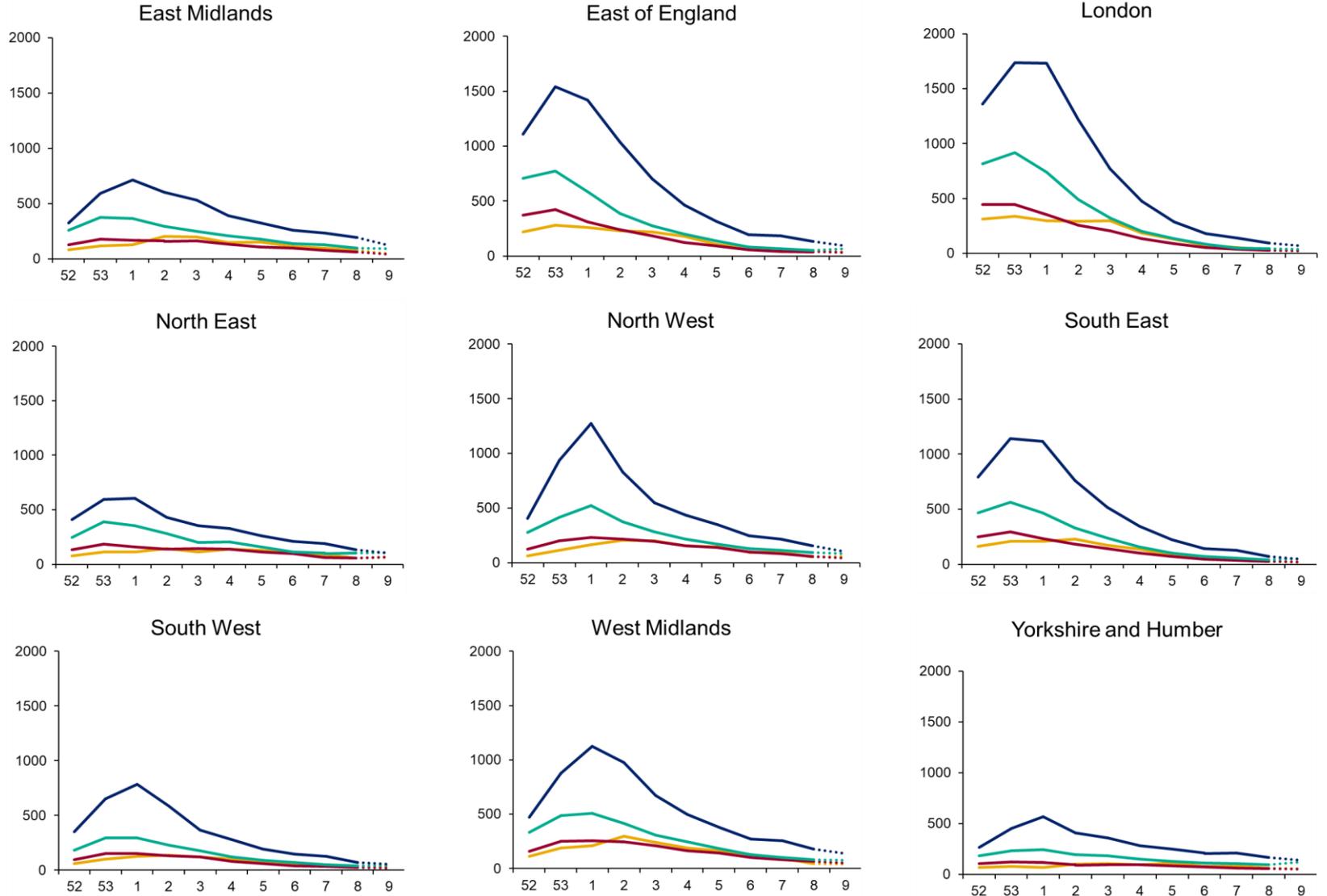
Nursery/Pre-school age cohorts — Primary school age cohorts — Secondary school age cohorts — College/University age cohorts
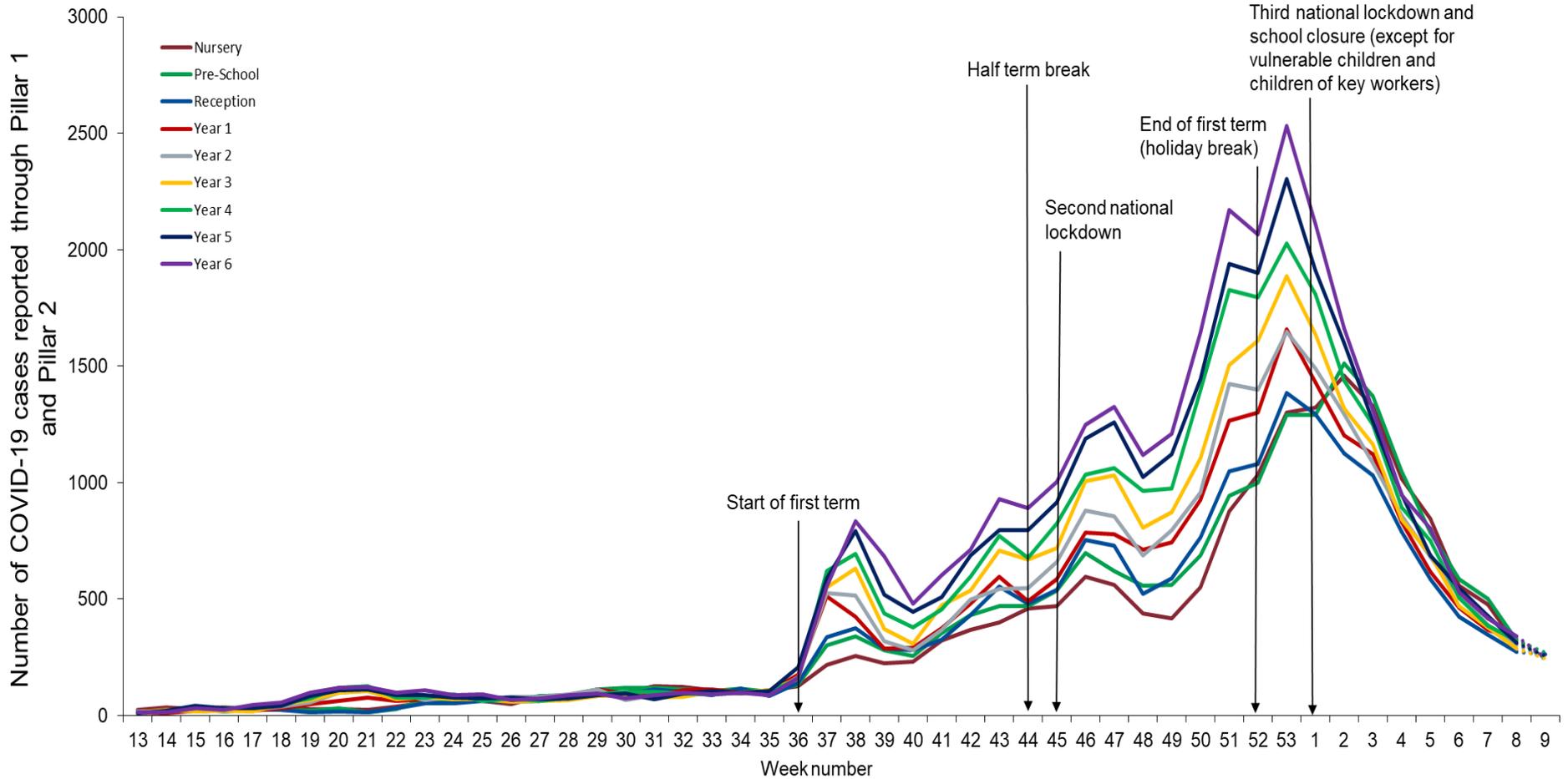
Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6, week 52 to 9

Public Health England

11 March 2021

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

11 March 2021

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 52 to 9

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

11 March 2021

Weekly number of new laboratory confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups, week 52 to 9

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

Public Health England

11 March 2021

Weekly number of new laboratory confirmed COVID-19 cases by educational age cohorts and PHE region, week 52 to 9

11 March 2021

Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by Year group, from nursery to Year 6, week 52 to 9
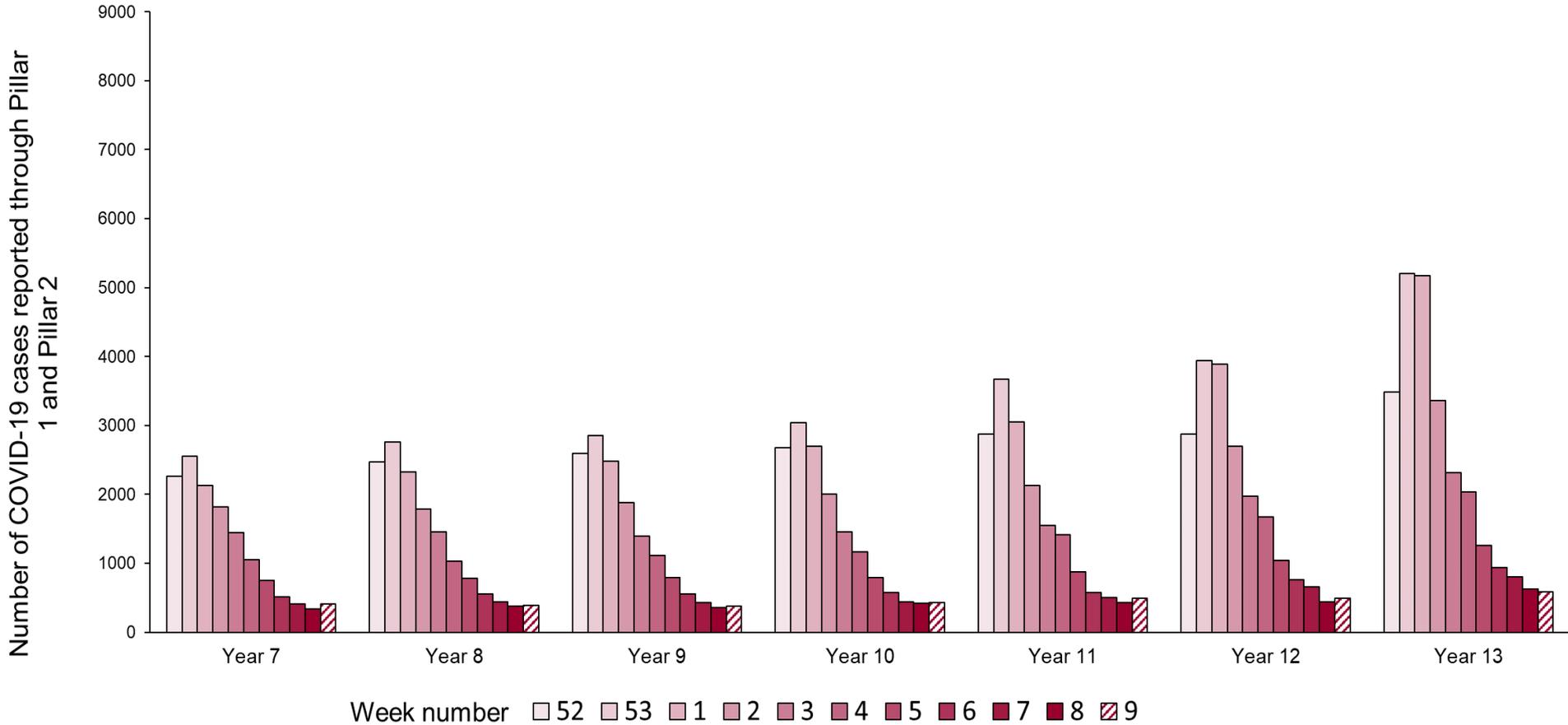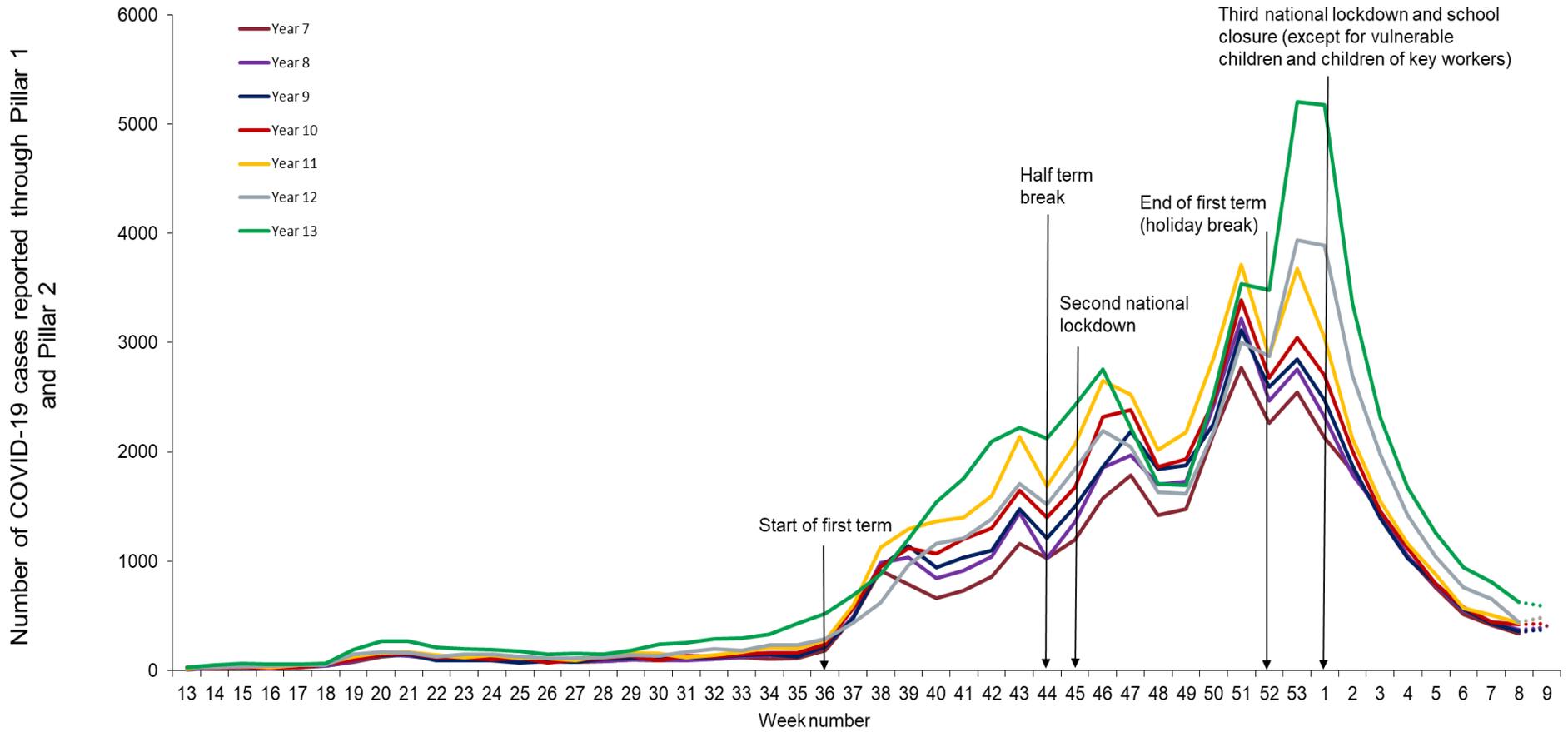
Return to main menu

Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts presented by secondary school year group (Year 7 to Year 13), week 52 to 9
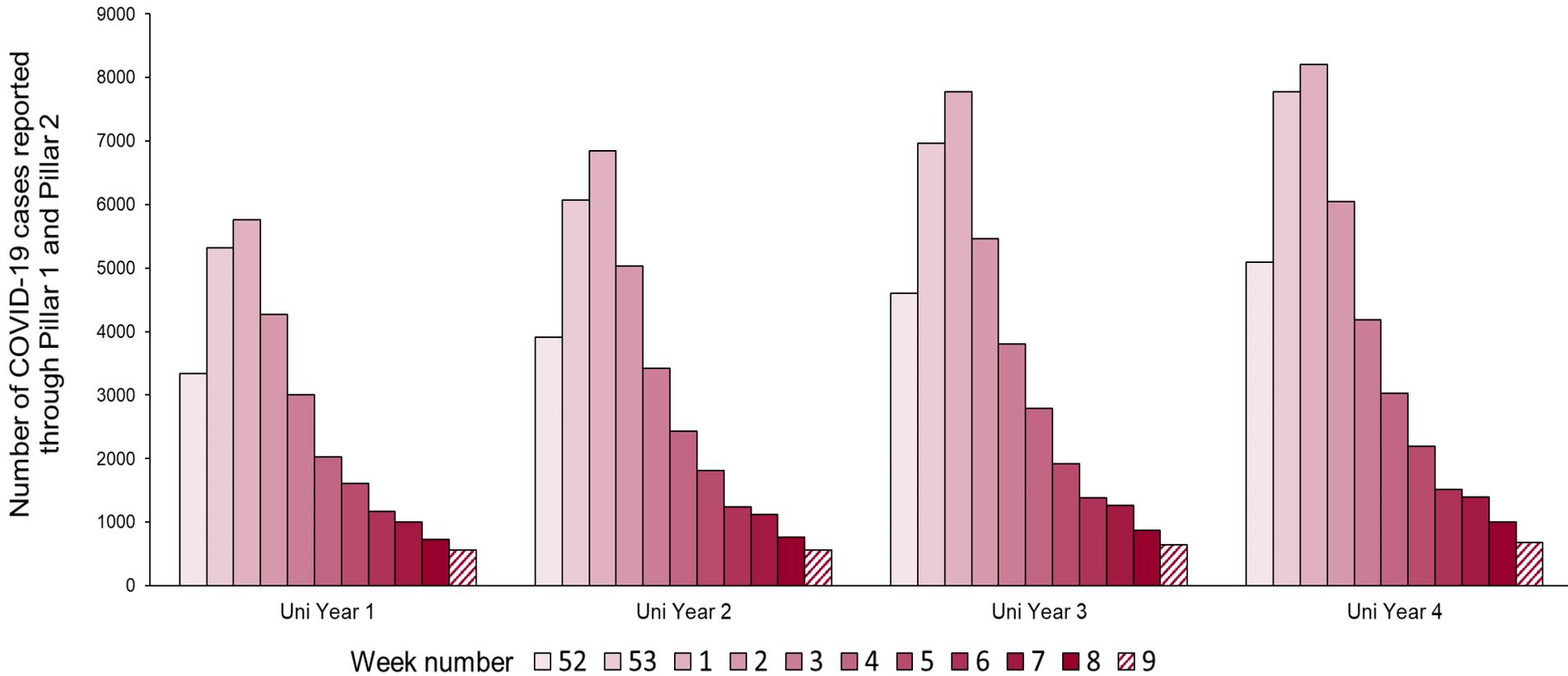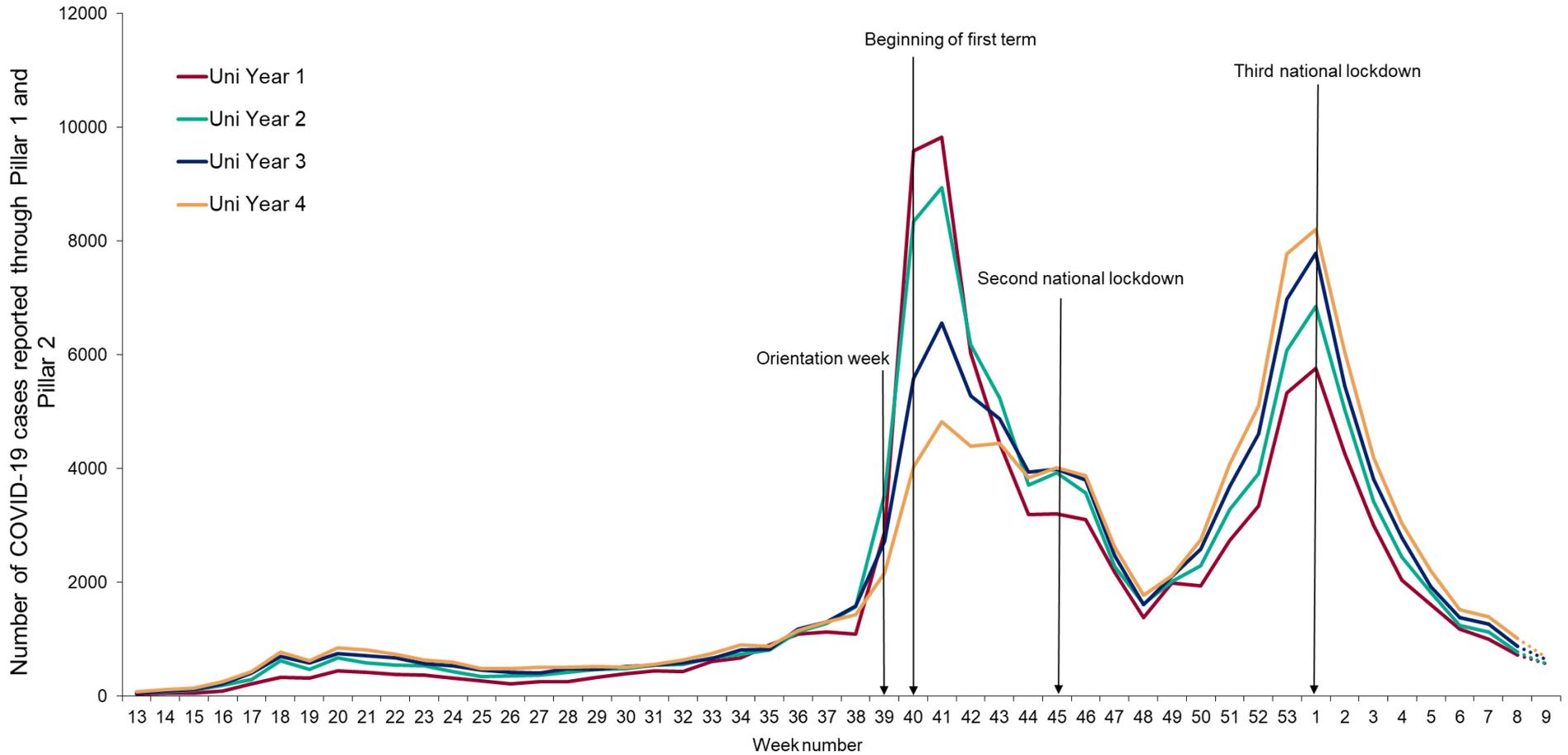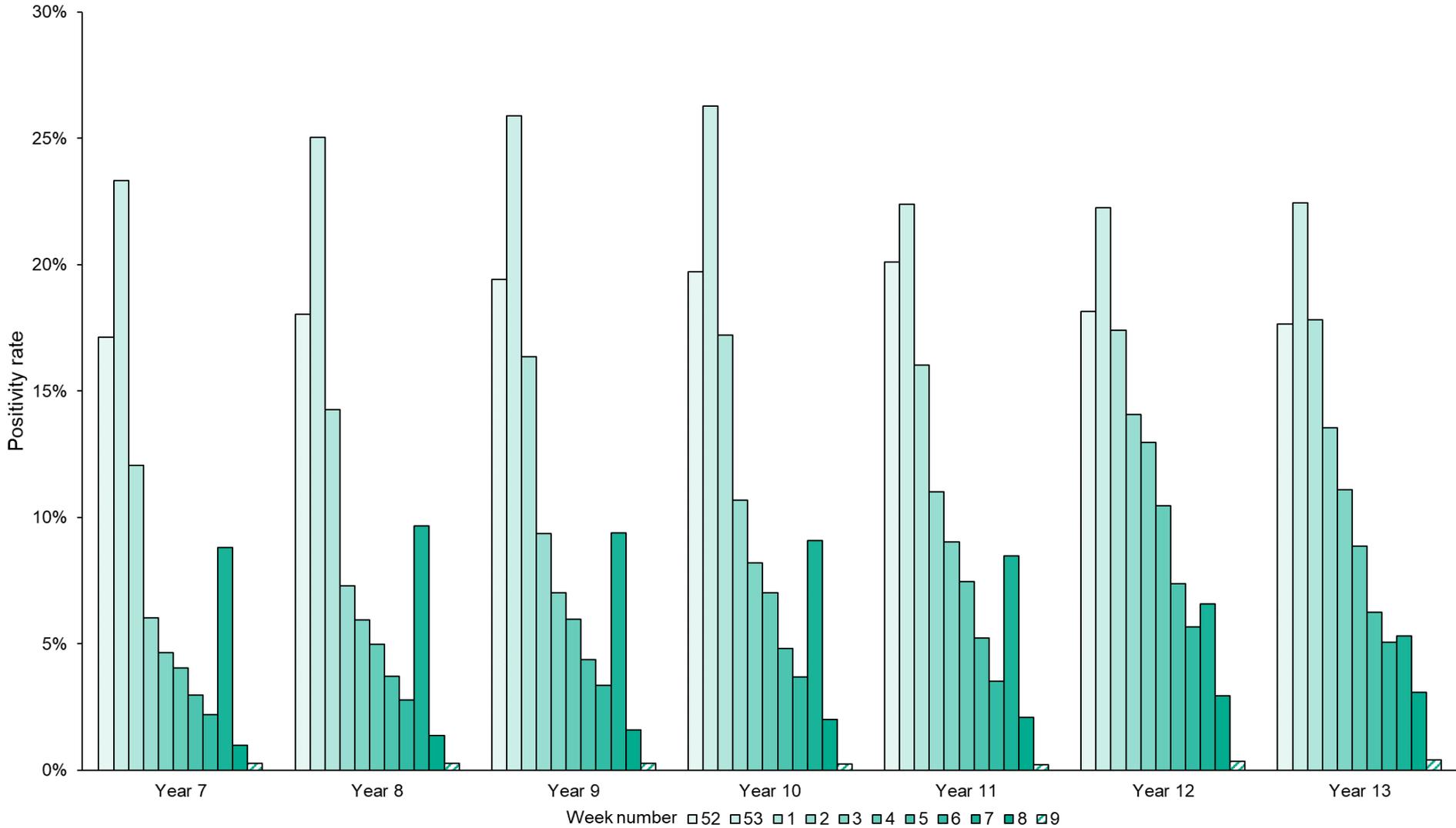
Weekly positivity rates of confirmed COVID-19 cases in educational age cohorts corresponding to university/college year groups, week 52 to 9

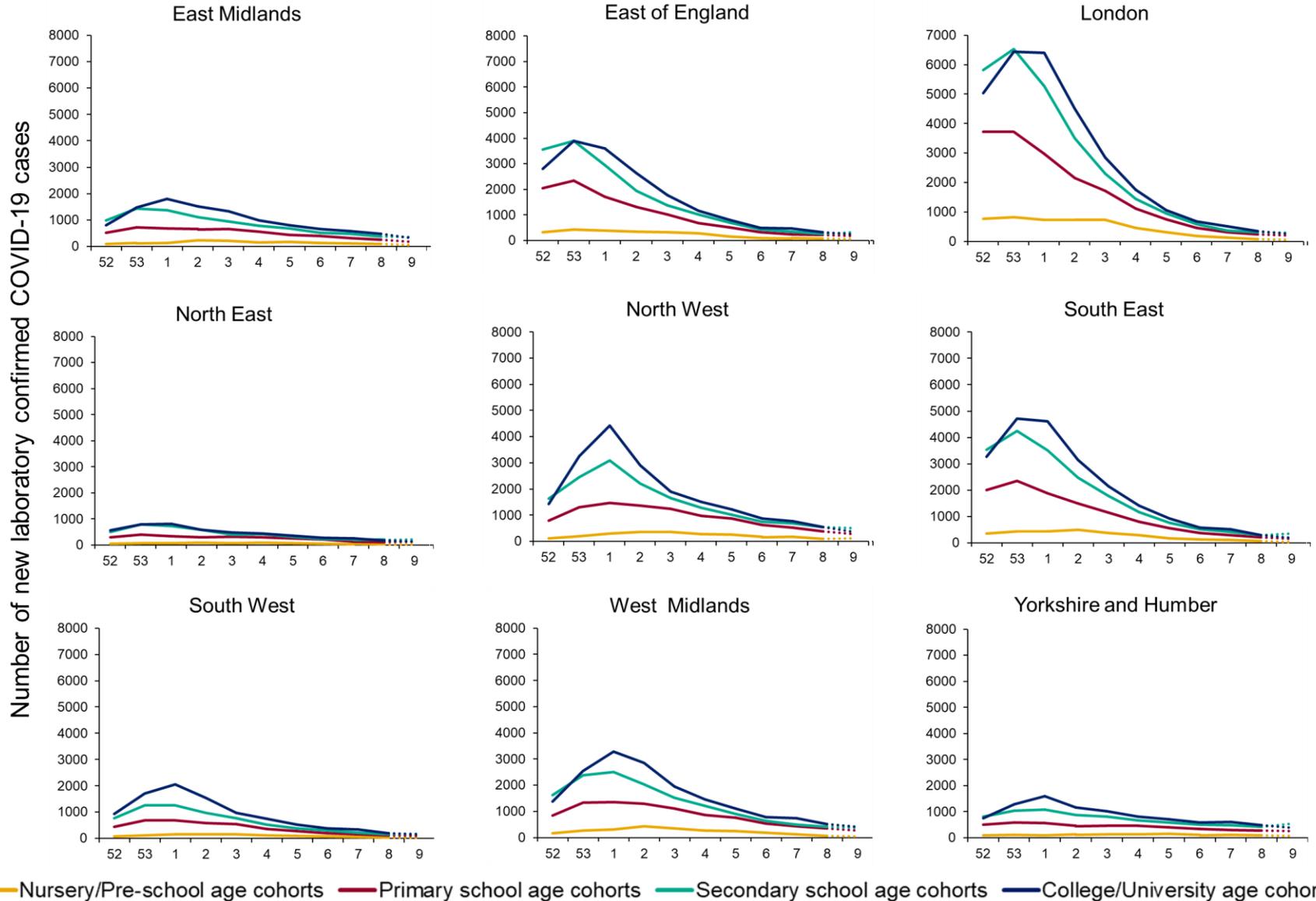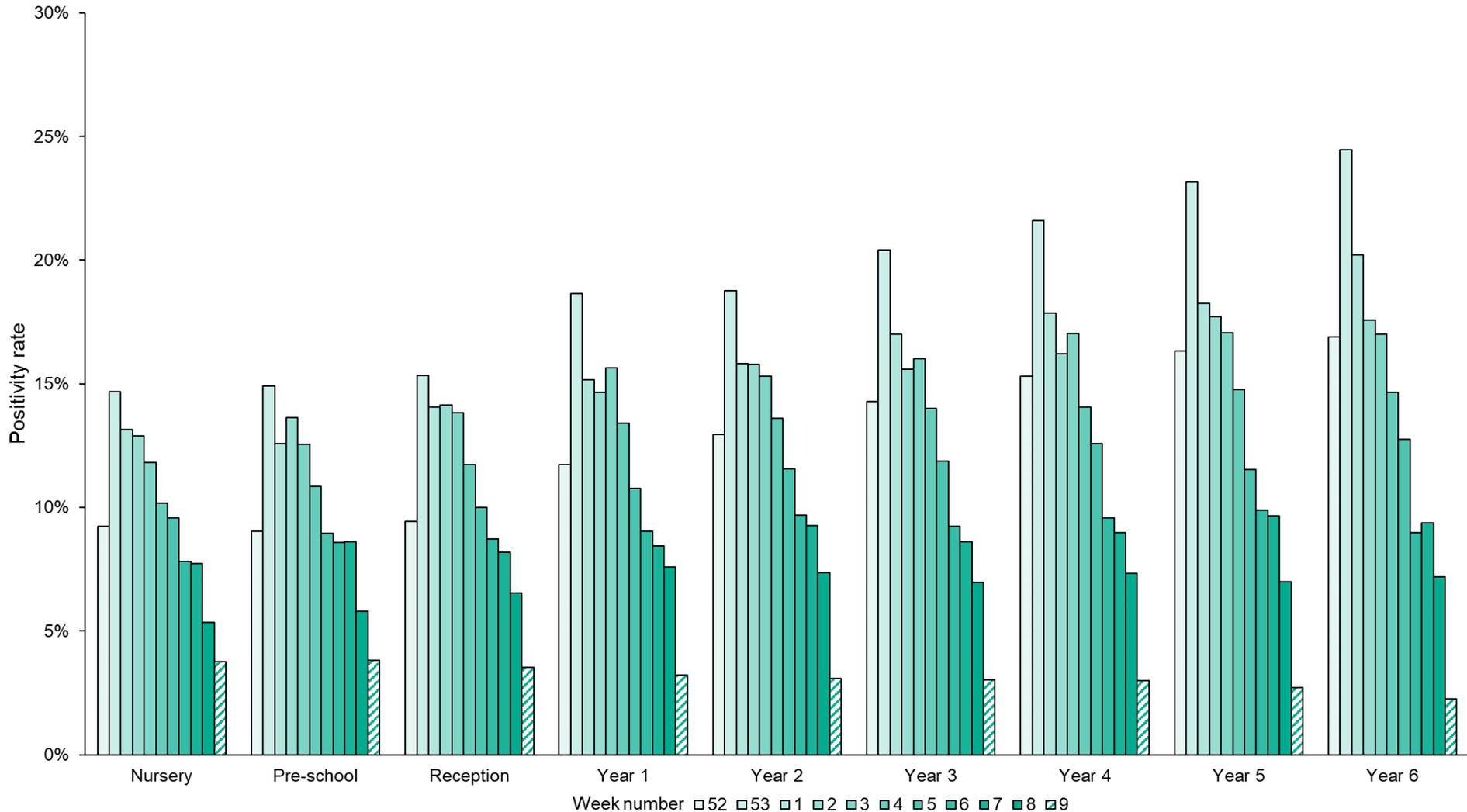Return to main menu

