



This report summarises the information from the surveillance systems which are used to monitor the Coronavirus Disease 2019 (COVID-19) pandemic in England. More information on the surveillance systems are available [here](#).

The report is based on week 29 (data between 13 July and 19 July 2020) and where available daily data up to 21 July 2020. References to COVID-19 represent the disease name and SARS-CoV-2 represent the virus name.

Summary

COVID-19 activity continued to decline or remain stable in England across the majority of surveillance indicators during week 29. There has been a small increase in case detections in the North West and West Midlands through both Pillar 1 and Pillar 2 testing. At a local authority level, activity was highest in Blackburn and Darwen where incidence has continued to increase. Activity in Leicester continued to decrease. Case detections are highest in adults aged 85 and over. There has been an increase in the proportion of cases from the Asian/Asian British ethnic group, this is likely to reflect larger populations from this ethnic group in areas that are currently seeing higher incidence.

The following local authorities have been included in the watchlist following the weekly Local Action Committee meeting: Leicester, Oadby and Wigston, Blackburn with Darwen, Luton, Pendle, Bradford, Rochdale, Kirklees, Peterborough, Wakefield, Northampton, Calderdale and Rotherham. This is based on a range of indicators and an assessment of local response and plans.

The overall number of acute respiratory infection incidents reported to PHE Health Protection Teams remained similar to the previous week. There have been small declines in the number of incidents in educational settings, workplace settings and other settings in comparison to the previous week and a small increase in incidents in care homes.

Community and syndromic surveillance indicators, while not specific for COVID-19, tend to be early indicators of changes in respiratory viral activity. Internet based surveillance systems and syndromic surveillance indicators have remained relatively stable during week 29.

Through the GP sentinel swabbing scheme, detections of cases continue to be low with an overall positivity of 0.0% among those with symptom onset in week 29 compared to 1.5% in the previous week. There has been a decline in testing through the GP sentinel scheme which is likely due to increased access to testing through other routes.

Emergency department attendances with a COVID-19-like diagnosis and hospitalisations and critical care admissions for confirmed COVID-19 remained stable.

COVID-19 deaths continue to decline and, while delays to death registrations can impact on the most recent data, there has been no detectable excess mortality since week 24 in any age group or region.

New adjusted seroprevalence estimates based on samples from adult blood donors in the North East and Midlands were 4.7% and 6.5% respectively. Seroprevalence estimates from adult blood donors in a number of regions and nationally are lower in the most recent sampling period compared to previous weeks; this is likely to be largely driven by changes in the precise locations of sampling over time and potentially differences in the donor population as lockdown measures are relaxed. Adjusted population-weighted prevalence for England is estimated at 6.5% for weeks 25-29. Seroprevalence remains highest in London, with an adjusted prevalence of around 10% based on samples from week 28.

Contain Framework Local Authority Watchlist

Following this week's meeting of the Local Action Committee, the Secretary of State for Health and Social Care, drawing on epidemiological advice from the CMO, NHS Test and Trace, JBC and PHE, has determined the following Watchlist, highlighting the local authorities of greatest concern.

The Watchlist is produced by first considering the lower tier local authorities with the highest weekly incidence rate and its trend, combined with a range of other indicators including the test positivity rate, an assessment of the local response and plans, and the trend of other metrics such as healthcare activity and mortality. The classification decision is therefore a blended assessment drawing on professional judgement.

Whilst this list is determined at the granularity of lower tier local authority, the Contain Framework places responsibility for local action at the level of the upper tier local authority. Later in this report, we list the UTLA with the highest incidence rate in the country from a purely statistical viewpoint (Figure 10).

The Watchlist classification uses definitions as set out in the Contain Framework:

- Area(s) of concern—for areas with the highest prevalence, where the local area is taking targeted actions to reduce prevalence e.g. additional testing in care homes and increased community engagement with high risk groups
- Area(s) for enhanced support—for areas at medium/high risk of intervention where there is a more detailed plan, agreed with the national team and with additional resources being provided to support the local team (e.g. epidemiological expertise, additional mobile testing capacity)
- Area(s) of intervention—where there is divergence from the measures in place in the rest of England because of the significance of the spread, with a detailed action plan in place, and local resources augmented with a national support

Table 1: Local Authority Watchlist areas

Area	Contain Framework Watchlist Status – week beginning 20 July	Change in Watchlist Status from previous week
Leicester	Area of intervention	↔
Oadby and Wigston (Leicestershire)	Area of intervention	↔
Blackburn & Darwen	Area of intervention	↑
Luton	Area of intervention	↑
Pendle (Lancashire)	Area of enhanced support	↔
Bradford	Area of concern	↔
Calderdale	Area of concern	↑
Kirklees	Area of concern	↔
Northampton	Area of concern	↑
Peterborough	Area of concern	↔
Rochdale	Area of concern	↔
Rotherham	Area of concern	↑
Wakefield	Area of concern	↔

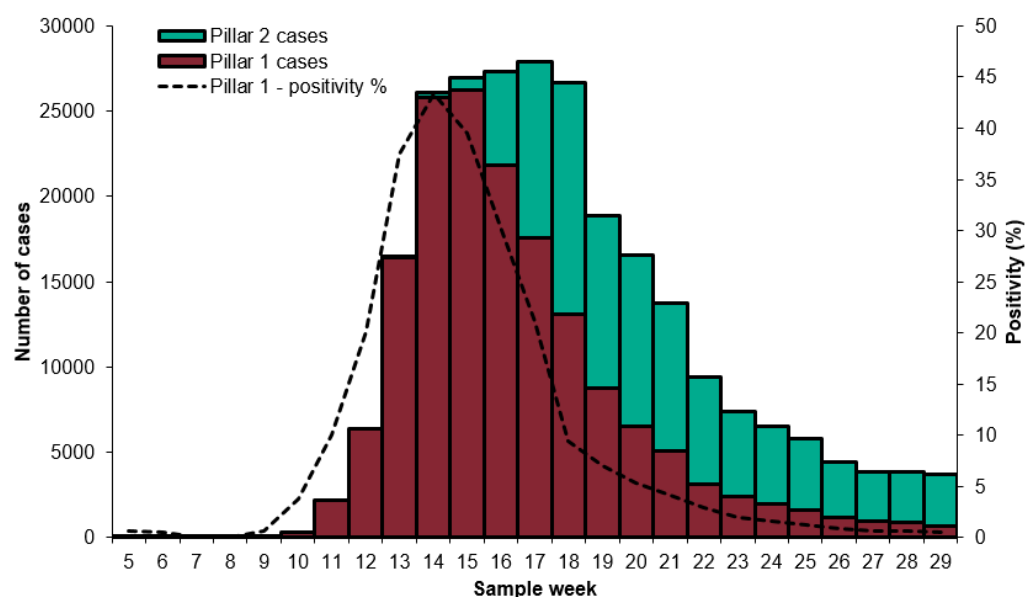
As of 09:00 on 21 July 2020, a total of 1,860,436 people have been tested under Pillar 1. A total of 254,519 have been confirmed positive for COVID-19 in England under Pillar 1 and 2.

Figures 1 to 4, 6 and 8 to 11 and Tables 2 and 3 reflect cases tested under Pillar 1 (primarily in hospital testing of patients and some healthcare workers) and Pillar 2 (out of hospital testing).

Figures 5 and 7 reflect cases tested under Pillar 1 only.

Overall case numbers and positivity continue to decrease in week 29. The highest number of cases continued to be seen in the older age groups, in particular in the 85+ age group. Rates and positivity of cases continue to be highest in the North and Central regions of England.

Figure 1: Laboratory confirmed COVID-19 cases tested under Pillar 1 (n=163,286) and Pillar 2 (n=91,180), based on sample week with overall positivity for Pillar 1 only (%)



* For the most recent week, more samples are expected therefore the decrease seen in this graph should be interpreted with caution. The data are shown by the week the specimen was taken from the person being tested. This gives the most accurate analysis of this time progression, but it does mean that the latest days' figures may be incomplete.

Age and gender

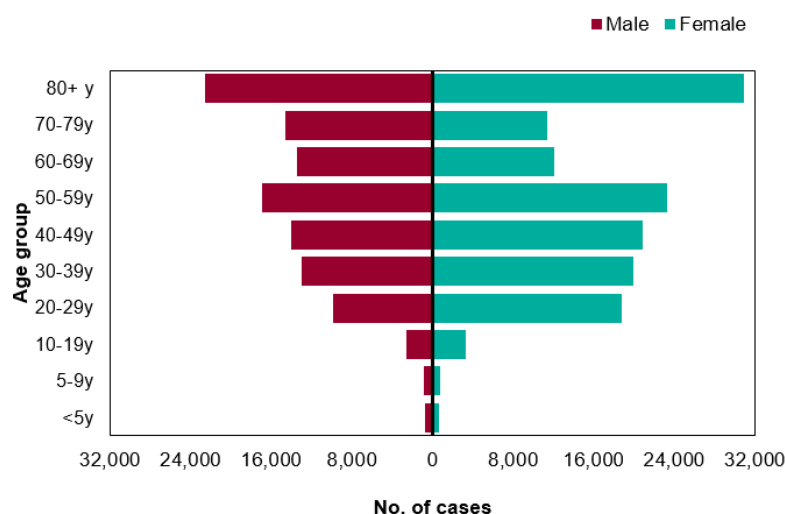
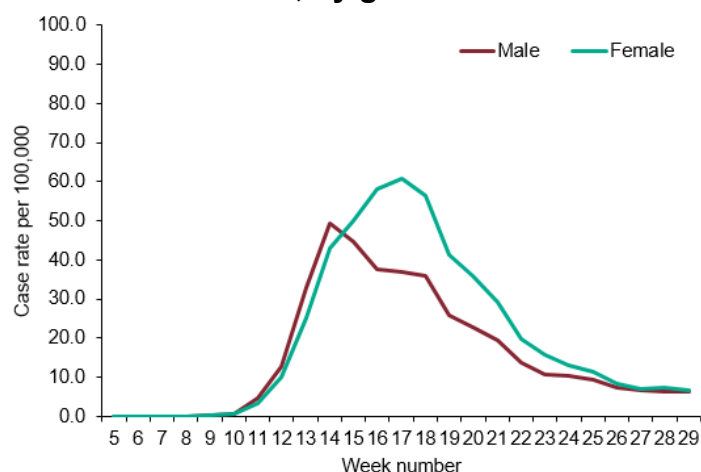
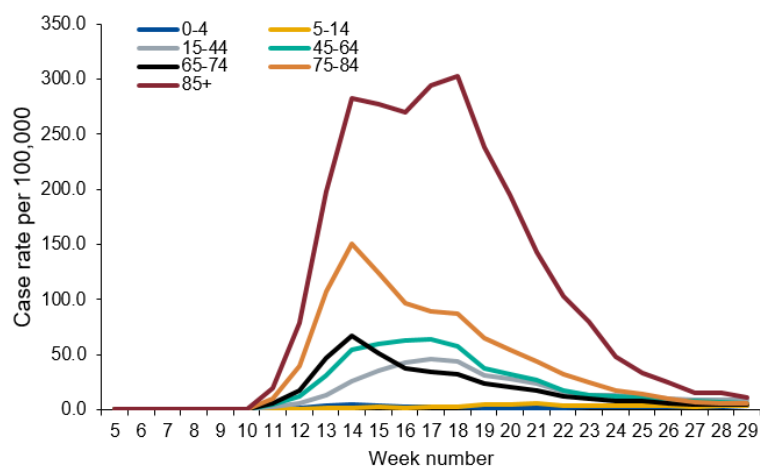
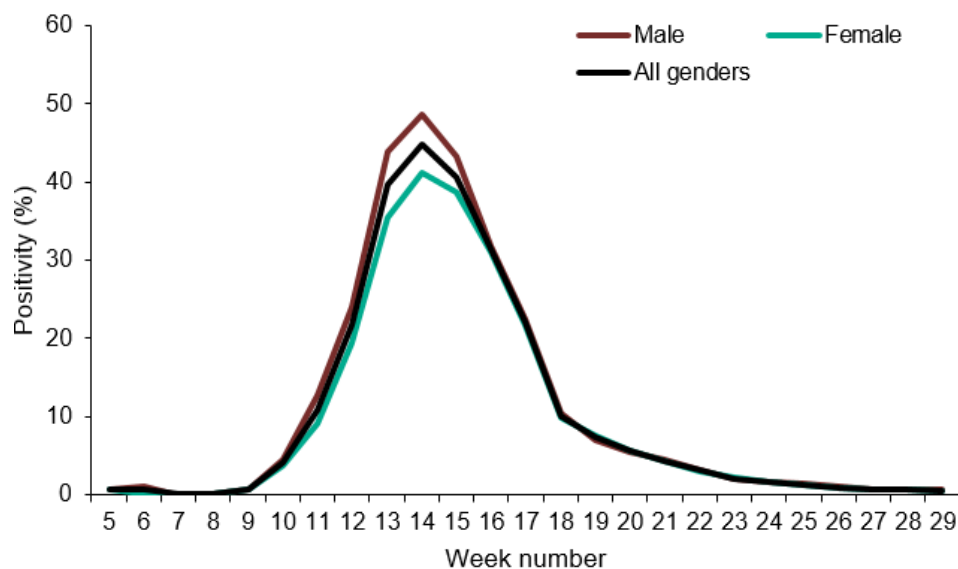
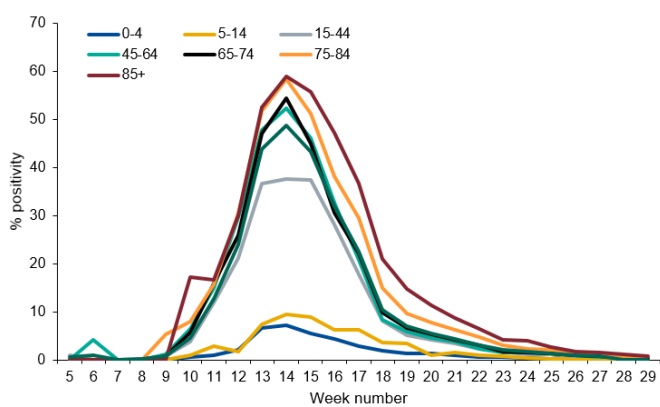
Figure 2: Age/sex pyramids for laboratory confirmed COVID-19 cases tested through Pillar 1 and 2 (n=251,042)**Figure 3: Weekly laboratory confirmed COVID-19 case rates per 100,000, tested through Pillar 1 and Pillar 2, by gender****Figure 4: Weekly laboratory confirmed COVID-19 case rates per 100,000, tested through Pillar 1 and Pillar 2, by age group**

