



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

23 May 2019 – Week 21 report (up to week 20 data)

This report is published weekly on the [PHE website](#). For further information on the surveillance schemes mentioned in this report, please see the [PHE website](#) and the [related links](#) at the end of this document.

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Summary – Week 20 (ending 19 May 2019)

- During week 20, influenza activity indicators have remained **Below Baseline** consistent with influenza no longer circulating widely in the community
- The impact of flu on healthcare services is **Below baseline** for hospitalisations and for ICU/HDU influenza admissions.
- The Department of Health & Social Care has issued an [alert](#) on the termination of the prescription of antiviral medicines by GPs for this season

Community

- Twelve new acute respiratory outbreaks have been reported in the past 7 days. Ten outbreaks were reported from care homes where 1 tested positive for influenza A(not subtyped) and 1 for Pneumococcus. The remaining 2 outbreaks were reported from hospitals with no test result available.

Primary Care

- The rate of influenza-like illness (ILI) was **Below Baseline** threshold levels. The overall weekly ILI GP consultation rate was 2.2 per 100,000 registered population in participating GP practices for England, this is similar to 2.5 per 100,000 in week 19 2019.
- In the devolved administrations, ILI rates were **Below Baseline** threshold levels for Northern Ireland, Scotland and Wales.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed was **Below baseline** levels, with a rate of 0.21 per 100,000 trust catchment population for England (16 NHS Trusts), this is similar to 0.20 per 100,000 in week 19.
- ICU/HDU admission rate observed was **Below baseline** levels, with a rate of 0.01 per 100,000 trust catchment population for England (130/143 NHS Trusts), this is similar to the previous week which was at 0.02 per 100,000.
- There were no new laboratory confirmed influenza admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 20 2019, no statistically significant excess all-cause mortality by week of death was seen overall and by age group in England. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland in week 20 and in Scotland in week 18 2019

Microbiological surveillance

- [Primary care](#): no samples tested positive for influenza through the UK GP sentinel swabbing schemes in week 19 2019.
- [Secondary care](#): Influenza percent positivity was 2.3%, **Below Baseline** threshold level, this is similar to 3.3% in week 19. There were 38 detections recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 20 influenza A(H3), 16 influenza A(not subtyped) and 1 influenza B).

Secondary
Care



Vaccination

- Provisional data from the fifth monthly collection of influenza vaccine uptake in GP patients shows that in 97.6% of GP practices the proportions of people in England who had received the 2018/19 influenza vaccine in targeted groups by 28 February 2019 were: 48.0% in under 65 years in a clinical risk group, 45.2% in pregnant women and 72.0% in 65+ year olds. In 96.2% of GP practices reporting for the childhood collection the provisional proportions vaccinated by 28 February 2019 were: 43.8% in 2 year olds and 45.9% in 3 year olds.
- Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 70.3% were vaccinated by 28 February 2019, compared to 68.7% vaccinated in the previous season by 28 February 2018.
- Provisional data from the fourth monthly collection of influenza vaccine uptake for children of school years reception to year 5 shows 63.9% in school year reception age, 63.4% in school year 1 age, 61.4% in school year 2 age, 60.2% in school year 3 age, 58.0% in school year 4 age and 56.2% in school year 5 age were vaccinated by 31 January 2019.
- [WHO](#) have published their recommendations for the composition of the 2019/20 Northern hemisphere influenza vaccine

International situation

- In the temperate zone of the Northern hemisphere, influenza activity decreased overall. In the temperate zones of the Southern hemisphere, influenza detections increased in southern Australia and South Africa. The influenza of South America remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections

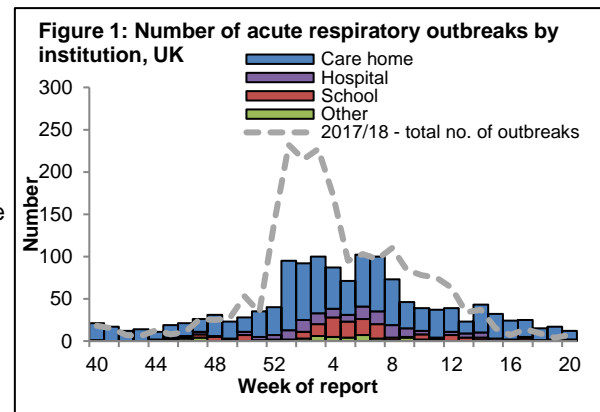
Key	
Arrows (vs previous week):	Colour (intensity according to MEM threshold):
↑ Increase	● Below Baseline
↓ Decrease	● Above Baseline/Low
↔ Stable/No trend	● Medium
	● High
	● Very High

Twelve new acute respiratory outbreaks were reported in the past 7 days.