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

- From January 2021 a programme of rapid asymptomatic testing was rolled out to students in the secondary school aged cohorts attending these settings during lockdown. We note a drop in the number of tests conducted in these cohorts and an increase in positivity during week 7 which coincides with half term break.
- Lateral flow device testing of secondary aged pupils in a supervised environment from week 8

11 March 2021

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

- From January 2021 a programme of rapid asymptomatic testing was rolled out to students in the secondary school aged cohorts attending these settings during lockdown. We note a drop in the number of tests conducted in these cohorts and an increase in positivity during week 7 which coincides with half term break.
- Lateral flow device testing of secondary aged pupils in a supervised environment from week 8

11 March 2021

Primary care surveillance

Overall SARS-CoV-2 positivity (%) (weekly) by PHE Region, England (RCGP)
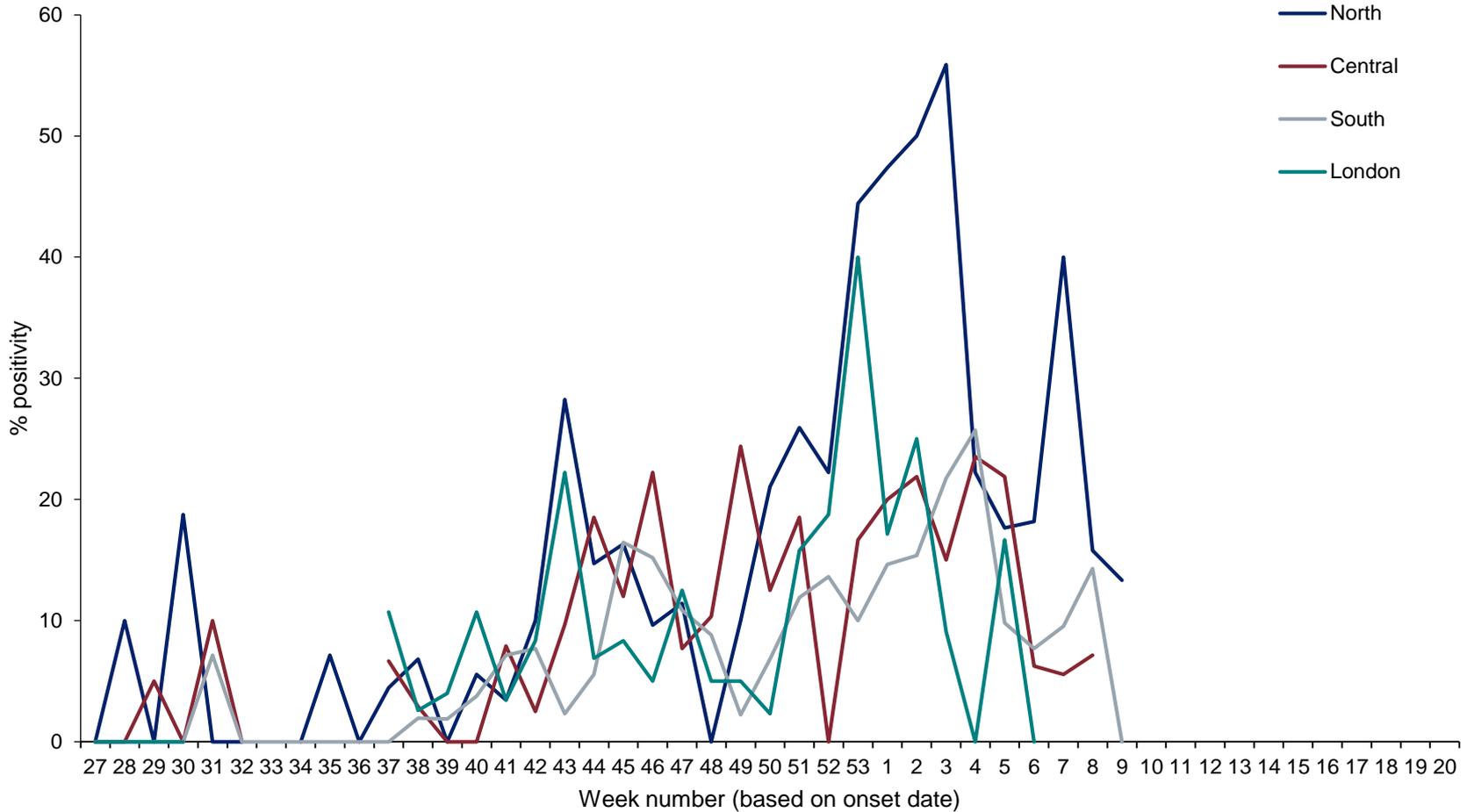
For the most recent week, more samples are expected to be tested therefore the graph should be interpreted with caution. Positivity (%) is not calculated when the total number tested is less than 10

11 March 2021

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

11 March 2021

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
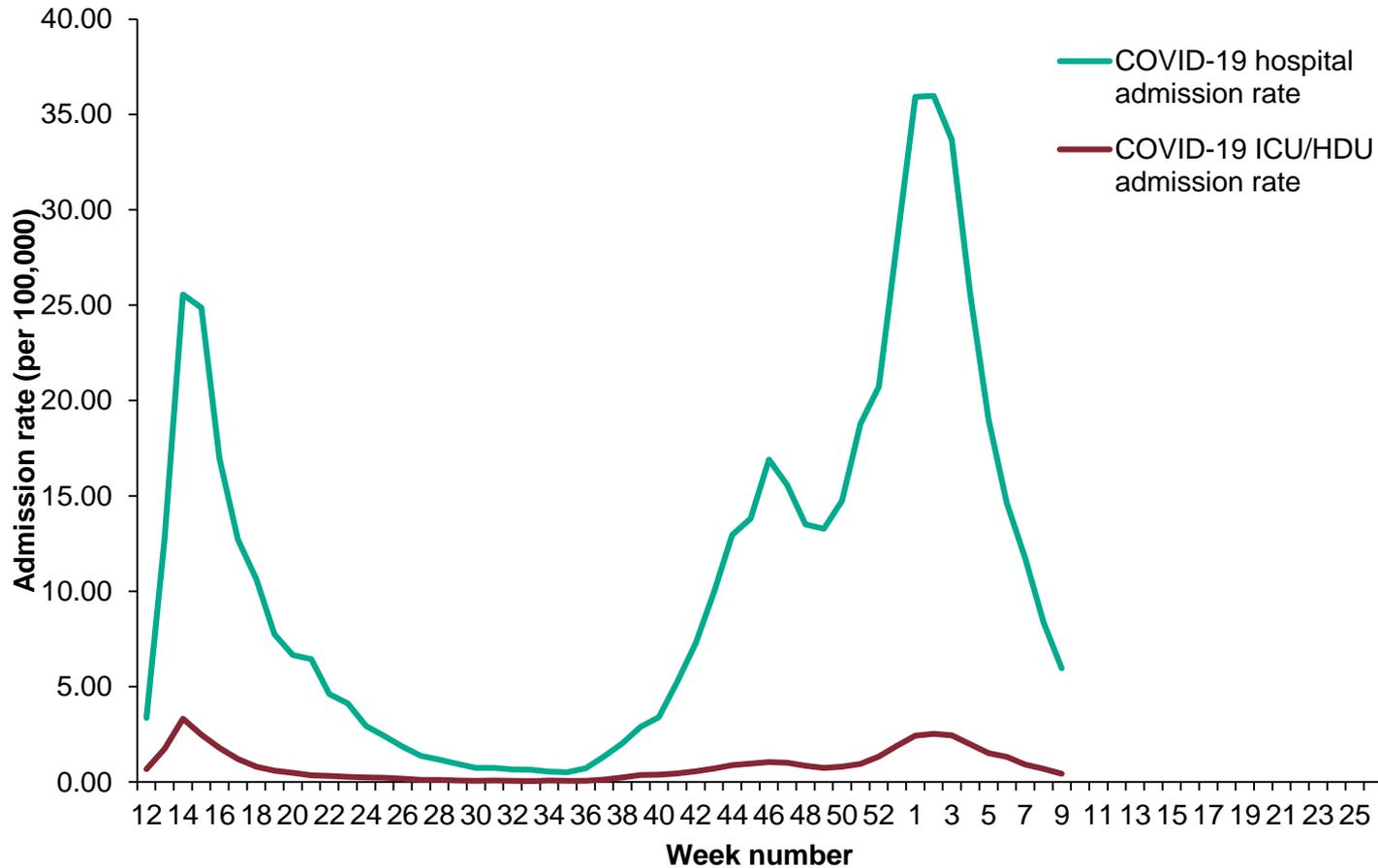
Weekly admission rates for hospital and ICU/HDU laboratory confirmed COVID-19 cases reported through SARI Watch, week 9

Hospital admissions of lab confirmed COVID-19 (Rate per 100,000 trust population)
- ○ 0-9.99
- ○ 10-19.99
- ● 20-29.99
- ● 30-39.99
- ● 40-49.99
- ● 50+
- ○ 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