Figure 5: Weekly positivity (%) of laboratory confirmed COVID-19 cases tested under Pillar 1, (a) overall and by gender and (b) by male and age group (c) by female and age group (SGSS and Respiratory DataMart)

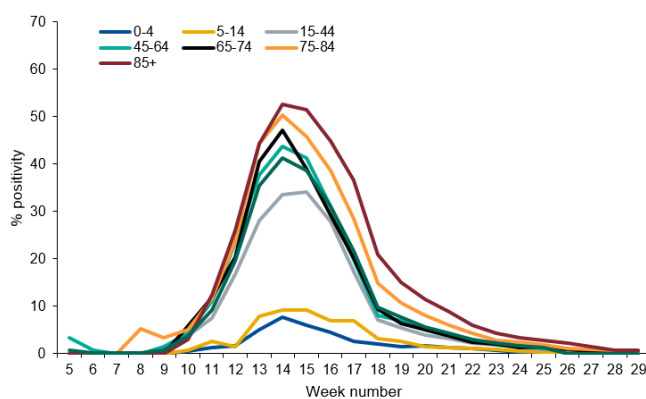
(a) Overall positivity % and by gender



(b) Male



(c) Female



Geography

Table 2: Cumulative number of cases under Pillar 1 and 2 (n=246,139) and total number of people tested under Pillar 1 (n=1,742,182) by PHE Centres

PHE Centres	Pillar 1 + 2 cases	Total number of people tested (under Pillar 1 only)
North East	15,237	89,289
North West	44,410	235,887
Yorkshire & Humber	30,882	178,358
West Midlands	26,341	186,696
East Midlands	22,682	126,170
East of England	25,091	201,601
London	34,648	264,058
South East	33,870	279,011
South West	12,978	181,112

Figure 6: Weekly laboratory confirmed COVID-19 case rates per 100,000 population tested under Pillar 1 and Pillar 2, by PHE Centres and sample week

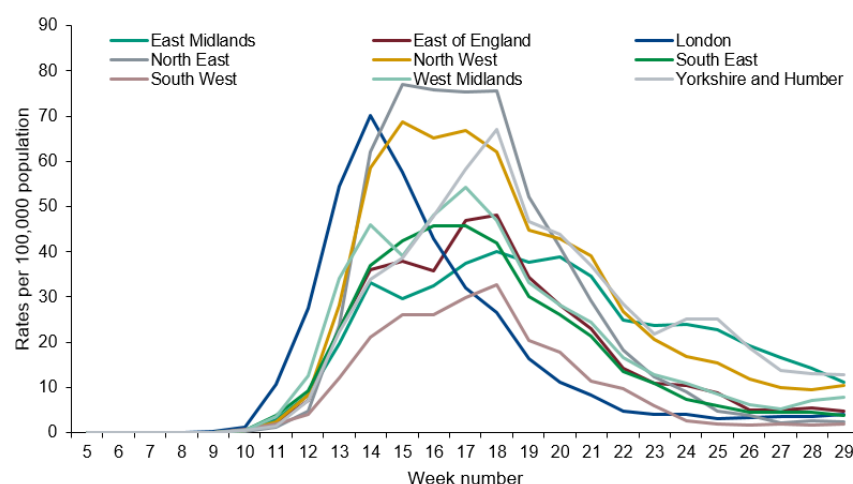


Figure 7: Weekly positivity of laboratory confirmed COVID-19 cases tested under Pillar 1 (%) by PHE Centres and sample week, (SGSS and Respiratory DataMart)

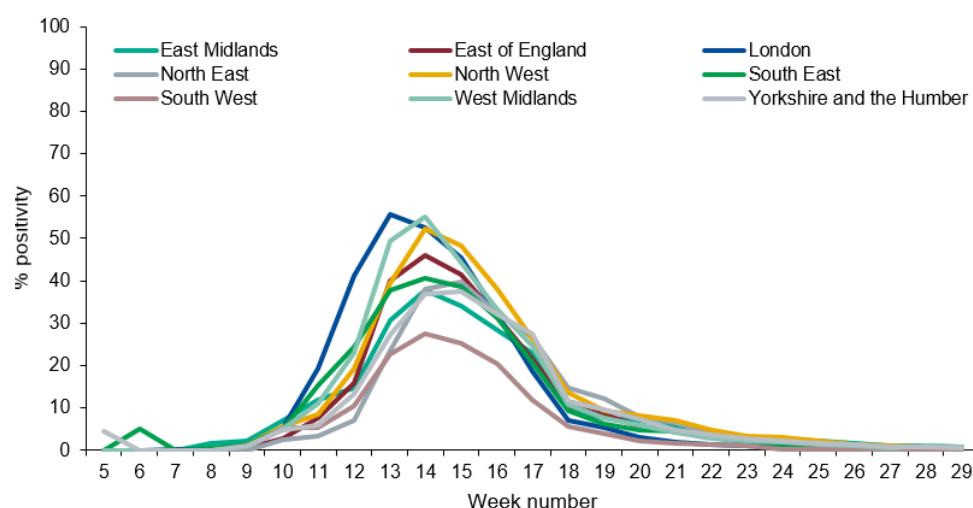


Figure 8: Cumulative rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged maps of London area)

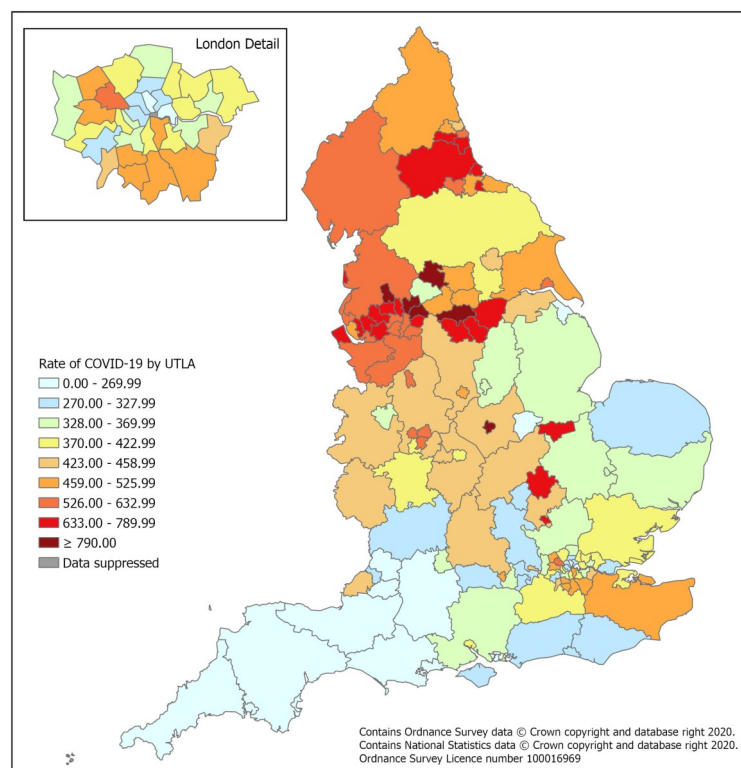


Figure 9: Weekly rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged maps of London area)

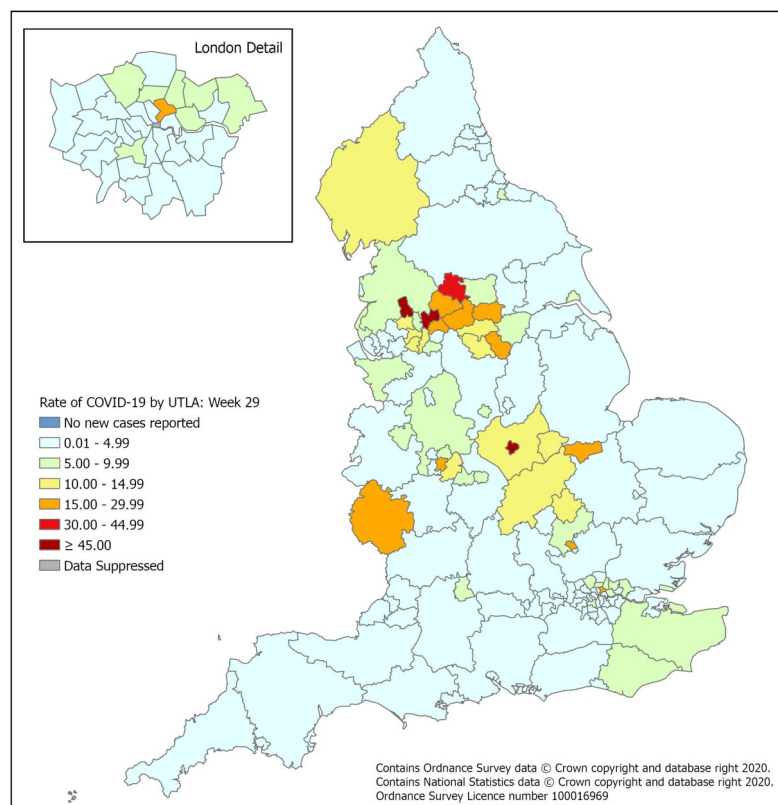
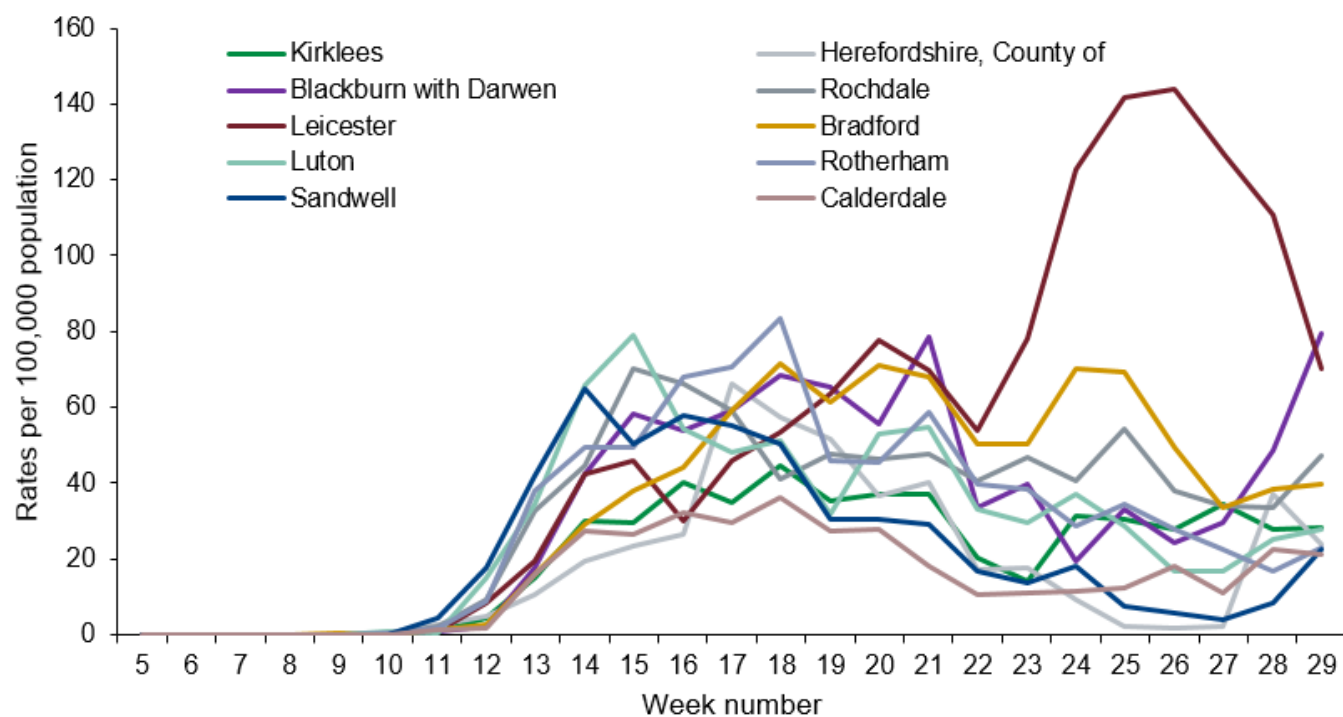


Figure 10: UTLA with the highest weekly rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2



Ethnicity

Figure 11: Ethnic group of cumulative laboratory confirmed COVID-19 cases tested under Pillar 1 and 2 (n=229,327)

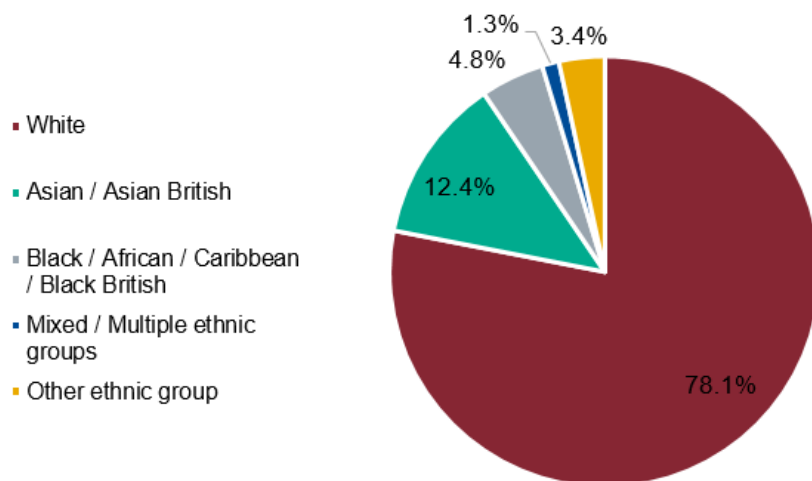


Table 3: Number of cases tested under Pillar 1 and 2, and percentage (%) by ethnic group and week

Ethnic group	Week - number (%)			
	26	27	28	29
White	2,451 (58.6)	2,091 (57.9)	1,879 (53.7)	1,567 (51.5)
Asian / Asian British	1,386 (33.1)	1,243 (34.4)	1,300 (37.2)	1,228 (40.3)
Black / African / Caribbean / Black British	142 (3.4)	98 (2.7)	149 (4.3)	116 (3.8)
Mixed / Multiple ethnic groups	70 (1.7)	40 (1.1)	60 (1.7)	72 (2.4)
Other ethnic group	133 (3.2)	139 (3.8)	111 (3.2)	61 (2.0)

This section summarises the monitoring of acute respiratory infection incidents and internet based surveillance systems for COVID-19.