- Acute respiratory disease outbreaks

-Twelve new acute respiratory outbreaks have been reported in the past 7 days. Ten outbreaks were reported from care homes where 1 tested positive for influenza A(not subtyped) and 1 for Pneumococcus. The remaining 2 outbreaks were reported from hospitals with no test result available.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and respscisc@phe.gov.uk



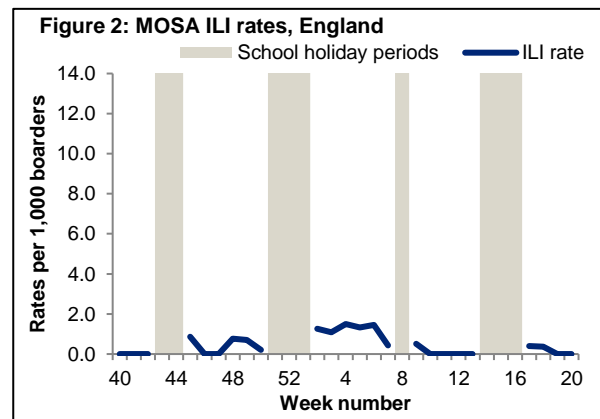
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- Boarding schools in England within the MOSA network are recruited each season to report various respiratory related illnesses including influenza like illnesses (ILI). For the 2018/19 season, 21 MOSA schools have agreed to participate in the scheme, including a total of 6,661 boarders.

- The overall rate (all boarders) for week 20 was 0.0 per 1,000 boarders compared to 0.0 per 1,000 boarders in week 19.

-Since week 40, there have been 17 outbreaks reported from 10 MOSA schools, with a total of 63 ILI cases identified. Of the 17 outbreaks, 3 outbreaks have tested positive for influenza A (H1N1)pdm09 and 1 outbreak has tested positive for influenza B.

- If you are a MOSA school and would like to participate in this scheme, please email mosa@phe.gov.uk for more information.

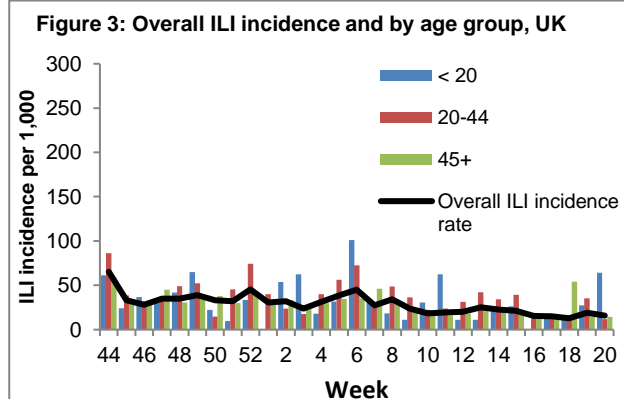


- FluSurvey

- Internet-based surveillance of influenza-like illness in the general population is undertaken through FluSurvey. A project run by PHE to monitor ILI activity in the community.

- The overall ILI rate (all age groups) for week 20 2019 was 15.8 per 1,000 (31/1,957 people reported at least 1 ILI) (Figure 3) compared to 19.1 per 1,000 in the previous week, with the highest rate seen in the <20 year olds (64.1 per 1,000).

- If you would like to become a participant of the FluSurvey project please do so by visiting the <https://flusurvey.net/en/accounts/register/> website for more information.



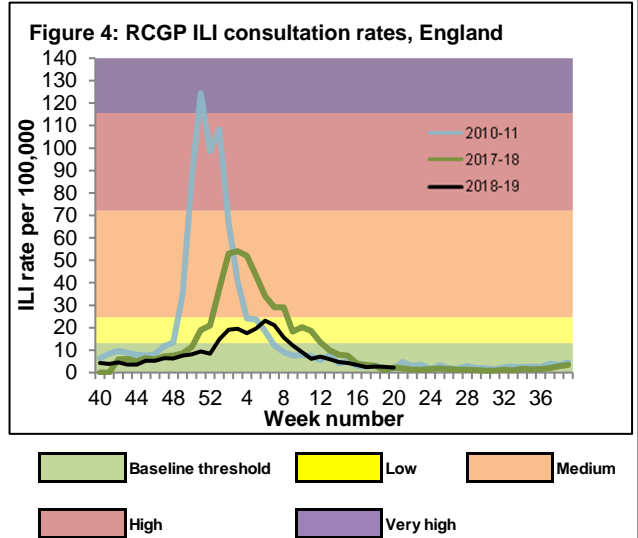
In week 20, the overall weekly influenza-like illness (ILI) GP consultation rate remained below baseline threshold levels in England. In the devolved administrations, ILI rates remained similar compared to the previous week and are below their respective baselines.

- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was at 2.2 per 100,000 registered population in participating GP practices in week 20 2019, this is similar to 2.5 per 100,000 in week 19. This is below the baseline threshold (13.1 per 100,000) (Figure 4*). By age group, the highest rates were seen in the 1-4 year olds (3.4 per 100,000) and in the 65-74 year olds (3.2 per 100,000)

*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 2009/10) in a standardised approach across Europe. For MEM intensity threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#clinical-surveillance-through-primary-care>



UK

- In week 20, overall weekly ILI consultation rates across countries of the UK remained similar compared to the previous week, with all countries below their respective baseline threshold levels (Table 1).