11 March 2021
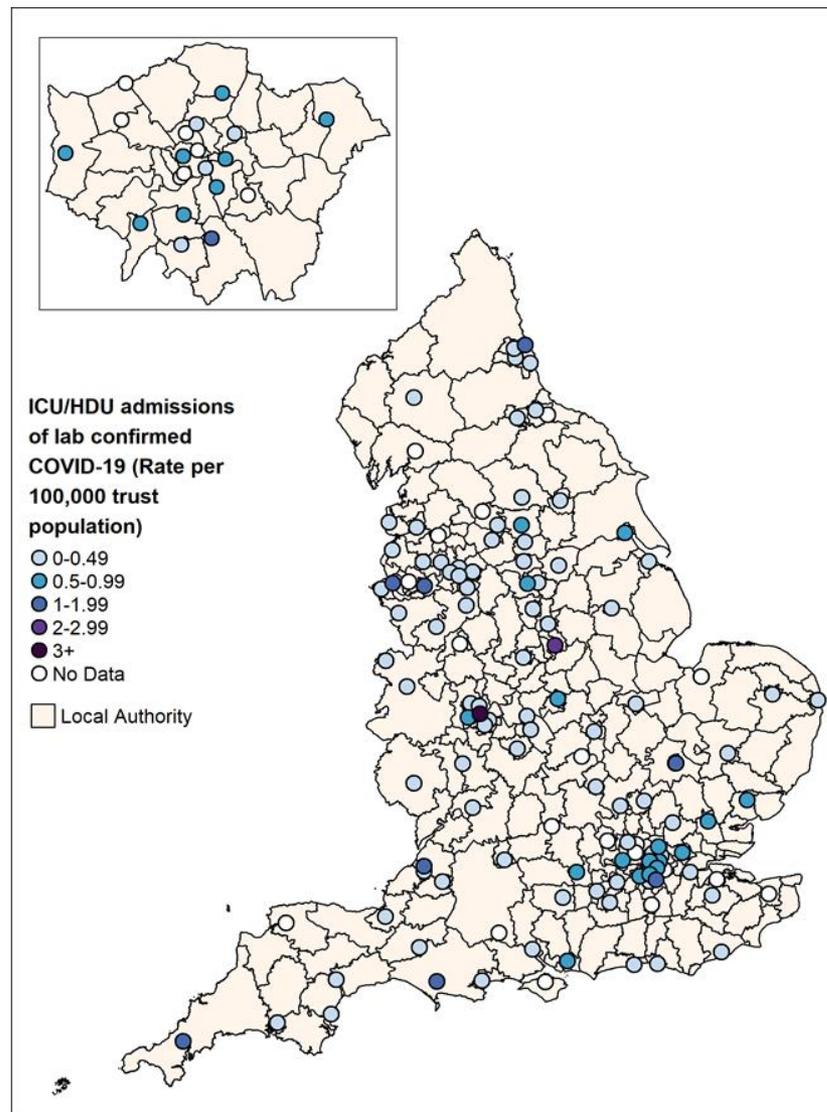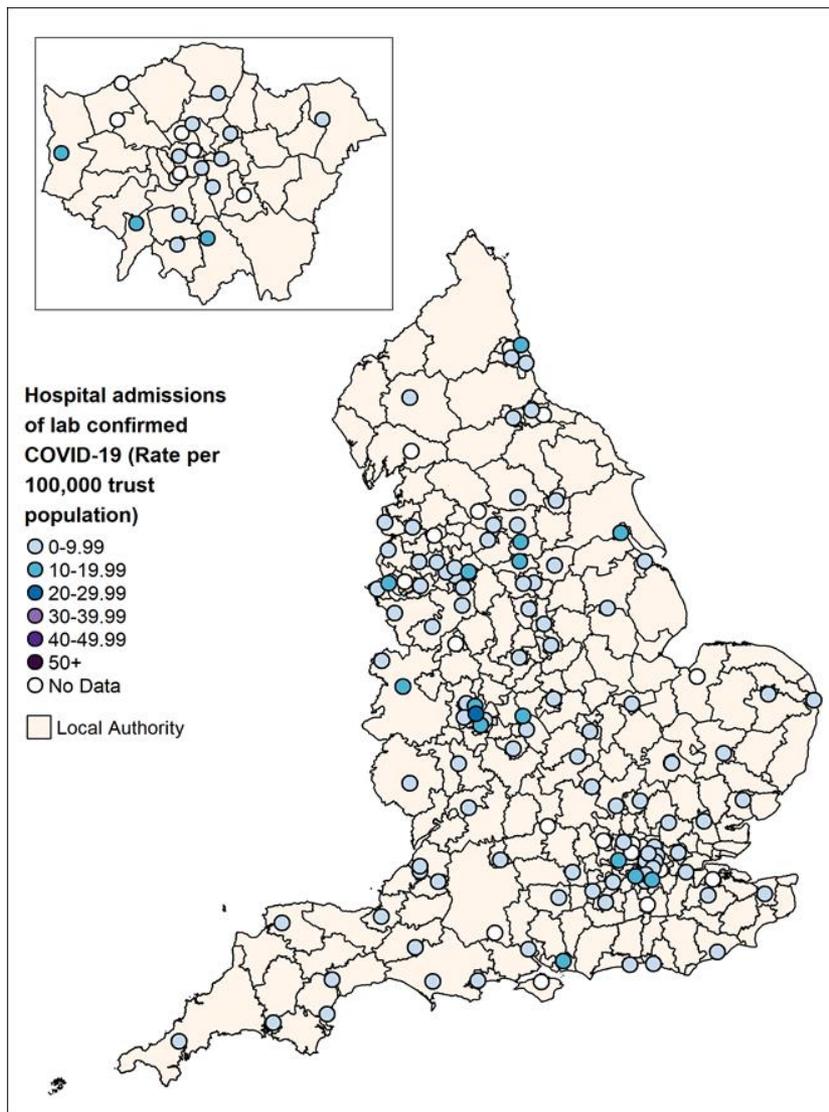
Age/sex pyramid of new (a) hospital (lower level of care) (n=38,415) and (b) ICU/HDU (n=16,736) COVID-19 cases reported through SARI Watch, England

(a)
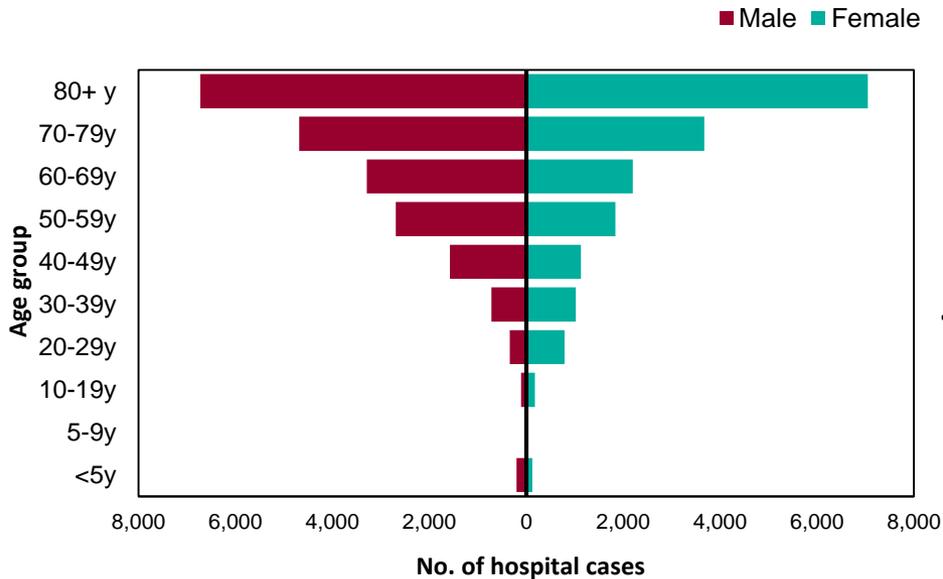
(b)
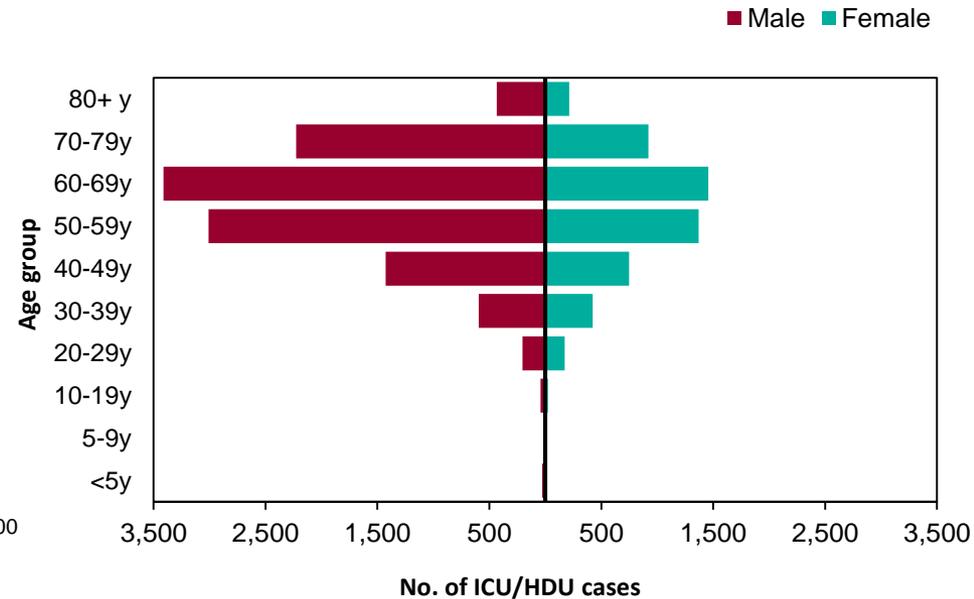
This figure is based on individual patient level data which are provided to SARI Watch from a subset of NHS Acute Trusts, therefore the data should be interpreted with caution as the distribution of age, sex and ethnic group may not be representative of all hospitalised patients.

Ethnic group of new hospitalisations (lower level of care) (n=37,078) and ICU/HDU (n=15,577) COVID-19 cases reported through SARI Watch, England

Public Health England

Ethnic group	Hospitalisations	ICU/HDU
White	83.7	67.6
Asian / Asian British	8.5	16.9
Black / African / Caribbean / Black British	4.7	8.0
Mixed / Multiple ethnic groups	0.8	1.5
Other ethnic group	2.3	6.0

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.

11 March 2021

Weekly COVID-19 hospitalisation rate per 100,000 trust catchment population by age group and region, weeks 53 to 9
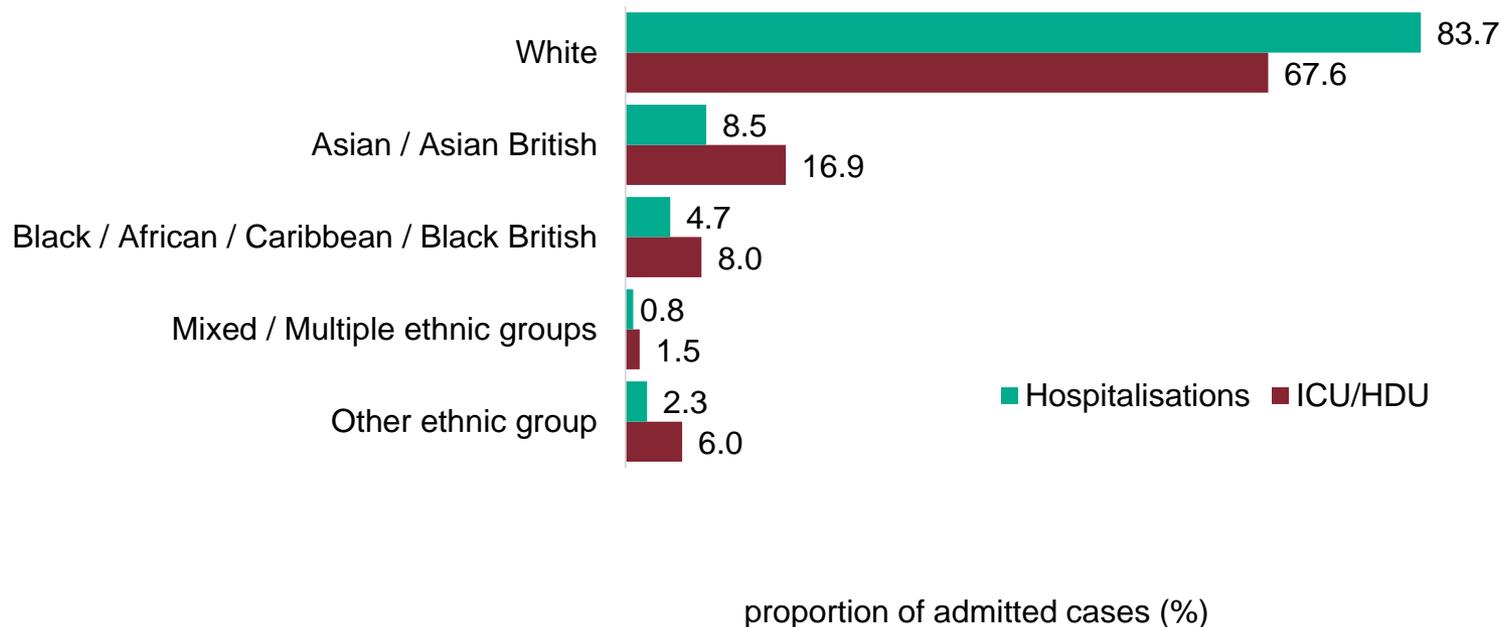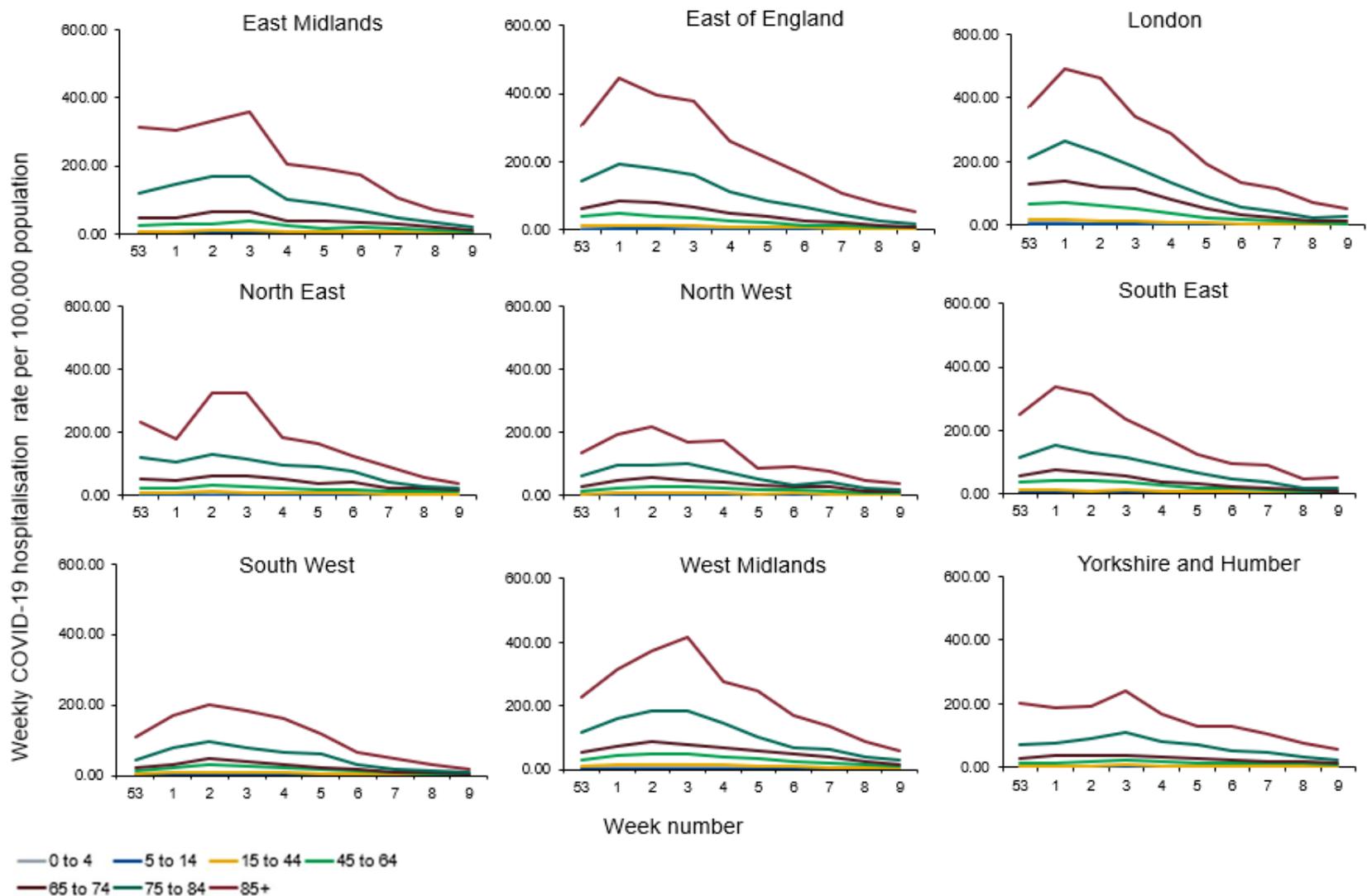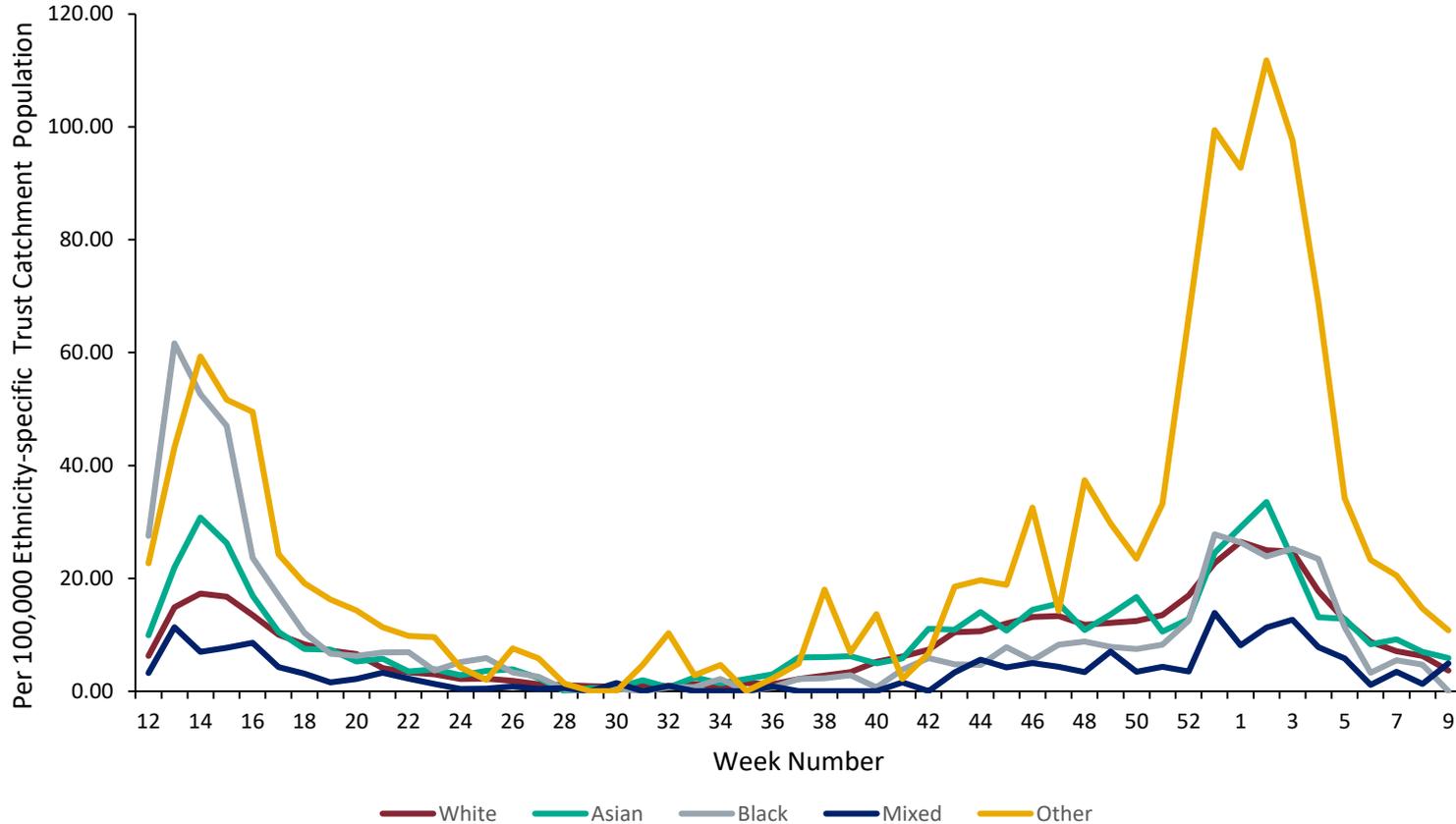
Hospital admission rate (excluding ICU/HDU) by ethnicity per 100,000 trust catchment population