Acute respiratory infection incidents, England

Information on acute respiratory infection (ARI) incidents is based on situations reported to PHE Health Protection Teams (HPTs). These include:

- confirmed outbreaks of acute respiratory infections i.e. two or more laboratory confirmed cases (COVID-19, influenza or other respiratory pathogen) linked to a particular setting
- situations where an outbreak is suspected. All suspected outbreaks are further investigated by the HPT in liaison with local partners and a significant proportion do not meet the criteria of a confirmed outbreak. For example if suspected cases test negative for COVID-19 or other respiratory pathogens, or cases are subsequently found not to have direct links to the setting. Since Pillar 2 testing became open to everyone during week 21 more incidents of mild disease have been detected in settings with healthy young populations.

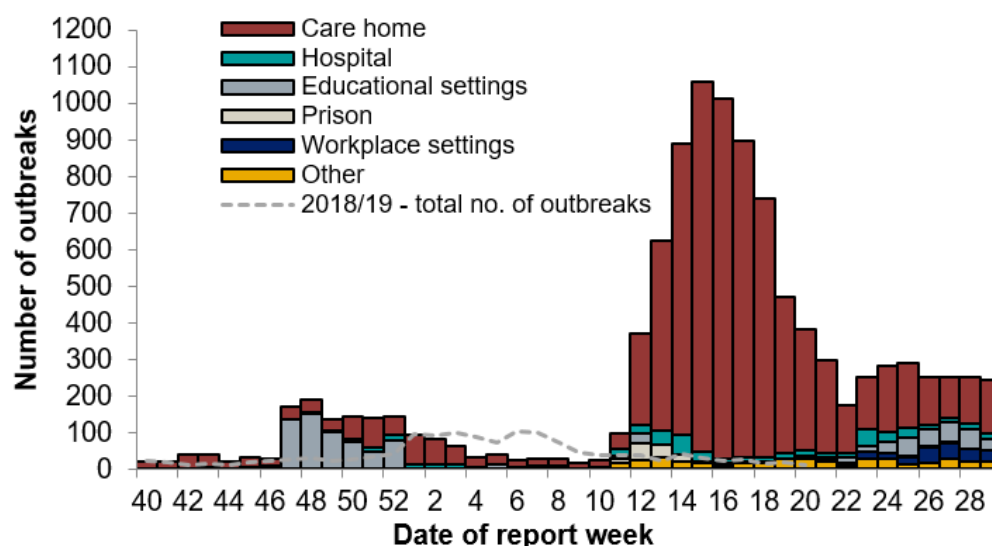
The number of incidents in each setting with at least one laboratory confirmed case of COVID-19 are reported below.

Over the course of the pandemic, some care homes have reported more than one acute respiratory infection incident several weeks apart therefore incidents are no longer deduplicated and all newly reported incidents are now included in these figures. This change has also been applied to retrospective weeks. In a small number of cases duplicate reports of the same incident may be included in the figures below.

243 new ARI incidents have been reported in week 29 (Figure 12):

- 145 incidents were from care homes where 111 had at least one linked case that tested positive for SARS-CoV-2
- 15 incidents were from hospitals where 14 had at least one linked case that tested positive for SARS-CoV-2
- 30 incidents were from educational settings where 11 had at least one linked case that tested positive for SARS-CoV-2
- 1 incident was from a prison
- 30 incidents were from workplace settings where 24 had at least one linked case that tested positive for SARS-CoV-2
- 22 incidents were from the other settings category where 16 had at least one linked case that tested positive for SARS-CoV-2

Figure 12: Number of acute respiratory infection incidents by institution, England



Acute respiratory infection incidents, England

Table 4: Total number of situations/incidents by institution and PHE Centres over the past four weeks with the total number in the last week in brackets

PHE Centres	Cumulative total number of incidents by institution over the past 4 weeks with total number in the last week in brackets						
	Care home	Hospital	Educational settings	Prisons	Workplace settings	Other settings	Total
East of England	40(7)	9(3)	20(0)	0(0)	16(4)	5(2)	90(16)
East Midlands	9(3)	6(3)	2(1)	1(0)	39(5)	3(1)	60(13)
London	53(13)	7(1)	23(7)	1(1)	13(4)	11(3)	108(29)
North East	42(21)	2(0)	8(0)	0(0)	5(0)	5(1)	62(22)
North West	134(36)	10(2)	20(3)	0(0)	18(5)	34(8)	216(54)
South East	119(37)	15(4)	32(9)	4(0)	8(2)	14(3)	192(55)
South West	46(19)	2(1)	35(7)	0(0)	2(1)	5(2)	90(30)
West Midlands	35(3)	5(1)	23(0)	0(0)	19(4)	6(2)	88(10)
Yorkshire and Humber	34(6)	0(0)	20(3)	1(0)	30(5)	5(0)	90(14)
Total	512(145)	56(15)	183(30)	7(1)	150(30)	88(22)	996(243)

NHS 111

The NHS 111 service monitors daily trends in phone calls made to the service in England, to capture trends in infectious diseases such as influenza and norovirus.

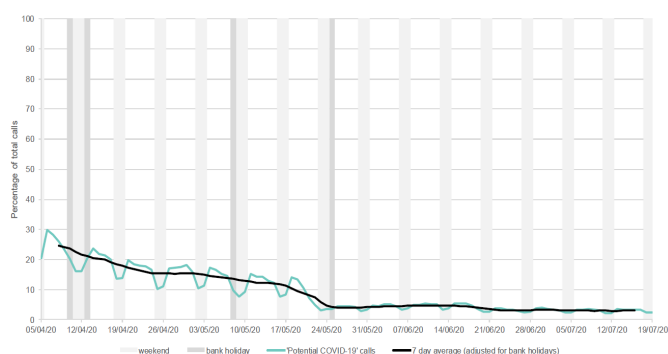
Up to 19 July 2020, the daily percentage of NHS 111 'potential COVID-19-like' calls (as a percentage of total NHS 111 calls) remained stable, however a small increase was noted in cold/flu calls (Figure 13). The daily number of NHS 111 'potential COVID-19' completed online assessments remained stable (Figure 14).

Please note that NHS 111 callers (from 11 May 2020) and NHS 111 online users (from 11 June 2020), who are assessed as having probable COVID-19 symptoms are now triaged using symptom specific pathways e.g. cold/flu, which are included in routine syndromic indicators.

Further information about these caveats is available from the PHE Remote Health Advice Syndromic Surveillance bulletin.

Figure 13 (a-b): NHS 111 telephony indicators (and 7-day moving average), England

(a) Daily potential COVID-19 calls as a percentage of total calls, all ages



(b) Daily cold/flu calls as a percentage of total calls, all ages

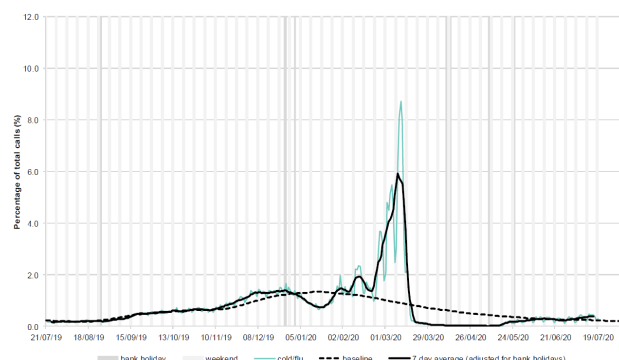
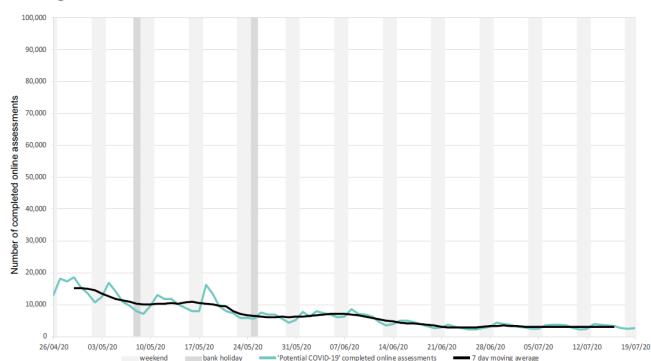
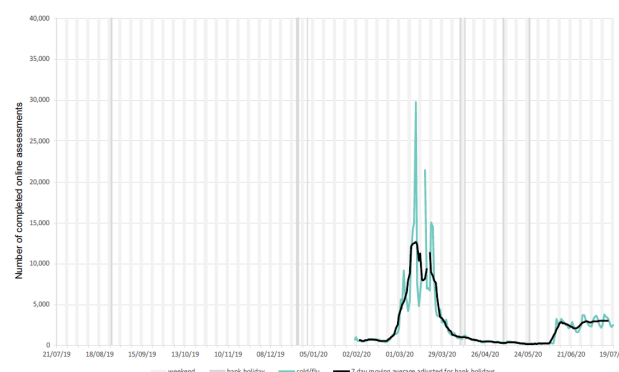


Figure 14 (a-b): NHS 111 completed online assessments (and 7-day moving average), England

(a) Daily 'potential COVID-19' online assessments as the number of completed online assessments, all ages



(b) Daily cold/flu online assessments as the number of completed online assessments, all ages



weekend bank holiday indicator 7 day mov avg baseline

Internet based surveillance

PHE's internet based surveillance systems aim to monitor the volume of people searching for typical symptoms of COVID-19 on the internet as well as tracking self-reported respiratory symptoms and health seeking behaviour patterns related to COVID-19.

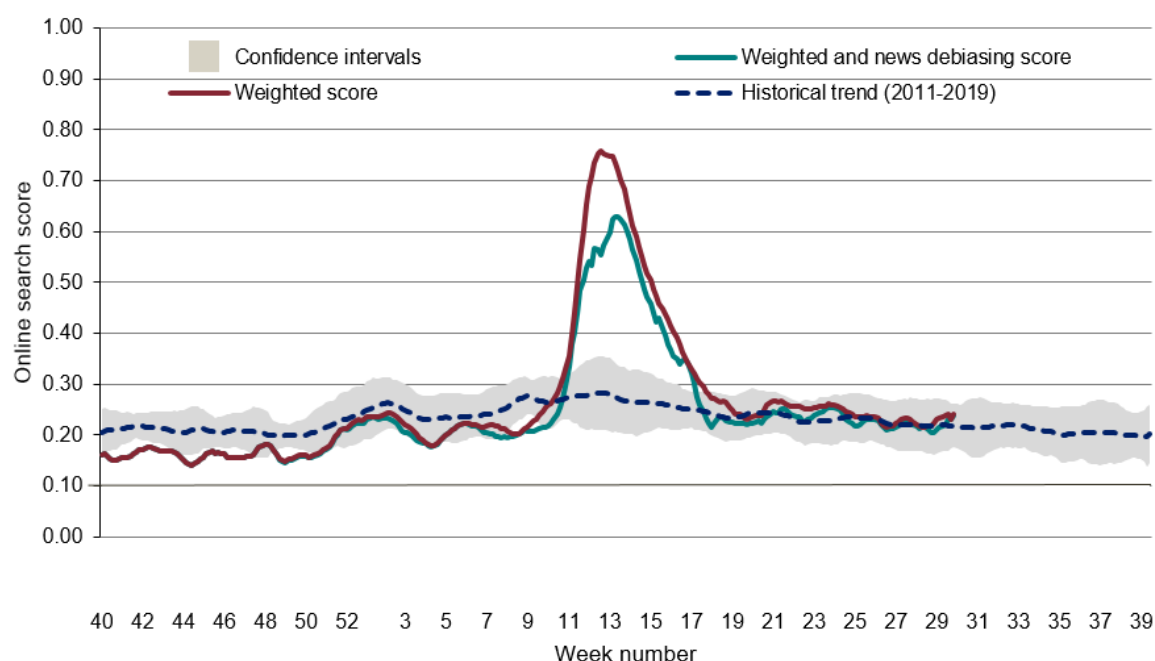
Google search queries

This is a web-based syndromic surveillance system which uses daily search query frequency statistics obtained from the Google Health Trends API [1]. This model focuses on search queries about COVID-19 symptoms as well as generic queries about "coronavirus" (e.g. "covid-19"). The search query frequency time series has been weighted based on symptom frequency as reported in other data sources. Frequency of searches for symptoms is compared with a baseline calculated from historical daily data.

The overall and media-debiasing weighted scores increased slightly during week 29 (Figure 15).

[1] For more information about this model, please see <https://arxiv.org/abs/2003.08086>

Figure 15: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England



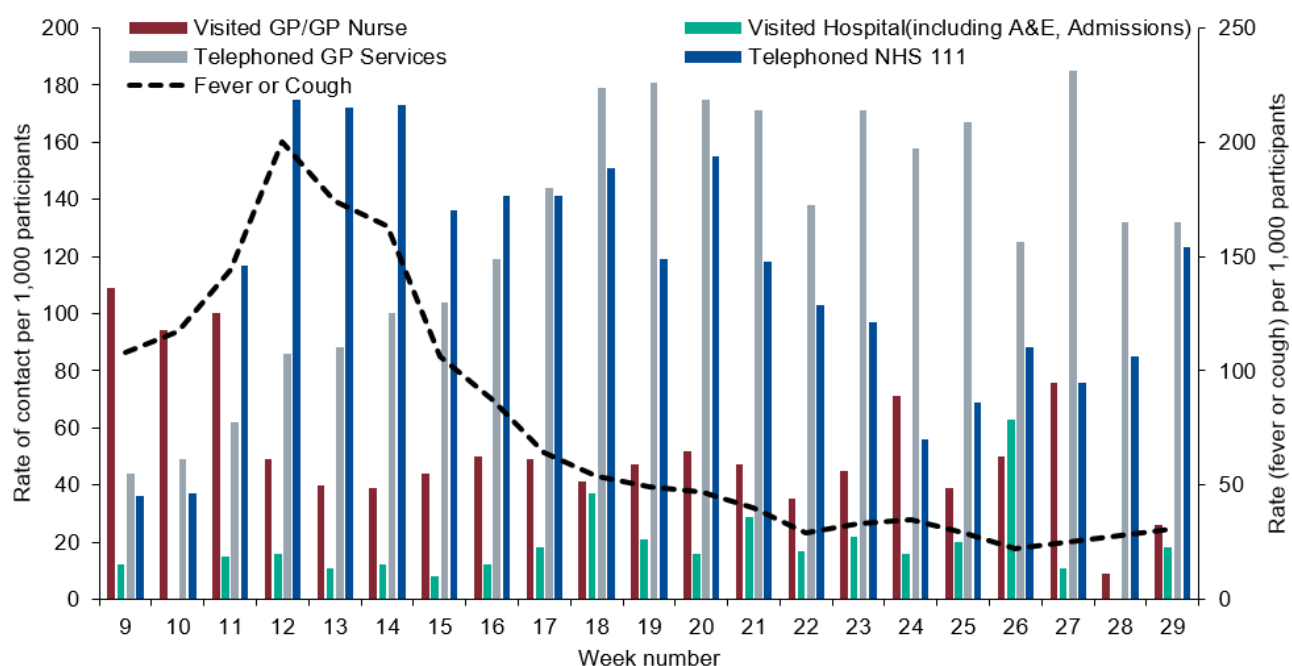
Internet based surveillance

FluSurvey

An internet based surveillance system has been developed based on FluSurvey. FluSurvey is a web tool survey designed to monitor trends of influenza like illness (ILI) in the community using self-reported respiratory symptoms from registered participants. The platform has been adapted to capture respiratory symptoms, exposure risk and healthcare seeking behaviours among registered participants to contribute to national surveillance of COVID-19 activity.

A total of 3,700 participants completed the weekly COVID-19 surveillance survey in week 29, of which 114 (3.1%) reported fever or cough, a slight increase from 2.8% reported in week 28. The most commonly reported method of access to healthcare services continue to be through telephone services (Figure 16).

Figure 16: Rate of contact with different healthcare services among FluSurvey participants reporting fever or cough symptoms, week 09 to 29, England



GP In Hours (GPIH) and GP Out of Hours (GPOOH), Syndromic surveillance

The GP In Hours (GPIH) syndromic surveillance system monitors the number of GP visits during regular hours of known clinical indicators. The GP Out of Hours (GPOOH) syndromic surveillance system monitors the numbers of daily unscheduled visits and calls to GPs during evenings, overnight, on weekends and on public holidays. Both systems cover around 55% of England's population.

Up to 19 July 2020, GPIH consultations for potential COVID-19-like and ILI consultations remained stable (Figure 17). Please note that due to technical difficulties during week 28 there was a reduced population denominator for GPIH and rates during this week should be interpreted with caution. Rates should therefore be treated with caution (baselines are also not available this week). Through GPOOH consultations (up to 19 July 2020), the daily percentage (as a percentage of total contacts with a Read code) for ILI and difficulty breathing/wheeze/asthma contacts remained stable (Figure 18).

Please note GP data should be interpreted with caution due to changes in advice regarding accessing GP surgeries due to COVID-19. Further information about these caveats is available from the PHE GP In Hours Syndromic Surveillance bulletin.

Figure 17 (a-b): GPIH clinical indicators, England

(a) potential COVID-19 GP consultations, daily incidence rates per 100,000 population, all ages

(b) Influenza-like illness consultations, daily incidence rates per 100,000 population, all ages

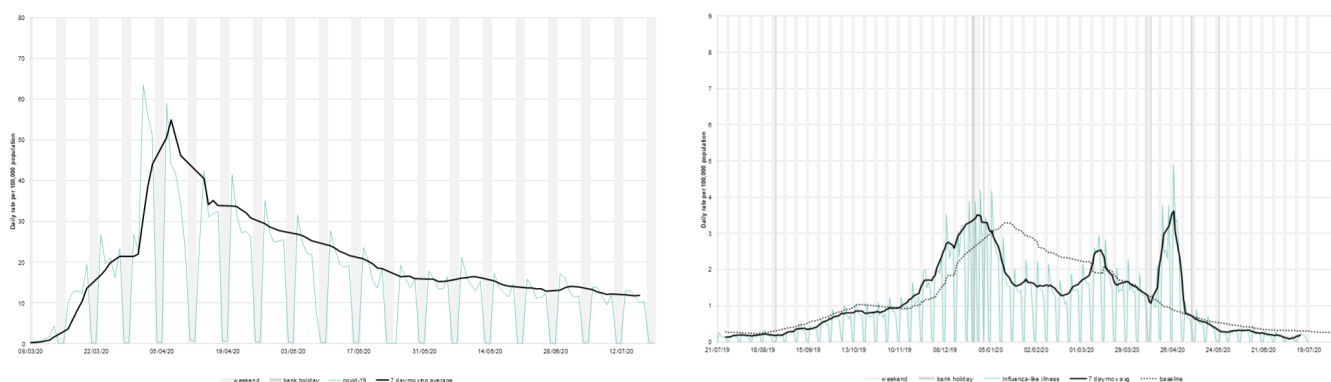
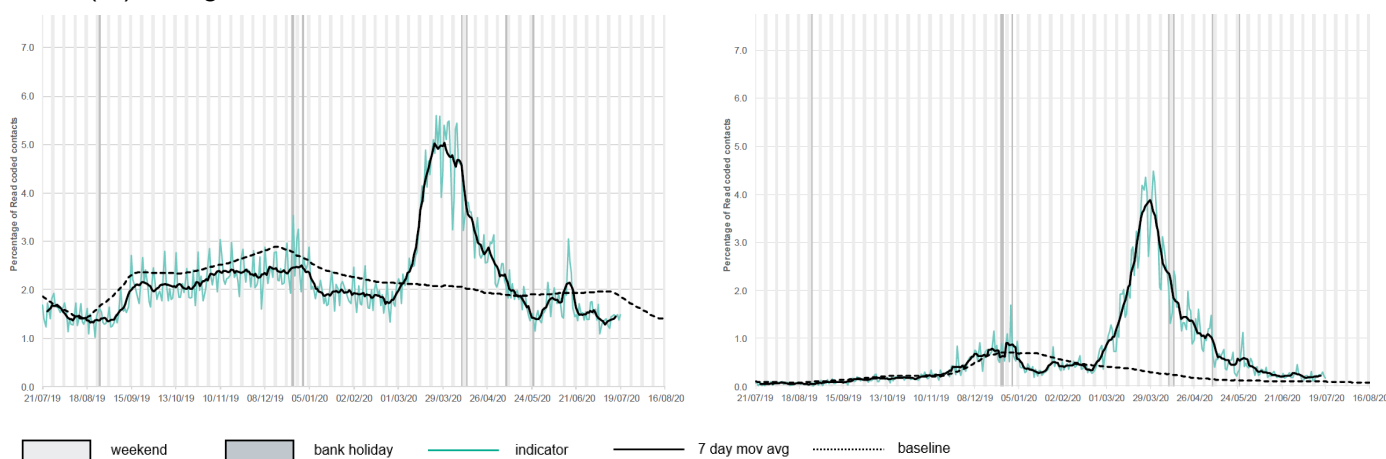


Figure 18 (a-b) : GPOOH contacts indicators, England

(a) Difficulty breathing/wheeze/asthma, daily contacts (%), all ages

(b) Influenza-like illness, daily contacts (%), all ages

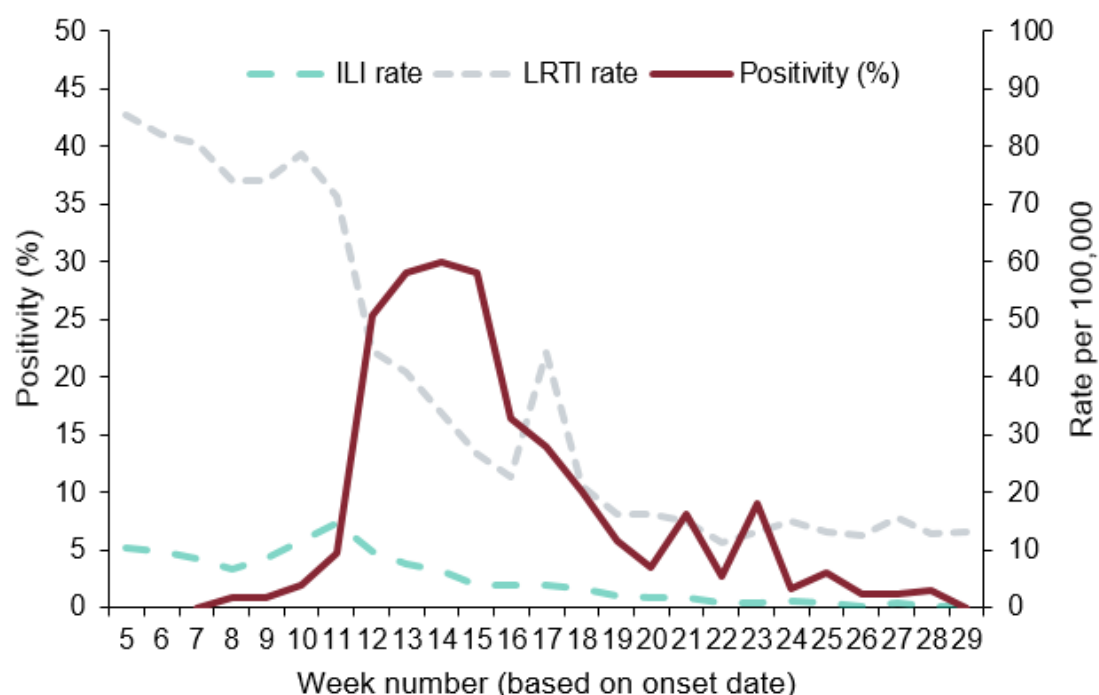


RCGP Swabbing Scheme

This is an extended primary care surveillance system through the RCGP sentinel integrated clinical and virological scheme. The extension of the scheme was initiated on 24 February 2020. A sample of patients presenting to around 300 GP practices with Influenza-like Illness (ILI) and Lower Respiratory Tract Infections (LRTI) (not suspected for COVID-19) will be tested. This enables the week on week monitoring of test “positivity rate” to observe the trend in the proportion of people with confirmed COVID-19.

Up to 21 July 2020, a total of 5,057 patients have been tested of which 610 have tested positive for SARS-CoV-2 through this scheme. The overall positivity was at 0.0% (0/32) in week 29 compared to 1.5% (1/67) in the previous week (Figure 19). Consultations for ILI and LRTI remained stable (Figure 19).

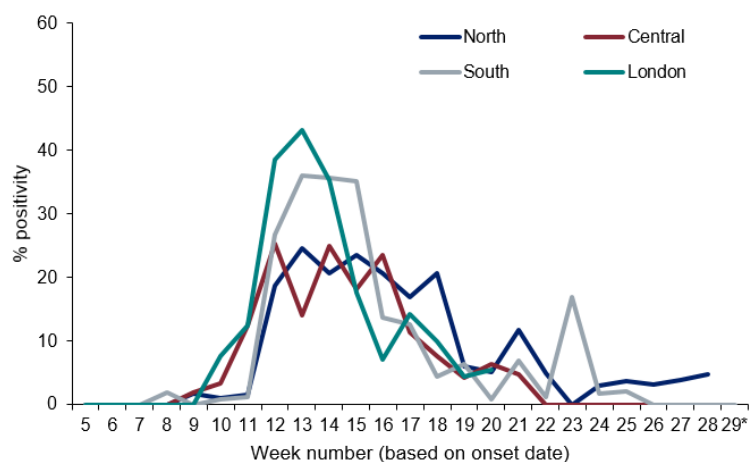
Figure 19: Overall weekly positivity (%), ILI and LRTI consultations rates (per 100,000), RCGP, England



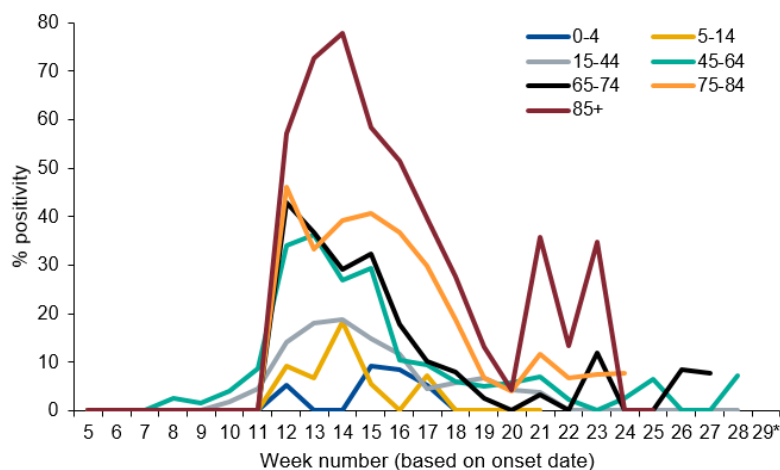
*For the most recent week, more samples are expected to be tested therefore the graph in Figures 17-19 should be interpreted with caution