Caveat: Ethnicity was obtained through linkage to hospital activity data and determined by the ethnicity stated in the most recent record. There are several limitations with this approach. Ethnicity is supposed to be self-reported by the patient in hospital records, but this may not always be the case. Patients may also report different ethnicities in different episodes of care. The Other ethnic group may include people who do not self-identify with any of the more explicitly-defined ethnicity categories, or people who have been assigned to the group by data reporters. In addition, people from certain ethnic backgrounds may be less likely to have complete records with which to complete the linkage to hospital data. Previous analysis has shown higher population-based diagnoses and death rates in the Other ethnic group due to a mismatch between ethnicity assigned in the population data and hospital records (see disparities report). However, further work is ongoing to improve the allocation of ethnicity to COVID-19 data.
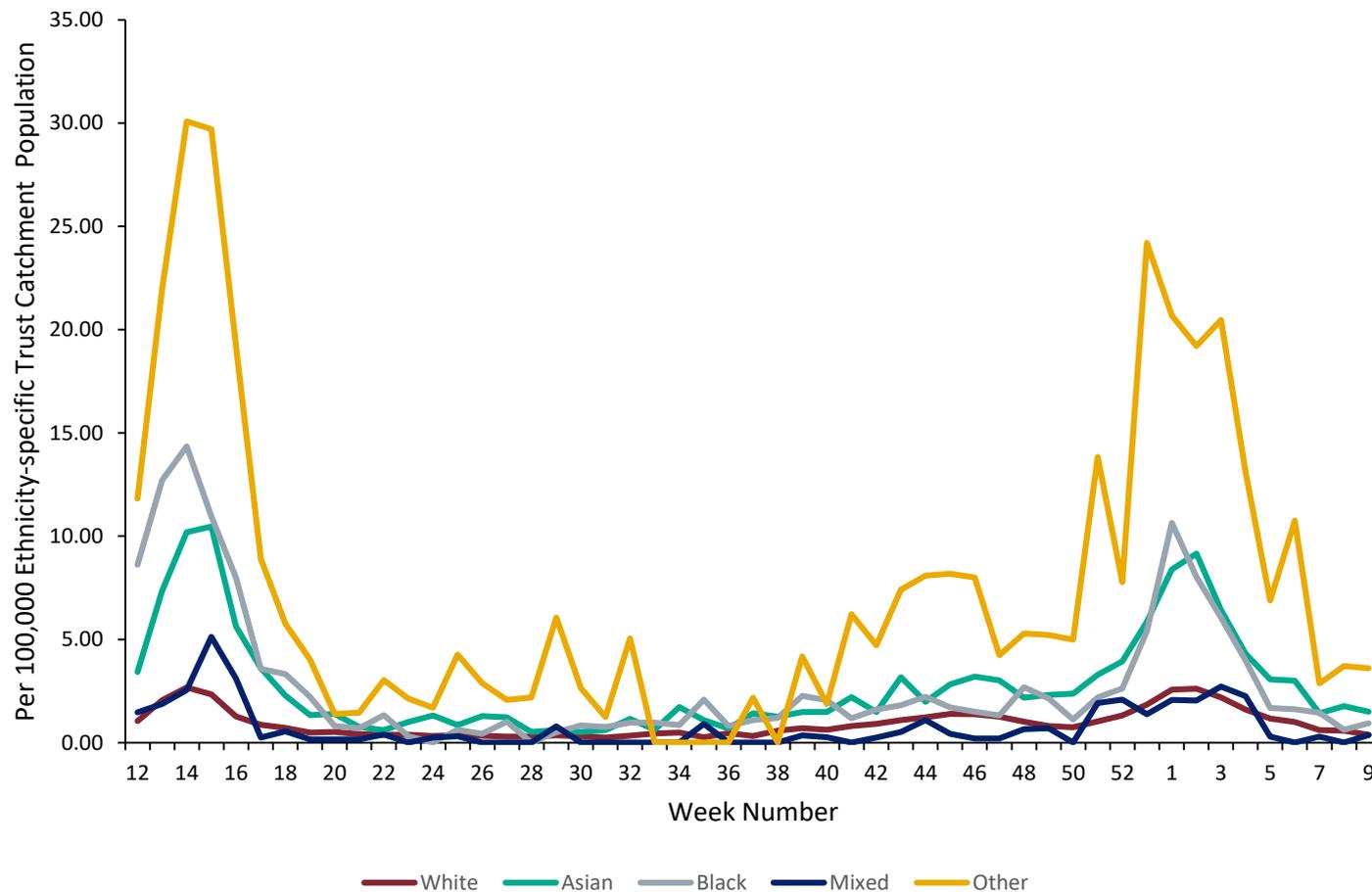
11 March 2021

Rate of admission to ICU/HDU by ethnicity, per 100,000 trust catchment population

Caveat: Ethnicity was obtained through linkage to hospital activity data and determined by the ethnicity stated in the most recent record. There are several limitations with this approach. Ethnicity is supposed to be self-reported by the patient in hospital records, but this may not always be the case. Patients may also report different ethnicities in different episodes of care. The Other ethnic group may include people who do not self-identify with any of the more explicitly-defined ethnicity categories, or people who have been assigned to the group by data reporters. In addition, people from certain ethnic backgrounds may be less likely to have complete records with which to complete the linkage to hospital data. Previous analysis has shown higher population-based diagnoses and death rates in the Other ethnic group due to a mismatch between ethnicity assigned in the population data and hospital records (see disparities report). However, further work is ongoing to improve the allocation of ethnicity to COVID-19 data.

Return to main menu

Mortality surveillance

Number of deaths since week 10 by week of death and time since laboratory confirmation of COVID-19, England
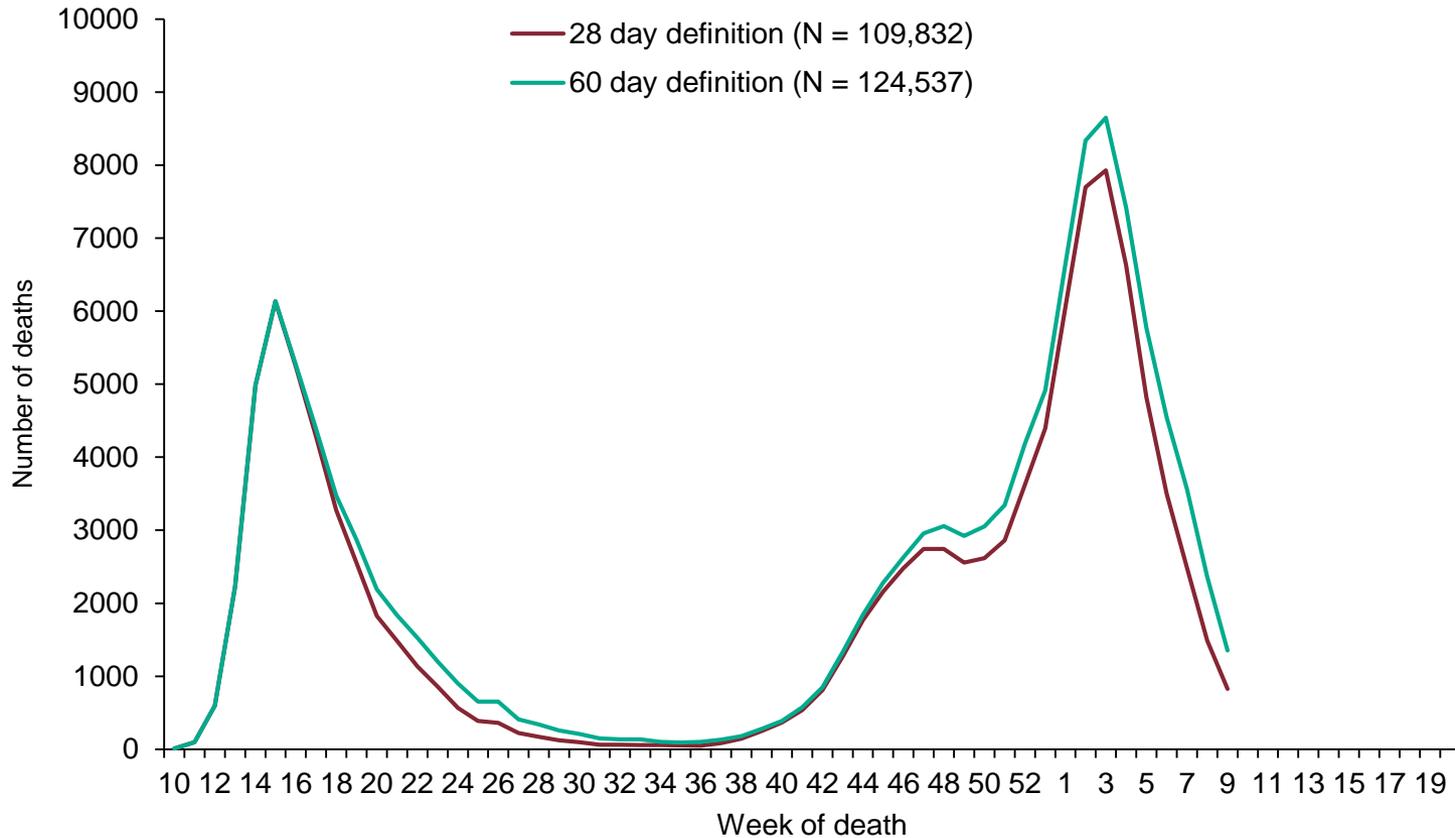
Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2 since week 27 by (a) 28 day definition and (b) 60 day definition