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

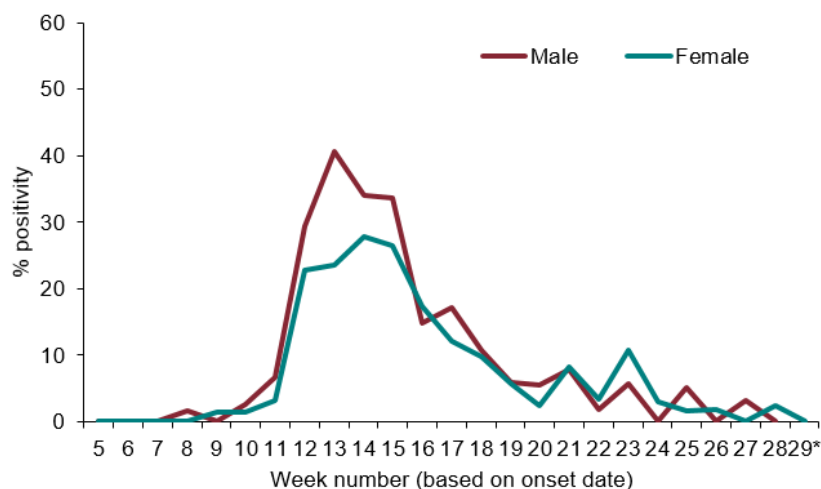
RCGP Swabbing Scheme

Figure 20: Overall positivity (%) (weekly) by PHE Region, England (RCGP)**Figure 21: Positivity (%) (weekly) by (a) age group and (b) gender, England (RCGP)**

(a)



(b)



*For the most recent week, more samples are expected to be tested therefore the graph in Figures 17-19 should be interpreted with caution

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

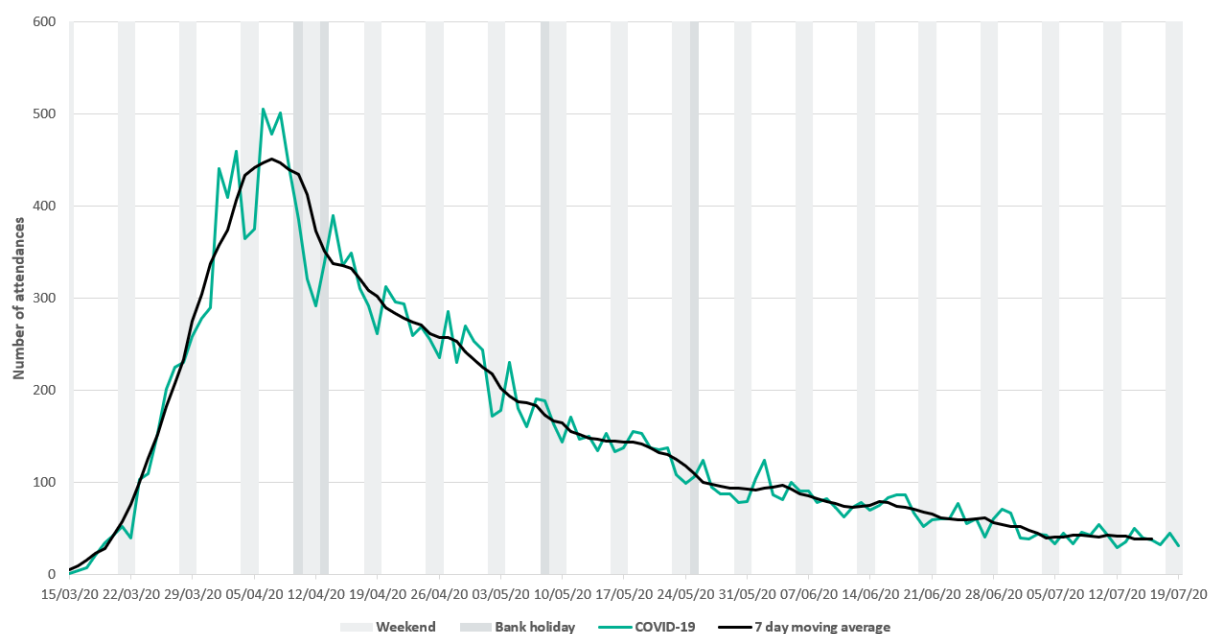
Emergency Department attendances, Syndromic surveillance

The Emergency Department Syndromic Surveillance System (EDSSS) monitors the daily visits in a network of emergency departments across England.

Up to 19 July 2020, the daily number of ED attendances for all ages as reported by 75 EDs in England during week 29, for COVID-19-like attendances remained stable (Figure 22).

Please note: the COVID-19-like ED indicator is an underestimation of the number of COVID-19 attendances as it only includes attendances with a COVID-19-like diagnosis as their primary diagnosis. The EDSSS COVID-19-like indicator should therefore be used to monitor trends in ED attendances and not to estimate actual numbers of COVID-19 ED attendances. Further information about these caveats is available from the PHE Emergency Department Syndromic Surveillance bulletin.

Figure 22: COVID-19-like, daily ED attendances, all ages, England



COVID-19 Hospitalisation in England Surveillance System (CHESS)

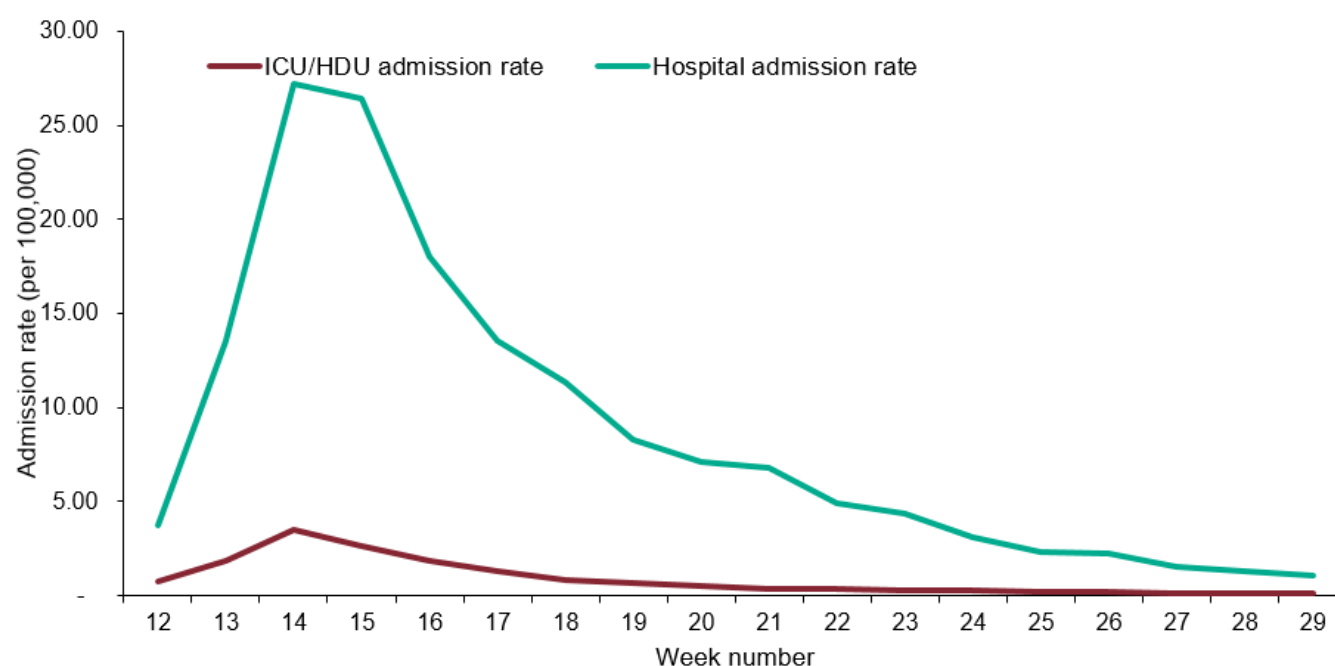
The CHESS surveillance system monitors daily new acute respiratory infections (ARI) and new laboratory confirmed COVID-19 admissions to hospital including critical care (ICU/HDU). Trends in hospital and critical care admission rates need to be interpreted in the context of testing recommendations.

A total of 134 NHS Trusts are now participating, although the number of Trusts reporting varies by day. The weekly rate of new admissions of COVID-19 cases is based on the trust catchment population of those NHS Trusts who made a new return. This may differ from other published figures such as the total number of people currently in hospital with COVID-19.

In week 29, the weekly admission rates for both hospitalisations and ICU/HDU COVID-19 admissions decreased.

The hospitalisation rate was at 1.07 per 100,000 in week 29 compared to 1.28 per 100,000 in the previous week. The ICU/HDU rate was at 0.09 per 100,000 in week 29 compared to 0.13 per 100,000 in the previous week (Figure 23). By NHS regions, the highest hospitalisation and ICU/HDU rates were observed in the North West and North East respectively (Figure 24). By age group, the highest hospitalisation rate was seen in the 85+ year olds and the highest ICU/HDU rate was observed in the 75-84 year olds (Figure 25).

Figure 23: Weekly overall hospital and ICU/HDU admission rates per 100,000 of new COVID-19 positive cases reported through CHESS, England



COVID-19 Hospitalisation in England Surveillance System (CHES)

Figure 24: Weekly admission rate for (a) hospital admissions and (b) ICU/HDU admissions by NHS regions of new COVID-19 positive cases reported through CHES

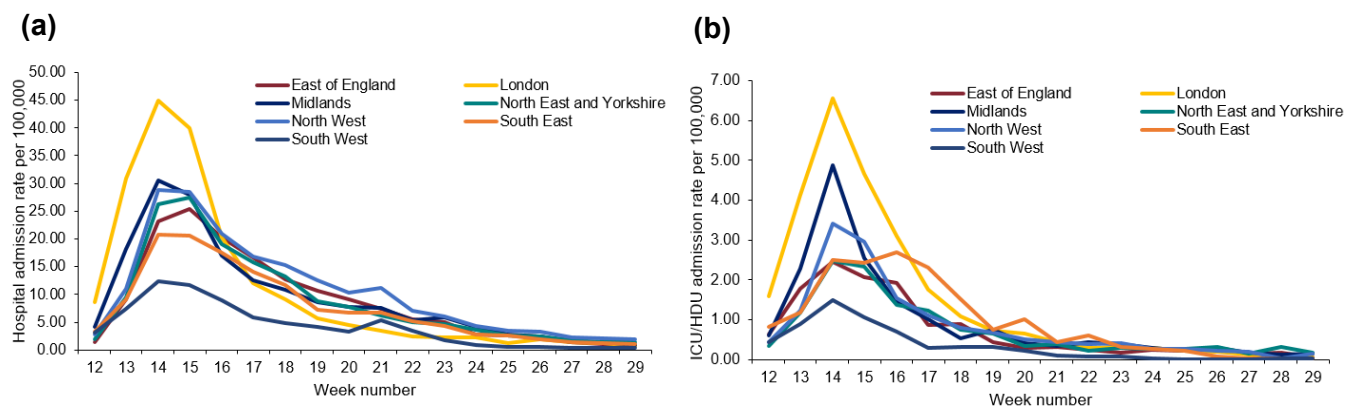
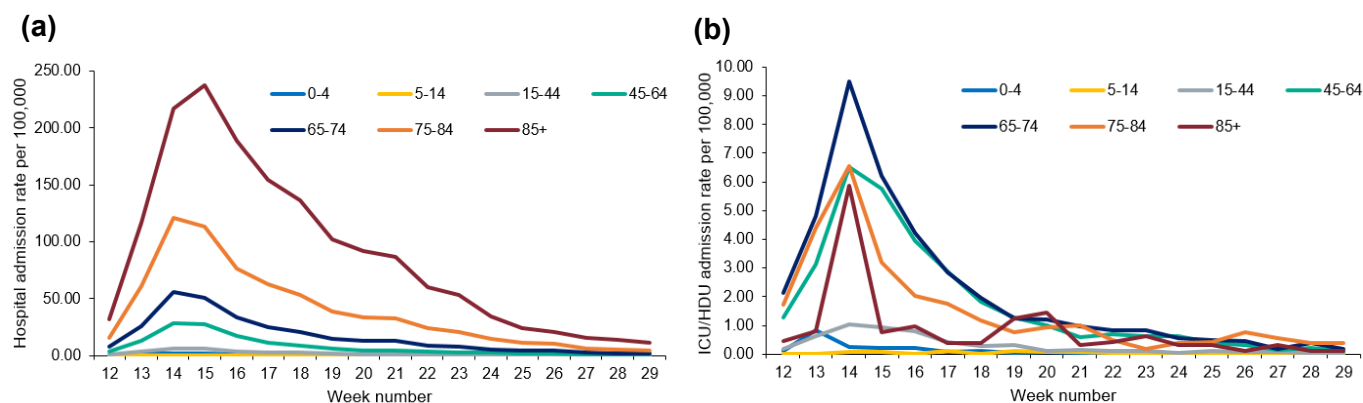


Figure 25: Weekly admission rate for (a) hospital admissions and (b) ICU/HDU admissions by age group of new COVID-19 positive cases reported through CHES

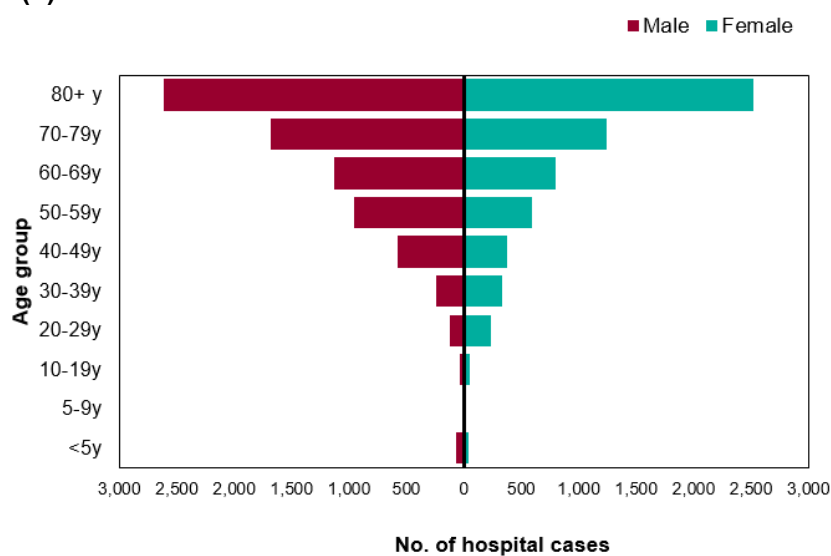


COVID-19 Hospitalisation in England Surveillance System (CHESS)

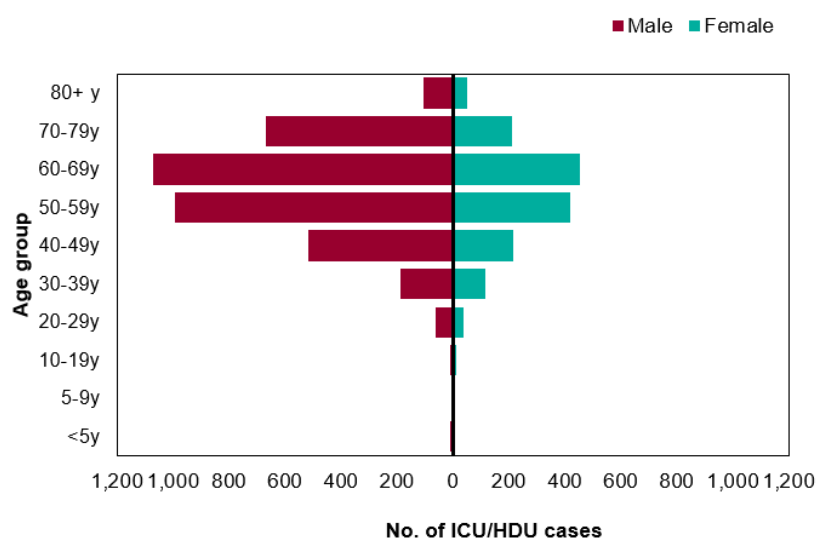
Figure 26 and 27 are based on individual patient level data which are provided to CHESS from a subset of NHS Acute Trusts, therefore the data should be interpreted with caution as the distribution of age, sex and ethnic group may not be representative of all hospitalised patients.

Figure 26: Age/sex pyramid of new (a) hospital (lower level of care) (n=13,658) and (b) ICU/HDU (n=5,151) COVID-19 cases reported through CHESS, England

(a)

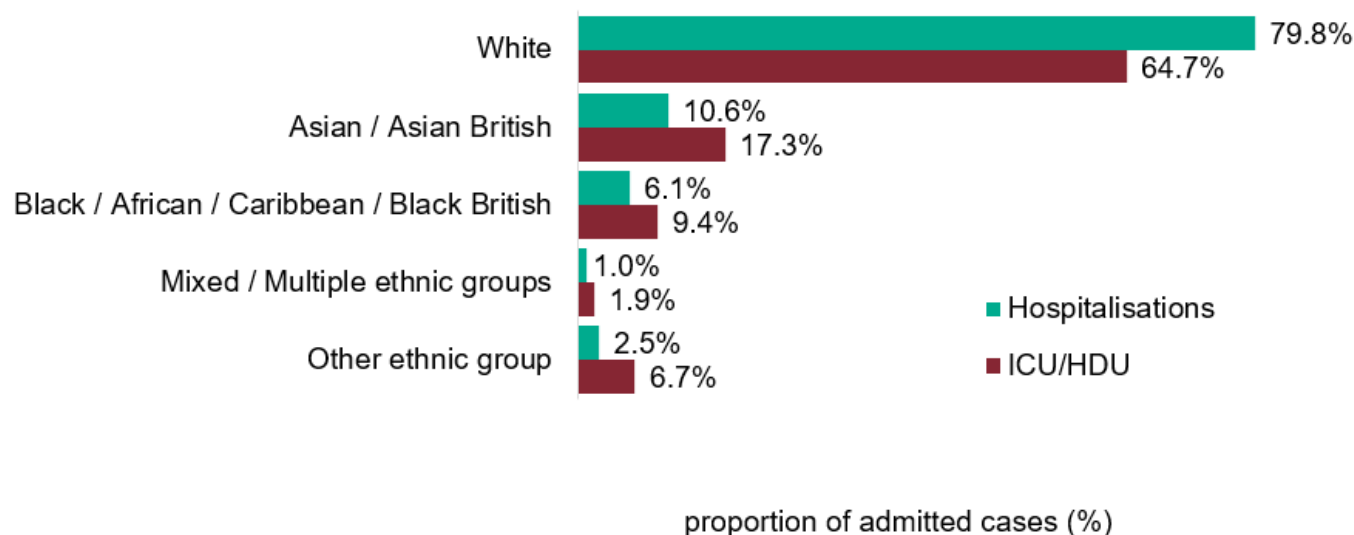


(b)



COVID-19 Hospitalisation in England Surveillance System (CHESS)

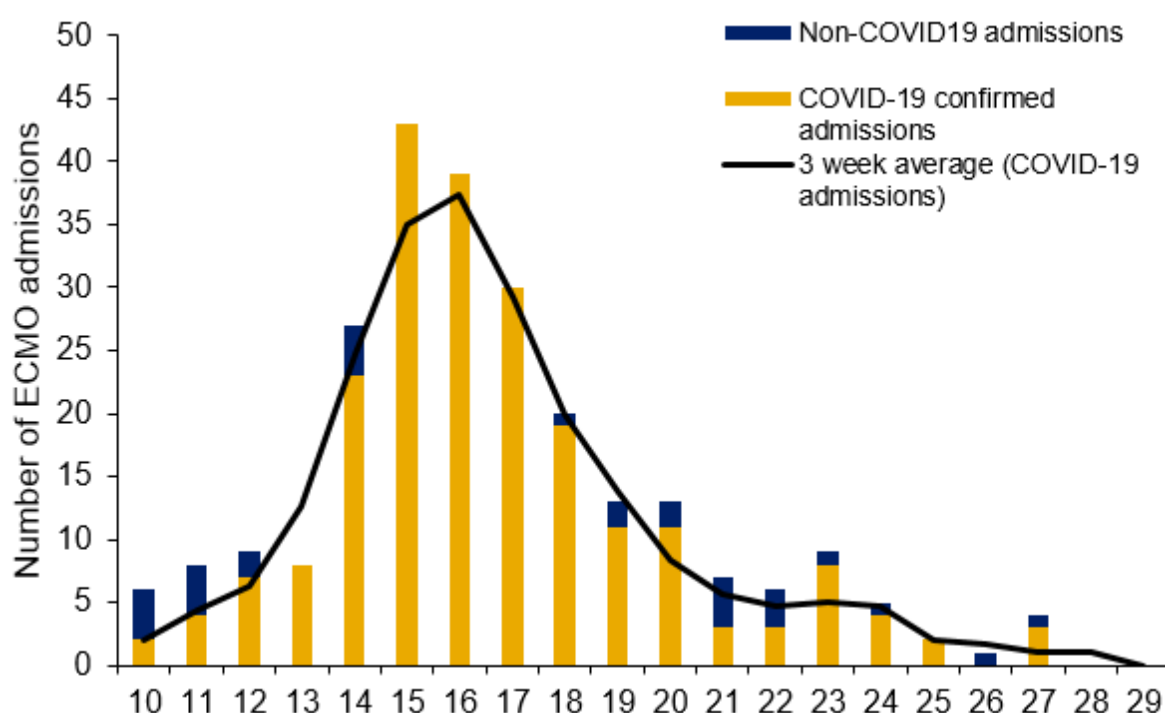
Figure 27: Ethnic group of new hospitalisations (lower level of care) (n=13,107) and ICU/HDU (n=4,727) COVID-19 cases reported through CHESS, England



UK Severe Respiratory Failure (SRF) centres admissions

Between 03 March and 20 July 2020, a total of 220 laboratory confirmed COVID-19 admissions have been reported from the 5 SRFs in England. There were no new laboratory confirmed COVID-19 admissions reported in week 29 or week 28 (Figure 28).

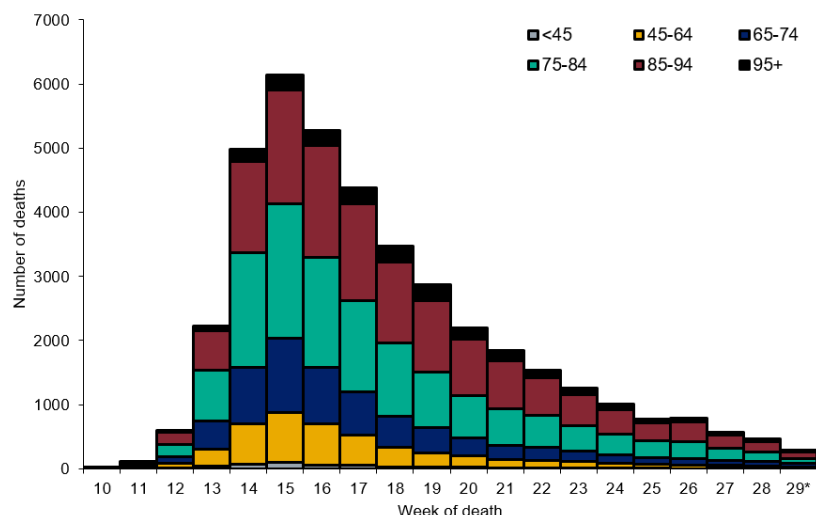
Figure 28: Laboratory confirmed ECMO admissions (COVID-19 and non-COVID-19 confirmed) to SRFs, England



Cumulative deaths

As of 5pm on 21 July 2020, a total of 40,828 cases under Pillar 1 and 2 with confirmed COVID-19 have died in England.

Figure 29: Cumulative number of deaths by week of death and age group, England (n=40,798)



* For the most recent week, more deaths will be reported therefore the decrease seen in this graph should be interpreted with caution

Figure 30: Age/sex pyramid of laboratory confirmed COVID-19 (Pillar 1 and 2) deaths (n=40,828)

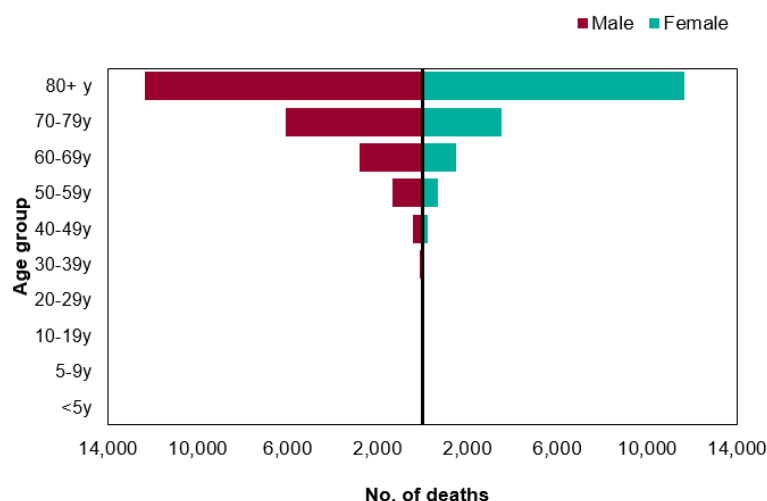
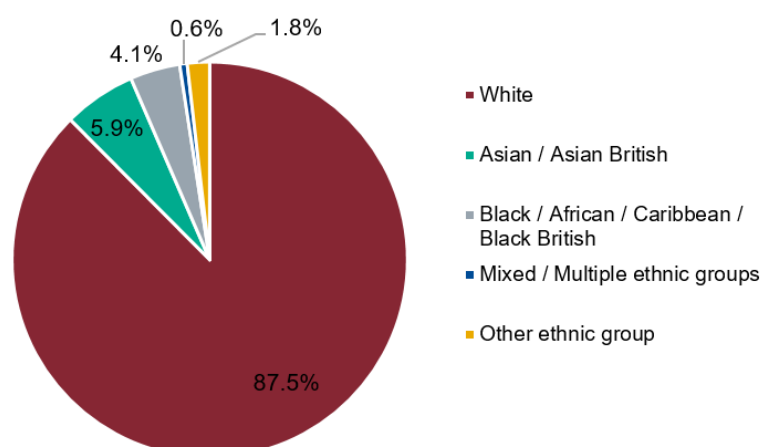


Figure 31: Ethnic group of confirmed COVID-19 (Pillar 1 and 2) deaths, England (n= 40,503)



Geography

Table 5: Cumulative number of deaths and crude mortality rate (Pillar 1 and 2) by PHE Centres (n=40,498)

PHE Centres	Number of deaths	Crude mortality rate (per 100,000 population)
North East	2,389	89.9
North West	6,772	92.9
Yorkshire & Humber	3,948	72.0
West Midlands	5,096	86.4
East Midlands	3,273	68.1
East of England	4,668	72.2
London	6,812	76.5
South East	5,436	61.3
South West	2,104	37.6

Figure 32: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged maps of London area)