(a)
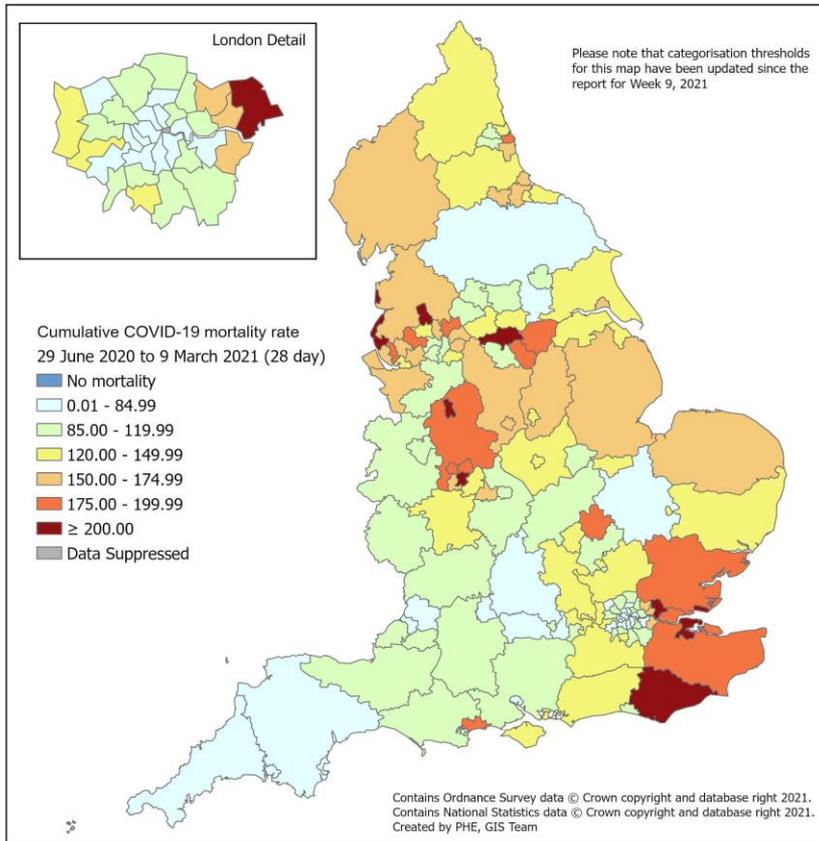
(b)
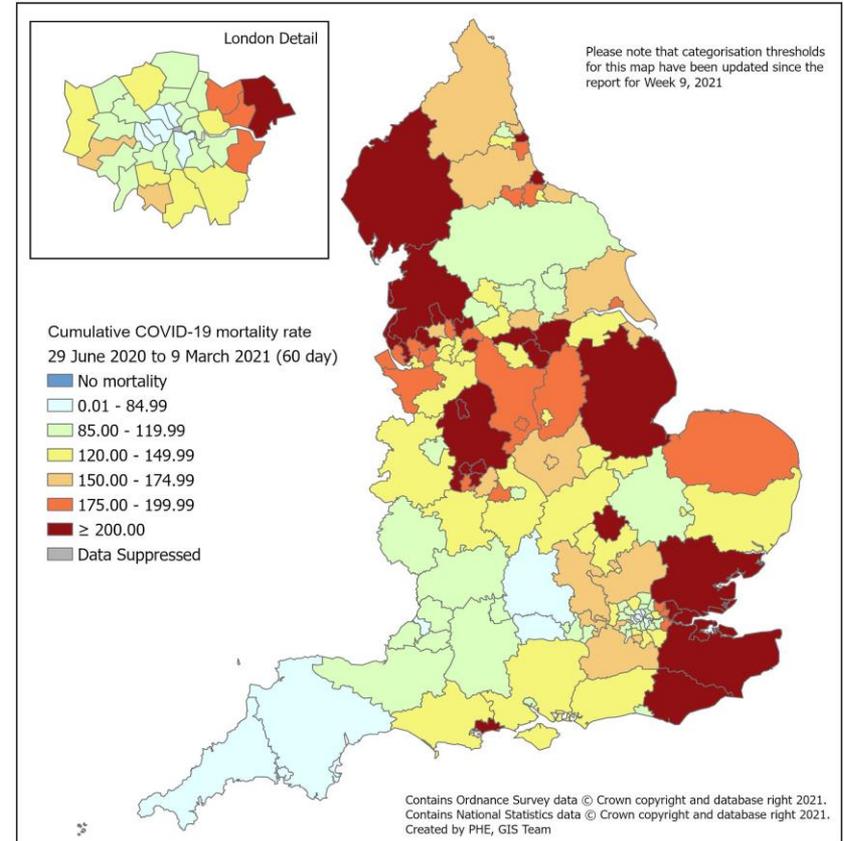
Caveat: Please note the categorisation thresholds for these maps have been updated since the previous weeks report

11 March 2021

Age-adjusted mortality rate** (per 100,000 population) in laboratory-confirmed cases of COVID-19 by IMD quintile, from week 27 onwards, by week using the 60 day definition
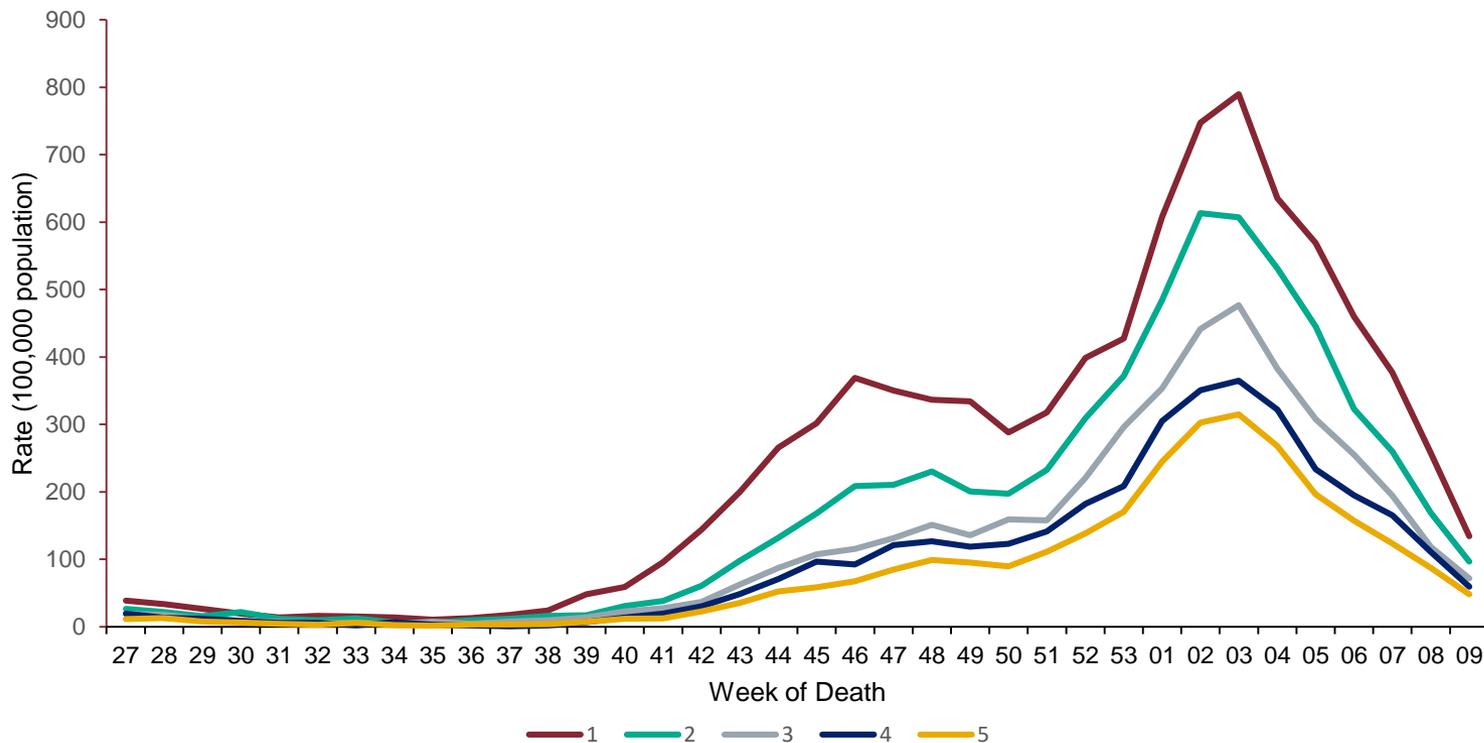
**Rates are time-adjusted: a weekly population denominator has been used to calculate the mortality rate

COVID-19 Vaccine Impact on Surveillance Indicators

Cumulative number of confirmed COVID-19 cases since week 27, by age group
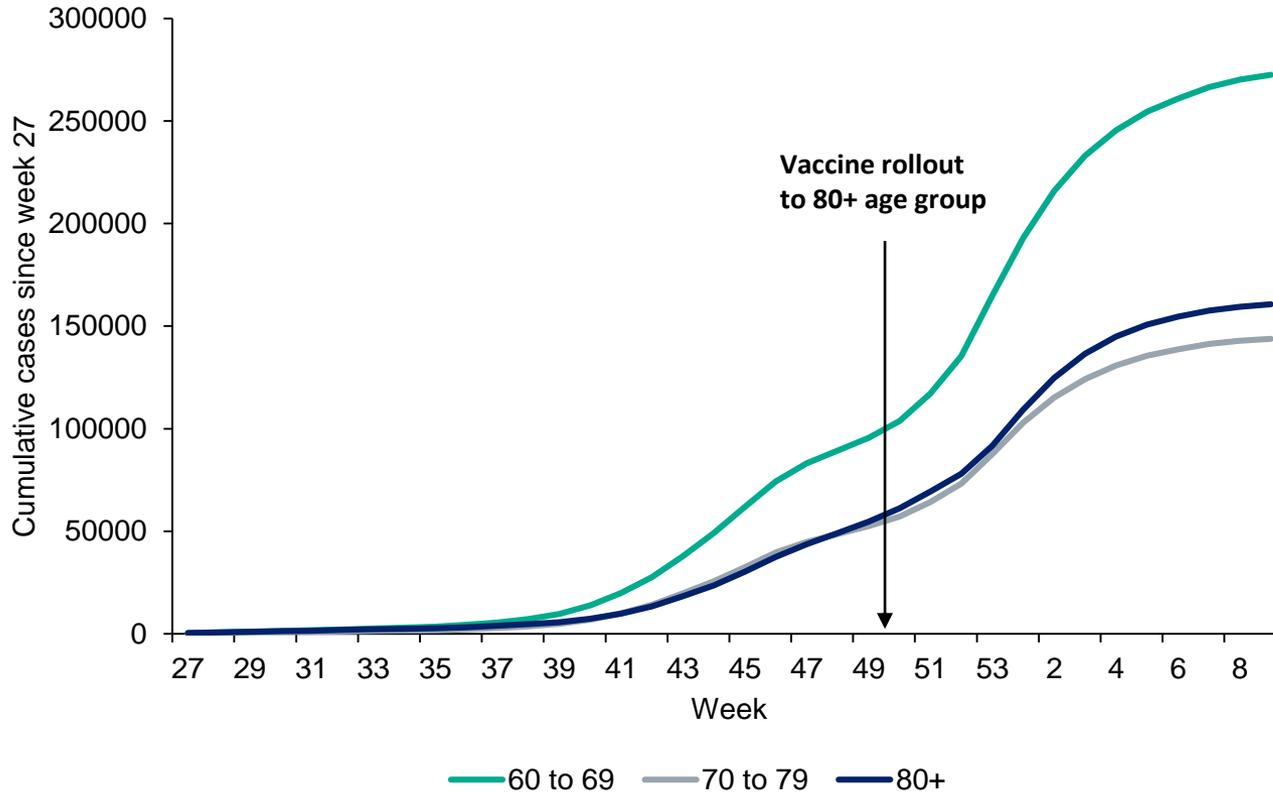
Cumulative number of hospitalisations for lab confirmed COVID-19 since week 41, by age group
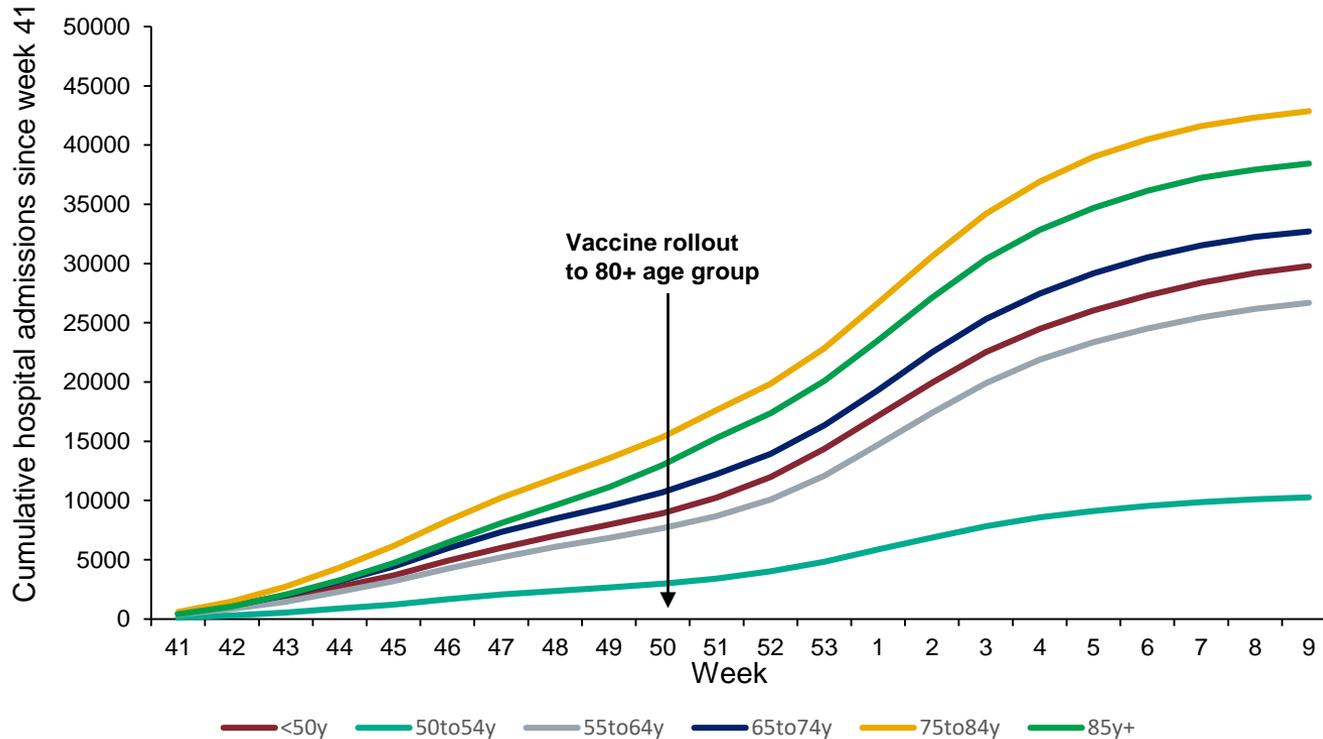
Cumulative number of ICU/HDU admissions for lab confirmed COVID-19 since week 41, by age group
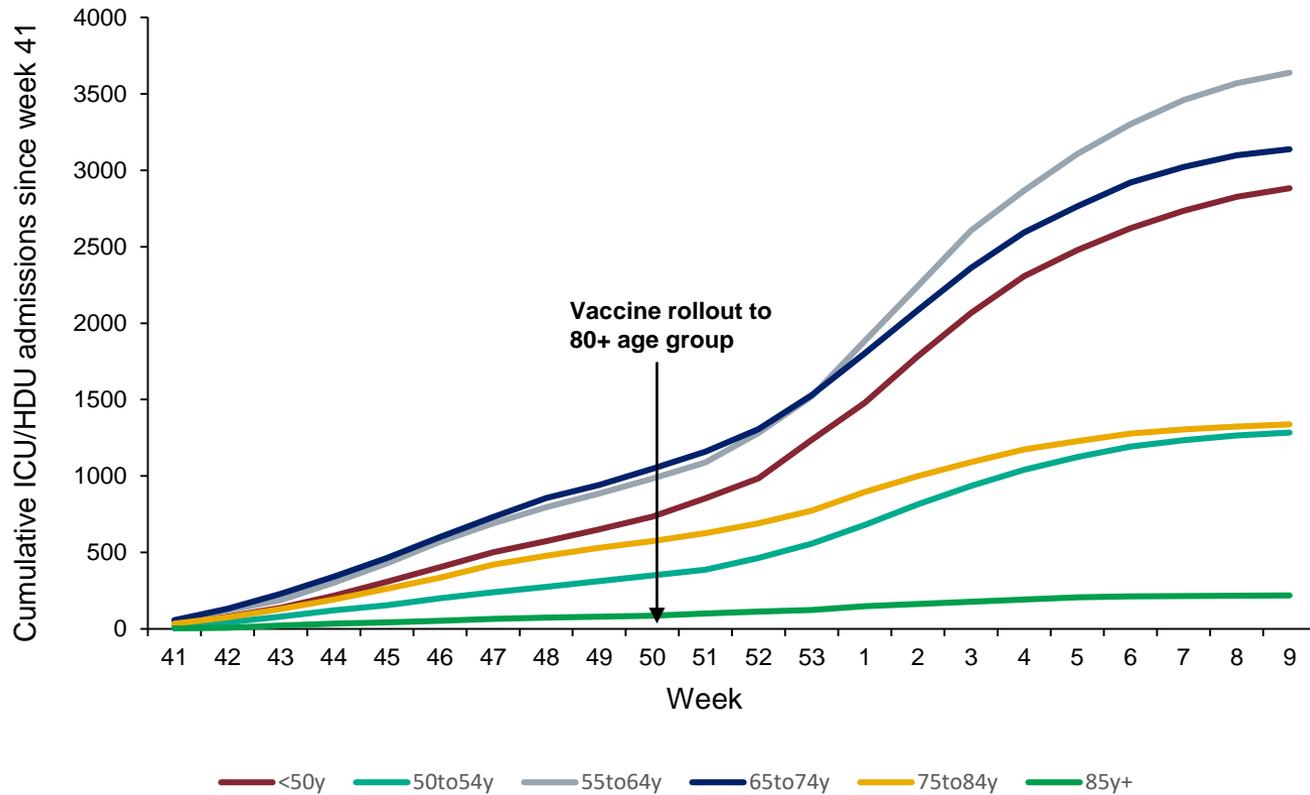
Weekly number of hospitalisations for lab confirmed COVID-19, by age group
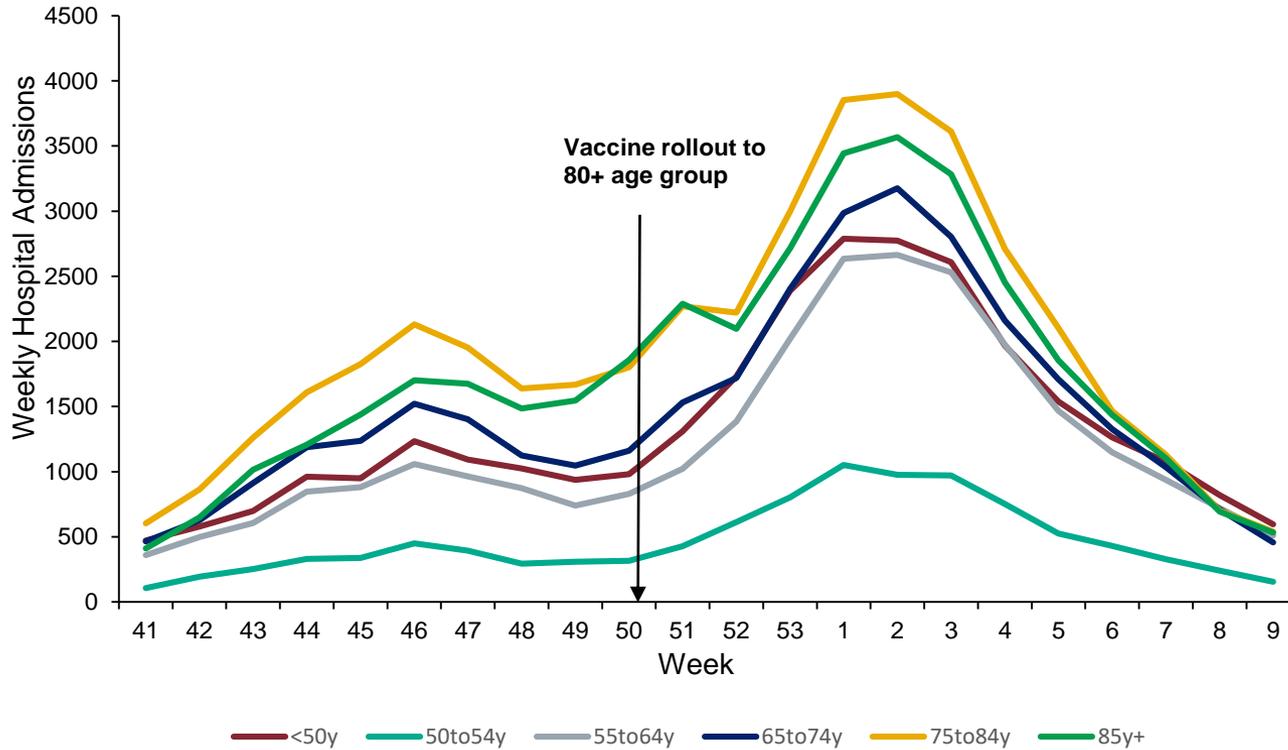
Weekly number of admissions to ICU/HDU for lab confirmed COVID-19, by age group
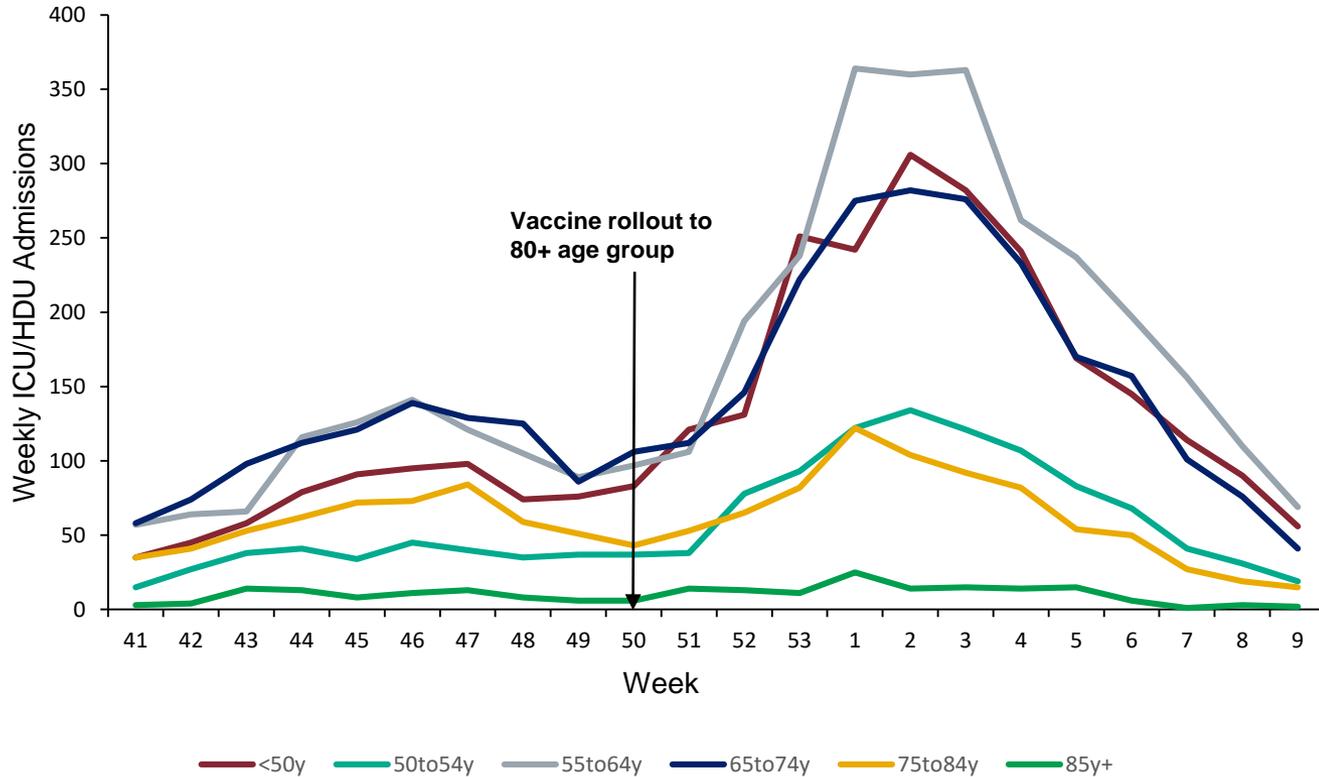
Cumulative number of COVID-19 deaths since week 27 (28 day definition), by age group

Public Health England

Vaccine rollout to 80+ age group

Cumulative deaths (28 day definition) since week 27

Week

50 to 79 ——80+

COVID-19 antibody test results
NHS & Commercial Laboratories

Seropositivity among individuals tested for COVID-19 antibodies

Seropositivity is now being reported using the results of COVID-19 antibody tests (IgG or total (IgM and IgG combined) lab-based immune -assay) undertaken in NHS and commercial laboratories (Thriva) contracted by NHS Test and Trace (TT) as part of the national testing strategy. Assays used by laboratories test for antibody responses to SARS-CoV2, where the nucleoprotein (N) assays can only detect post-infection antibodies, while the spike (S) assays are expected to detect both post-infection antibodies and vaccine induced antibodies.

Antibody testing has been offered exclusively to healthcare and social care professionals in England, and other key worker groups across the Devolved Administrations. NHS antibody testing was also made available to some patients following recovery from acute disease.

NHS laboratories introduced antibody testing, which requires a venous blood sample, in May 2020 for all NHS staff and patients, with an extension of the test offer to wider health and social care staff from July 2020. Multiple manufacturers provide the antibody testing platforms in the NHS. The possible variabi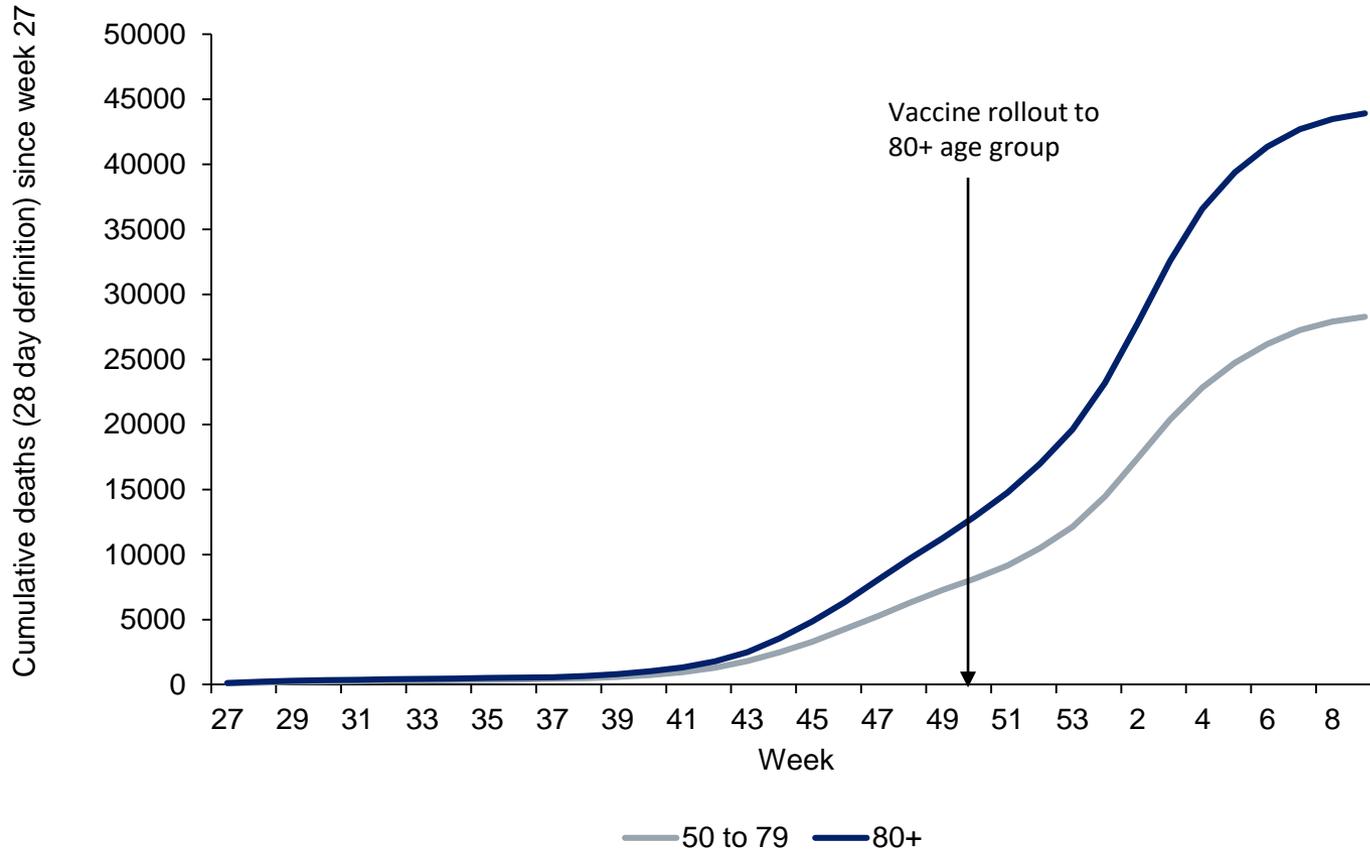lity of antibody assays being used within NHS laboratories means differentiating antibody detection due to a past infection rather than vaccine is currently difficult post the introduction of the vaccine.

The NHS TT home-sampling tests, provided by Thriva, which uses a capillary blood sample analysed in a laboratory became routinely available in mid-September 2020 (week 38). Initially an additional testing offer for social care staff, the NHS TT kit is now the main antibody test offered to social care staff and is also available to those working in healthcare. Thriva currently use a Roche antibody test for the SARS-CoV N protein only identifying those with a past infection.

Overall, the cohort breakdown of NHS testing between May and December of 2020 as reported by NHS E*, 25% were patients, 72% NHS staff and 3% social care staff . The proportions have changed over time in 2020 but are now stable: Of the 366,784 and 65,603 tests conducted through NHS testing in July and December respectively, the proportion of tests performed in patients increased from 26% in July to 56% in December; where the proportion of tests in NHS staff decreased from 72% in July to 43% in December; and the highest proportion of social care staff tested were tested in August (12%) and September (16%).

For TT testing overall, 52.5% reported their industry as social care and 47.5% reported their industry as health. However, the weekly number of TT tests is variable and will be dependent on a range of factors including changes in demand for the service.

The graphs that follow show the number of SARS-CoV-2 antibodies (Ab) tests among individuals and the percentage positive (Ab test positivity) split by NHS testing and TT testing by week. Testing by region and age is presented for TT testing only. Although NHS laboratories continue to provide antibody testing, data are presented for 2020 only in order to account for the introduction of the vaccine rollout and potential inconsistencies with antibody levels in the data received.

Since the populations tested vary between TT and NHS testing, positivity is presented separately.

As antibody testing is largely occurring in health and social care staff (and some patients who have recovered from COVID-19), who are likely to have higher COVID-19 exposures than the general population, these antibody test results are not generalisable to the general population.

* The cohort breakdown of testing through NHS laboratories was reported from NHS E, these data may differ from those reported from PHE SGSS.