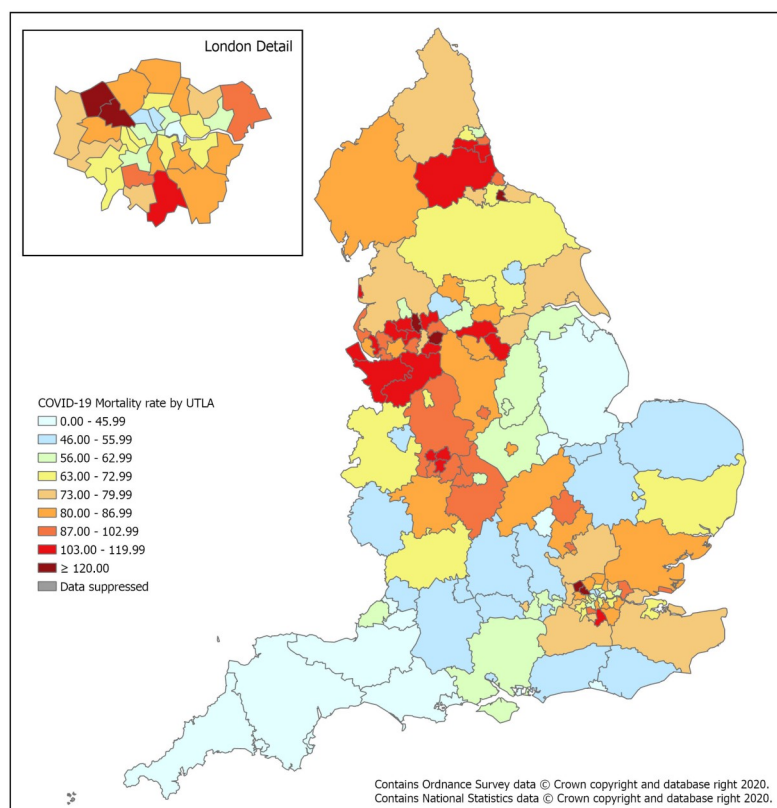
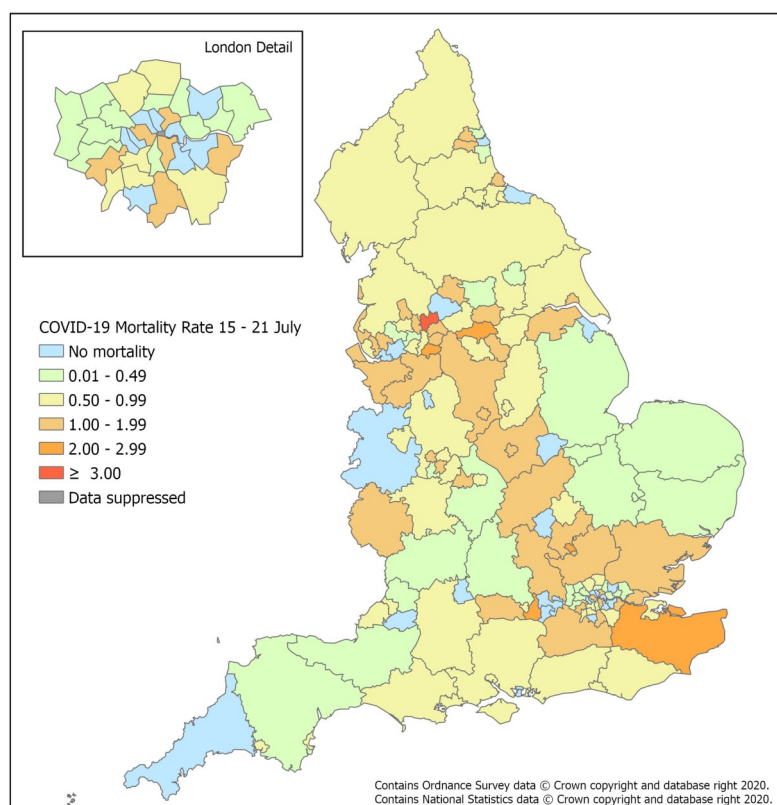


Figure 33 : Weekly mortality rate of COVID-19 cases per 100,000 population tested under Pillar 1 and 2, by upper-tier local authority, England (box shows enlarged maps of London area)



Daily excess all-cause mortality, UK

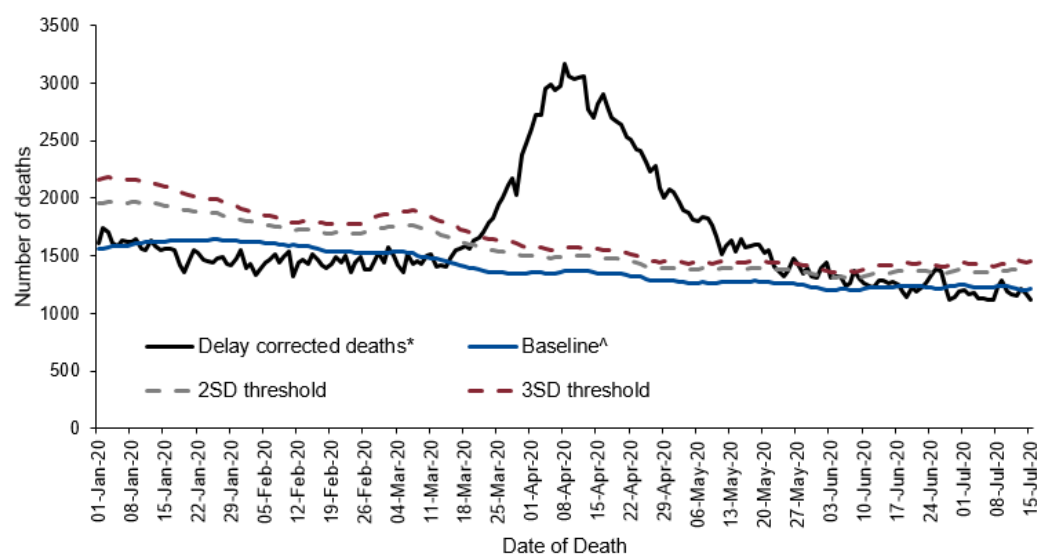
Deaths occurring from 01 January to 15 July 2020 were assessed to calculate the daily excess above a baseline using age-group and region specific all cause deaths as provided daily by the General Register Office (GRO). The deaths were corrected to allow for delay to registration based on past data on these delays and the baseline was from the same day of the year in the previous 5 years +/- 7 days with an extrapolated time trend, and with 2 and 3 standard deviation (SD) limits shown (Figure 32).

Weeks in which at least 2 days exceeded the 3SD threshold are shown in Table 4 and the daily difference from the baseline by age and region is given in Figure 35. Note that as these data are by date of death with delay corrections, numbers are subject to change each week, particularly for more recent days.

No significant excess all-cause mortality was observed in week 28 overall, by age group or sub-nationally (Figure 34, 35 and Table 6).

Weekly all-cause mortality surveillance is monitored and reports can be found [here](#).

Figure 34: Daily excess all-cause deaths in all ages, England, 01 January 2020 to 15 July 2020



^ based on same day in previous 5 years +/- 1 week with a linear trend projected

* corrected for delay to registration from death

Daily excess all-cause mortality, UK

Table 6: Excess all-cause deaths by (a) age group and (b) PHE centres , England

(a)

	Excess detected in week 28 2020?	Weeks in excess since week 10 2020
Age group		
All	x	13 to 21,23
under25	x	None
25to45	x	13 to 16,20
45to65	x	12 to 19
65to74	x	12 to 19
75to84	x	13 to 22
85+	x	13 to 21

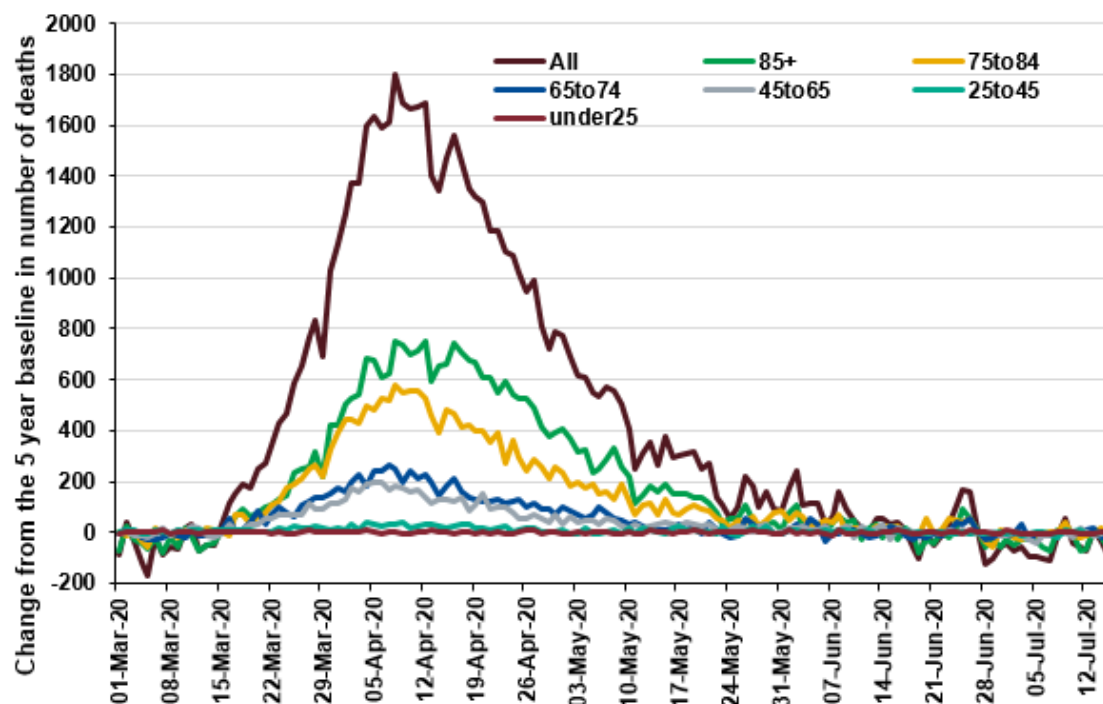
(b)

	Excess detected in week 28 2020?	Weeks in excess since week 10 2020
PHE centres		
East of England	x	14 to 20
East Midlands	x	13 to 19
London	x	12 to 19
North East	x	14 to 21
North West	x	13 to 21
South East	x	13 to 21
South West	x	14 to 19
West Midlands	x	13 to 20
Yorkshire and Humber	x	14 to 21, 23

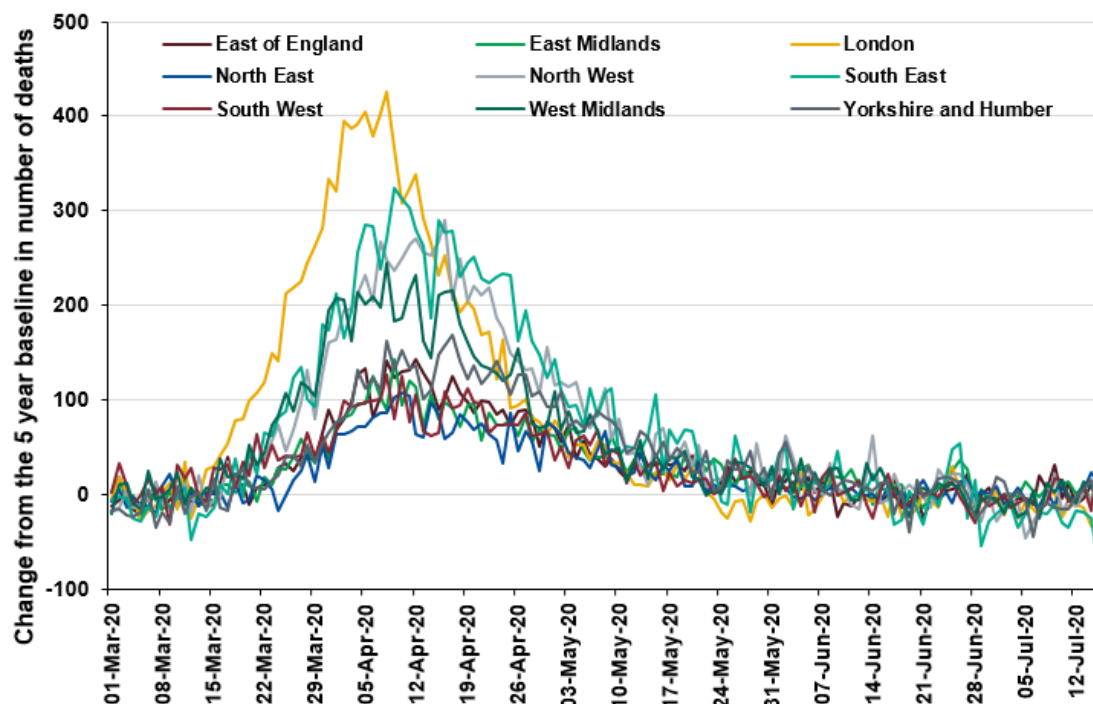
Daily excess all-cause mortality, UK

Figure 35: Daily excess all-cause deaths by (a) age group and (b) PHE centres , England, 01 March 2020 to 15 July 2020

(a)



(b)



Sero-prevalence epidemiology, England

Sero-epidemiological surveillance/studies enable the identification of the true number of infections within the general population and provides the ability to detect asymptomatic and mild infections. More information on this is available [here](#).

In this week's report the results from testing samples provided by healthy adult blood donors supplied by the NHS Blood and Transplant (NHS BT collection) are summarised. Donor samples from two different geographic regions (approximately 1000 samples per region) in England are tested each week. Results from testing donor samples from adults aged 17-69 years have been presented to date; however, recently an exclusion of donors aged 70 years and older donating throughout lockdown was lifted, and therefore data from the most recent sampling periods included in this week's report include donors in this older age group.

The results presented here are based on testing using the Euroimmun assay for blood donor samples collected between weeks 13-29. This week's report includes the results of testing the 5th set of samples from the Midlands (weeks 28-29) and the 4th set of samples from the North East region (week 28).