11 March 2021

Seropositivity among individuals tested for COVID-19 antibodies by week

Between 29th June and 31st December 2020 (weeks 27 and 53), 748,158 antibody tests were carried out by the NHS, with the number of tests conducted by NHS laboratories declining from a peak of 118,638 in week 27 to 7103 in week 53 of 2020. Following the introduction of TT testing in week 38, 268,056 tests have been carried out, with a transient increase between weeks 40-42 of 2020 following the initial introduction of TT testing. The proportion of positive tests for both NHS and TT tests increase overtime consistent with the blood donor seroprevalence data and reflecting previous SARS-CoV2 infection. By the end of 2020, 21% and 25% of tests conducted by NHS laboratories and TT respectively were positive for SARS-CoV2, with the proportion positive in week 8 of 2021 for TT increasing to 28%. The higher TT positivity rates are likely due to self-selection of those confirming whether they had COVID-19 earlier in the pandemic, as well as differences in the proportion of NHS, social care staff, and patients tested by NHS and TT testing. A higher positivity from NHS and TT antibody testing, when compared to population weighted seroprevalence surveys, is to be expected given that these tests largely represent health and social care staff who are more likely to be exposed to SARS-CoV-2. NHS antibody testing is presented for 2020 only, as it is not currently possible to differentiate antibody detection due to a past infection compared to due to recent vaccination using the current assays. Seropositivity is likely to reflect transmission occurring in the previous 2-3 weeks or more. Note: the positivity axis for the two graphs differ
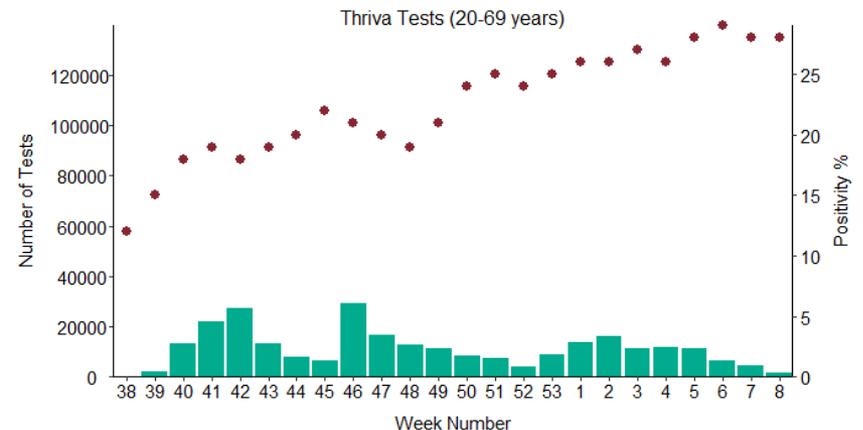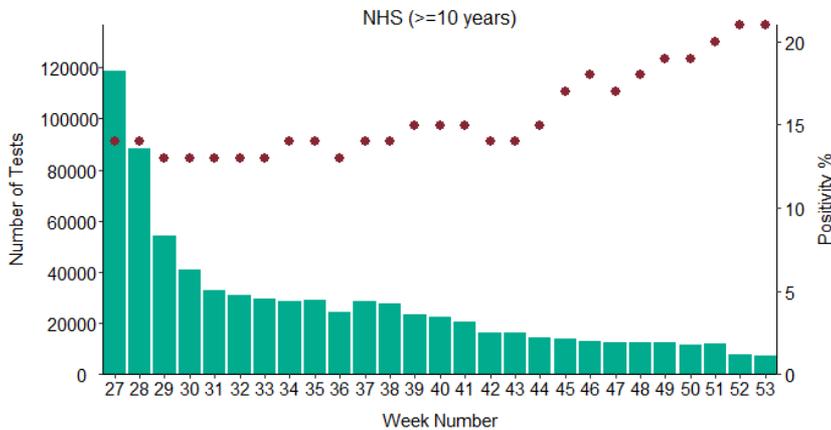
Bars represent number of tests; points represent positivity.

Seropositivity among individuals (aged 20-69 years) tested for COVID-19 antibodies by region for test and trace tests (Thriva)

The graphs below demonstrates the distribution of TT tests by region (introduced mid-September 2020 (week 38)) and the percentage of tests positive for COVID-19 antibodies within each region. Overall, seropositivity was highest in London (33%), followed by the North West (25%). Seropositivity was lowest in the South West (14%). This geographical pattern is broadly consistent with previous SARS-CoV-2 infections. The region is based on the individuals postcode of residence entered when ordering a TT test.
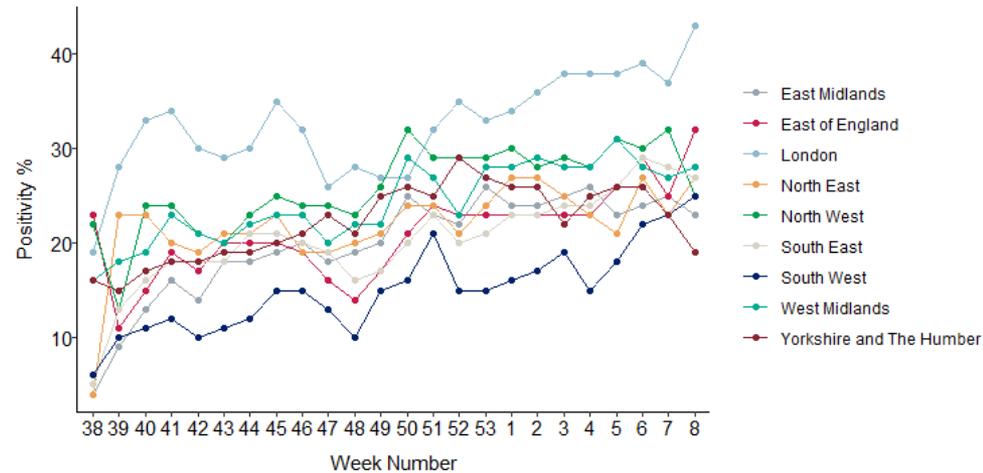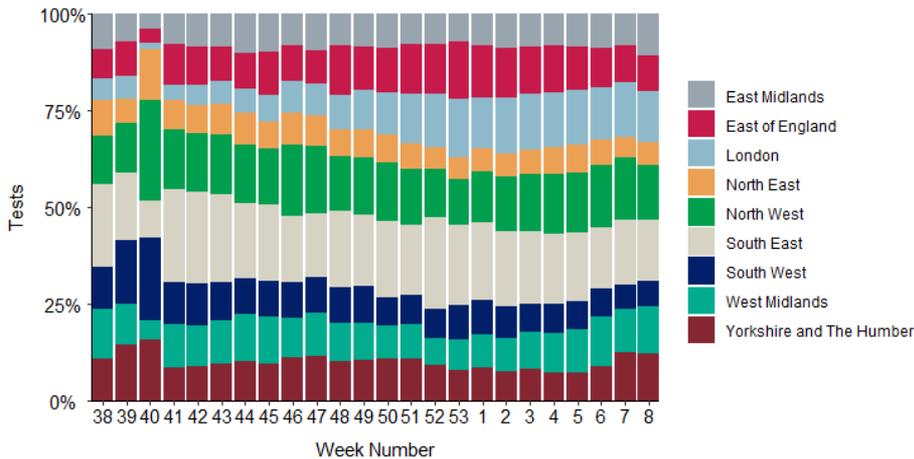
Seropositivity among individuals (aged 20-69 years) tested for COVID-19 antibodies by age for test and trace tests (Thriva)
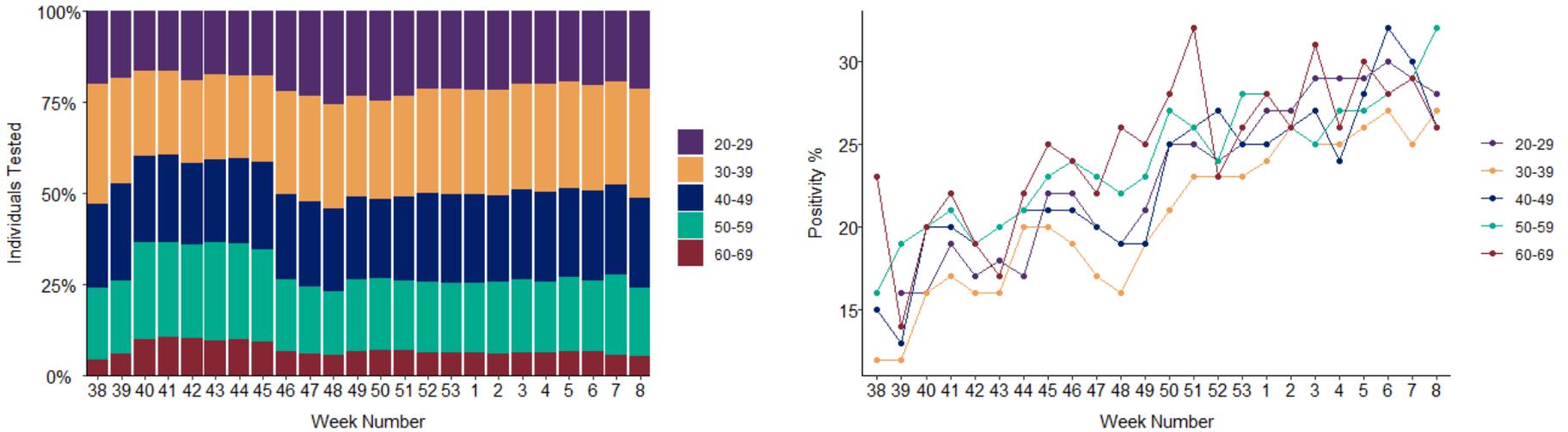
The graph above shows the distribution of TT tests by age group (introduced mid-September 2020 (week 38)) and the percentage of tests positive for COVID-19 antibodies within each age group. Seropositivity increased overtime for all age groups reflecting past incidence of confirmed SARS-CoV2 infection, with little difference in positivity by age groups. The proportion seropositive shows little variation by age.

By sex a larger proportion of tests carried out were among females (79%), a reflection of the distribution within health and social care, with no difference in seropositivity by sex (22% and 23% for females and males, respectively).

Co/secondary infections with COVID-19

Co/secondary infections with COVID-19
(data updated monthly)

- Caveat - a limited number of COVID-19 cases are tested for other respiratory viruses therefore data could represent an underestimate of co/secondary infection cases. Due to the low number of cases data is representative of January to December 2020 unless stated.

- Co/secondary infections refers to when a patient has an infection with more than one pathogen at the same time (co-infection), or acquires another infection after contracting the first infection (secondary infection).

- Numbers of co/secondary infection remain low across PHE surveillance systems except for patients requiring Extra Corporeal Membrane Oxygenation (ECMO) which are those with the most severe respiratory signs. Analysis of ECMO cases indicates co/secondary infections account for just less than a third of respiratory infection cases.

- Preliminary data analysis from the first pandemic wave (health care associated infections, *Streptococcus pneumoniae*, influenza, ECMO data) to end of September 2020 indicates that patients requiring ECMO and those not requiring ECMO with co/secondary infection have increased risk of mortality in comparison to patients without co/secondary infection.

Definitions agreed with DAs

Co/secondary infections among Extra Corporeal Membrane Oxygenation (ECMO) patients (patients with most severe clinical respiratory signs)

Public Health
England

Based on cumulative data on ECMO activity from week 40 (week beginning 30 Sep 2020) to week 5 (week ending 7 February 2021), which includes data from the first and second waves of the pandemic. COVID-19 cases from week 10 2020 (3 March 2020).

- 29% (151/515) of patients admitted to ECMO with a laboratory confirmed respiratory infection had a co/secondary infection reported.

- 43% (16/37) of patients with influenza had co/secondary infections

- 29% (120/418) of patients with COVID-19 had co/secondary infections. Of these 120 cases, the most frequent co/secondary infections in COVID-19 cases were Gram-negative bacilli and fungi, accounting for 58% (69/120).

11 March 2021

Co/secondary infections among patients with Healthcare Associated Infections: Blood stream and respiratory infections (bacterial and fungal) in COVID-19 cases up to December 5th 2020, by wave

Wave 1 – 1 Jan – 28 Jun 2020; Wave 2 – 29 Jun- 4 Dec 2020 incl.

- 1.0% of COVID-19 patients had a bacterial/fungal infection at or within 28 days following their COVID-19 diagnosis: 0.2% respiratory infection and 0.6% bloodstream infection in wave 1, and <0.1% respiratory infection and 0.1% bloodstream infection in wave 2.

- Most (61% in wave 1 and 77% in wave 2) co/secondary infections were categorised as secondary infections.

- Most frequent species identified from respiratory co/secondary infection isolates were were *Staphylococcus spp. Klebsiella spp., Pseudomonas spp.* and *Haemophilus influenzae* in wave 1, and *Staphylococcus spp. Klebsiella spp., Haemophilus influenzae* and *Pseudomonas spp* in wave 2

- Most frequent species identified from blood co/secondary infection isolates were *Escherichia coli, Enterococcus spp., Klebsiella spp. and Streptococcus spp.* (wave 1 and 2)

- Co-infections occur more frequently in the elderly (>70y accounting for 70% of co-infections in wave 1 and 62% in wave 2).

11 March 2021

Co/secondary infection with respiratory viruses, vaccine preventable bacteria and fungi

Bacteria/Fungi	Cases per Month														Total Cases
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	24.01.2020
Influenza A	0	0	28	5	0	0	0	0	0	0	0	0	TBC	TBC	33
Influenza B	0	0	10	3	0	0	0	0	0	0	1	0	TBC	TBC	14
Influenza A & B	0	0	1	0	0	0	0	0	0	0	0	0	TBC	TBC	1
Flu (not typed)	0	0	1	0	0	0	0	0	0	0	0	0	TBC	TBC	1
Parainfluenza (any subtype)	0	3	10	1	0	0	0	0	0	0	0	0	TBC	TBC	14
Seasonal coronavirus	0	6	41	56	8	0	0	0	0	3	6	13	TBC	TBC	133
Enterovirus	0	2	1	2	0	0	0	0	0	1	0	1	TBC	TBC	7
Adenovirus	0	2	11	0	0	1	0	0	0	0	1	0	TBC	TBC	15
Rhinovirus	0	21	68	7	1	0	0	1	1	2	2	7	TBC	TBC	110
RSV	0	5	17	1	0	0	0	0	0	0	0	0	TBC	TBC	23
Human metapneumovirus	0	3	44	8	0	0	0	0	0	0	0	0	TBC	TBC	55
Aspergillus fumigatus ISOLATES (azole resistant)	0	0	5 (1)	30 (3)	10	1	0	1	2	1	16	16	26 (1)	7	115 (5)
Probable/Proven cases of CAPA	0	0	1	8	3	3	0	0	2	0	3	10	8	2	40
Bordetella pertussis	0	0	0	0	0	0	0	0	0	0	0	0	0	TBC	0
Candida spp.: Candidemia	0	0	1	21	6	1	0	0	1	0	5	3	16	6	60
Osteomyelitis/discitis:	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Ventriculitis	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Haemophilus influenzae	-	-	2	1	0	0	0	0	0	0	1	0	1	TBC	5
Neisseria meningitidis	0	0	1	1	0	0	0	0	0	0	0	0	0	TBC	2
Streptococcus pneumoniae	0	0	16	23	1	0	0	0	2	3	7	2	22	TBC	76

The UK moved out of influenza season in early 2020/21 when COVID-19 increase began in March 2020
Data contains results from two systems (Respiratory DataMart system and SGSS).
Mycology data contains results from Mycology reference laboratory data, Candidaemia is representative of deep infection.
Legionella, Mycoplasma and gastrointestinal infection data not included