National prevalence

Overall population weighted prevalence among blood donors aged 17 to 69 in England was 6.5% (95% CI 6.0% - 7.1%) (unadjusted) or 6.8% (95% CrI 6.2% - 7.5%) after adjustment for the accuracy of the Euroimmun assay (sensitivity 83.0% and specificity 99.3%) for the period 15th June – 13th July (weeks 25-29). This compares with 7.5% (95% CI 6.9% - 8.2%) (unadjusted) or 8.2% (95% CrI 7.4% - 9.0%) (adjusted) for the period of 21st May – 14th June (weeks 21-24).

Regional prevalence over time

Figure 36 shows the overall prevalence in each region over time which has been adjusted for the sensitivity and specificity of the Euroimmun assay. It is important to note that the sensitivity and specificity of assays are subject to change as further data becomes available. Sensitivity and specificity values for the Euroimmun assay were updated last week based on additional data from testing of convalescent sera taken 3 to 6 weeks after onset.

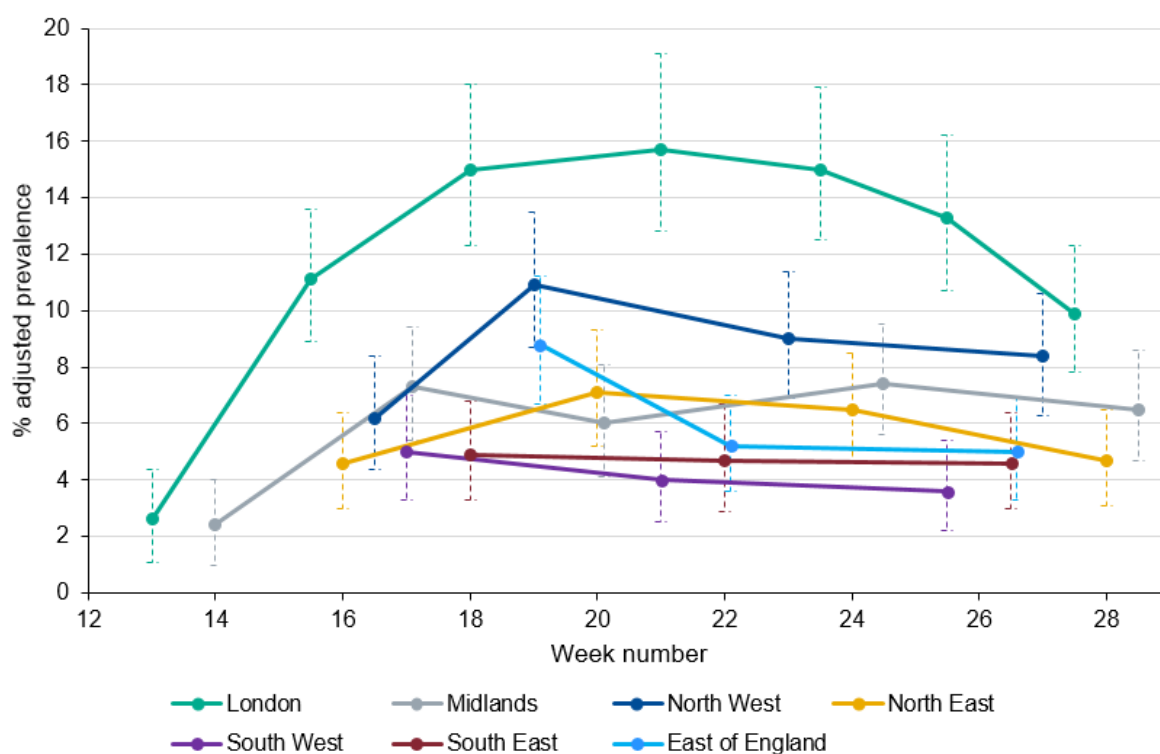
Adjusted prevalence estimates vary across the country and over time. In London where prevalence estimates are highest, overall adjusted prevalence increased from 2.6% (week 13) to 15.7% (week 21). In the most recent data lower prevalence estimates have been observed, 13.3% (weeks 25-26) and 9.9% (weeks 27-28). Given that antibody response takes at least two weeks to become detectable, those displaying a positive result in week 18 are likely to have become infected before mid-April. The plateauing observed since week 18 demonstrates the impact of lock down measures on new infections. In more recent sampling periods, prevalence estimates are lower and this is likely to be largely driven by changes in the precise locations of sampling over time and potential demographic differences in the donor population as lockdown measures are relaxed. Regular donors aged 70 years and above were not allowed to donate during lockdown; this exclusion was lifted from week 26 and numbers of samples from donors aged 70+ have gradually increased from week 26 to date. Waning immunity may also be a contributory factor, although the consistently low numbers of samples with a result in the equivocal range suggests that this is likely to play a relatively small role in the overall trends observed to date.

Similar patterns have been observed in other regions as well. The adjusted prevalence in the North East of England is lower at 4.7% in week 28 compared with 7.1% in week 20.

The lower prevalence in samples from other regions including the South West region is consistent with data from other surveillance systems. In recent data from weeks 26-27, adjusted prevalence amongst donors in the South East has plateaued, remaining stable at 4.6% (95% CrI 3.0% - 6.4%) between weeks 26 and 27. Similar trends have been observed in recent data from the Midlands, with adjusted prevalence plateauing at 6.5% (95% CrI 4.7% - 8.6%) in week 28 to 29 after fluctuating between 6.0% (95% CrI 4.1% - 8.1%) in week 20 and 7.4% (95% CrI 5.6% - 9.5%) in weeks 24 to 25.

Sero-prevalence epidemiology, England

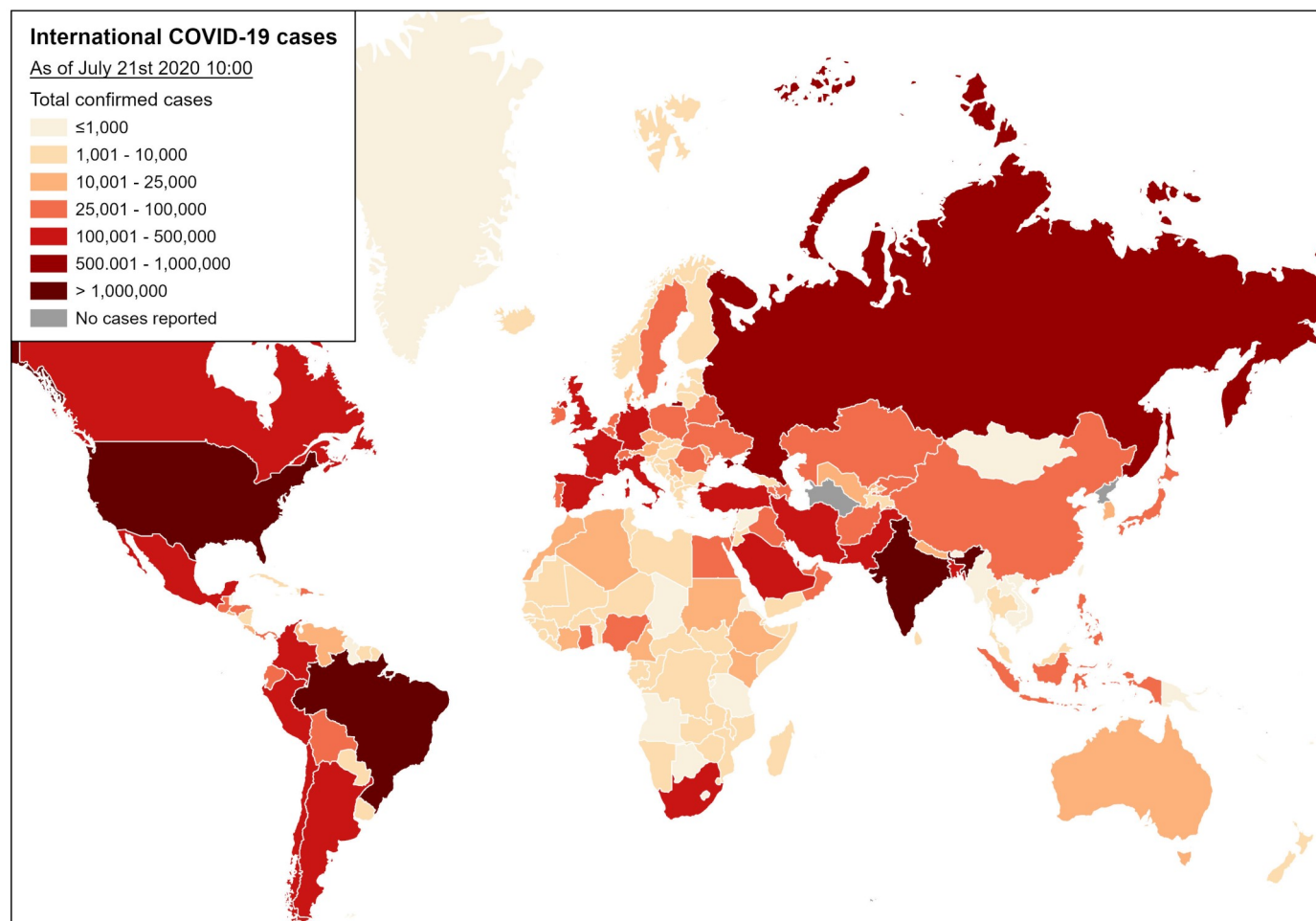
Figure 36: Overall SARS-CoV-2 antibody seroprevalence (%) in blood donors by PHE centres, using Euroimmun test adjusted for sensitivity (82.5%) and specificity (99.1%) and 95% confidence intervals (dashed lines)



Global situation

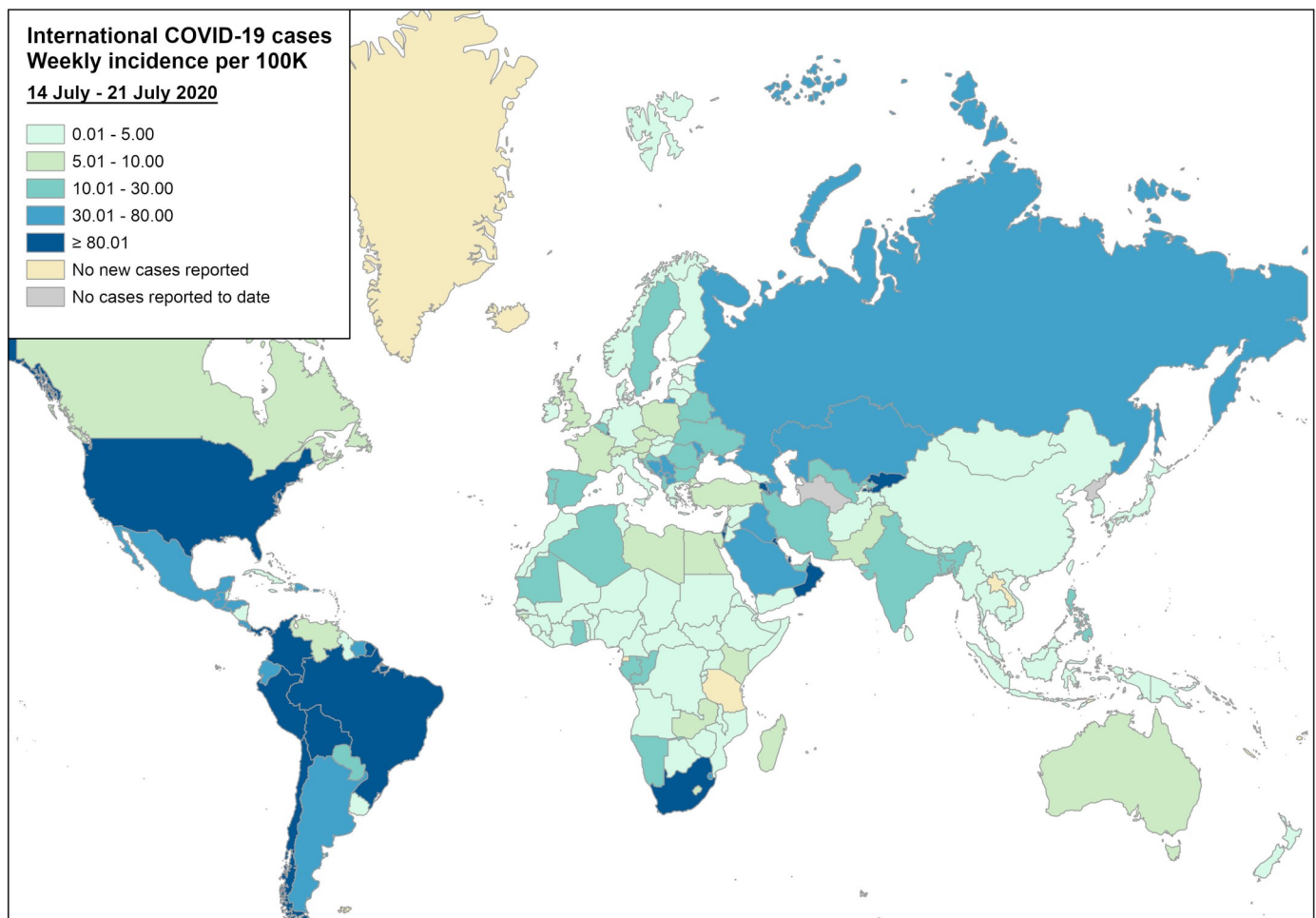
Globally, up to 21 July 2020, a total of 14,626,613 cases of COVID-19 infection have been reported worldwide, including 609,530 COVID-19 related deaths.

Figure 37: Global map of cumulative COVID-19 cases



Global situation

Figure 38: Global map of weekly COVID-19 case incidence rate per 100,000, week 29 2020



PHE has delegated authority, on behalf of the Secretary of State, to process Patient Confidential Data under Regulation 3 The Health Service (Control of Patient Information) Regulations 2002

<http://www.legislation.gov.uk/ukxi/2002/1438/regulation/3/made>. Regulation 3 makes provision for the processing of patient information for the recognition, control and prevention of communicable disease and other risks to public health.