- By age group, the highest rates were seen in the 65-74 year olds in Scotland and Northern Ireland (4.6 per 100,000 and 3.4 per 100,000, respectively) and in the 45-64 year olds in and Wales (3.7 per 100,000).

Table 1: GP ILI consultations in the UK for all ages with MEM thresholds applied*

GP ILI consultation rates (all ages)	Week number																																
	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
England (RCGP)	4.2	3.9	4.5	3.6	3.6	5.3	5.2	6.4	6.2	7.6	8.1	9.4	8.4	14.8	19.2	19.6	17.5	19.7	23.1	21.1	15.7	12.1	9.1	6.2	7.2	6.0	4.7	4.2	3.4	2.4	2.7	2.5	2.2
Wales	7.0	3.6	4.2	6.6	6.3	6.4	4.5	4.7	6.5	3.2	4.5	9.0	9.5	14.7	20.4	22.9	15.7	20.4	21.4	17.2	17.4	8.2	8.7	7.5	4.5	6.7	6.2	5.5	4.0	4.0	5.7	3.0	1.7
Scotland	7.1	5.8	4.0	3.8	2.8	7.6	4.0	4.7	5.6	4.0	6.5	10.1	6.9	17.7	26.7	18.0	28.4	32.7	32.3	27.2	20.8	10.2	10.2	6.6	7.9	4.6	10.9	3.7	2.9	1.9	2.8	1.3	2.3
Northern Ireland	3.8	3.5	3.8	3.6	3.8	5.0	6.3	4.5	5.6	6.0	8.4	8.9	9.0	13.5	18.9	14.4	12.4	14.5	16.2	14.5	11.1	9.0	5.9	5.6	4.1	5.7	4.3	4.4	3.6	2.5	2.8	2.2	2.3

*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 2009/10), in a standardised approach across Europe. For MEM threshold values for each country, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#clinical-surveillance-through-primary-care>

GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 1.8 per 100,000 in week 20 2019 (Figure 5).

- During week 20, no trends were observed across syndromic surveillance systems for ILI.

- Figure 5 represents a map of GP ILI consultation rates in week 20 across England by PHE centres, with influenza-like illness surveillance MEM thresholds applied.

ILI consultation rates presented for each utLA on the map should be interpreted in context of regional and national ILI activity; as MEM thresholds are calculated (based on previous influenza seasons from 2012/13 onwards) separately for each of the nine PHE centres and utLA rates are then compared to Centre-level thresholds only, therefore utLAs with higher background rates than the Centre may appear to have higher ILI activity.

-For further information, please see the syndromic surveillance [webpage](#).

Figure 5: Map of GP ILI consultation rates in week 20

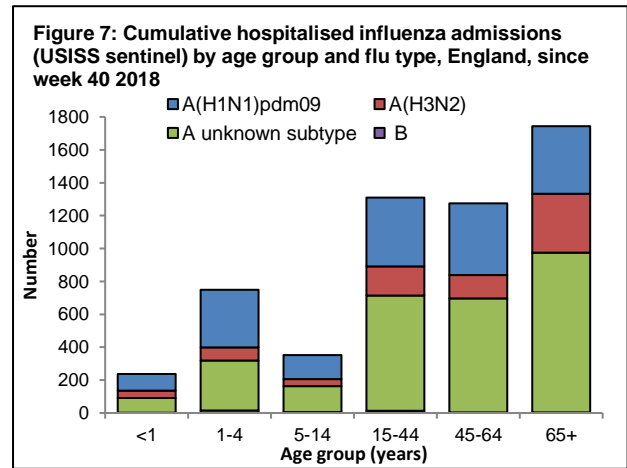
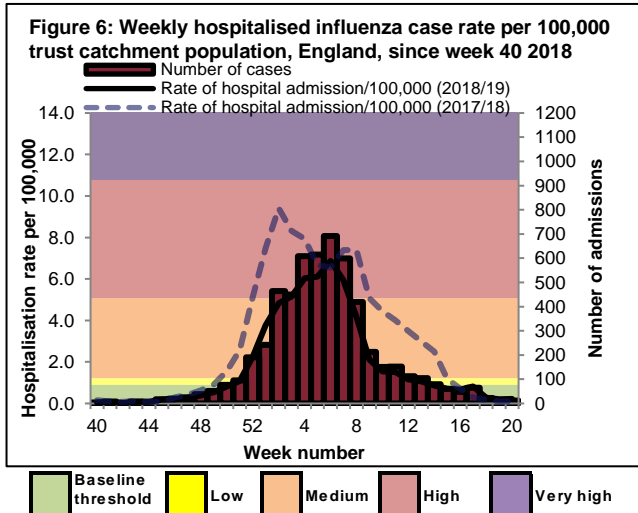


In week 20 2019, there were 12 hospitalised influenza cases (1 influenza A(H1N1)pdm09, 3 influenza A(H3N2) and 8 influenza A(unknown subtype)) reported through the USISS sentinel hospital network across England (16 NHS Trusts). There were 7 new admissions to ICU/HDU with confirmed influenza (3 influenza A(H1N1)pdm09 and 4 influenza A(unknown subtype)) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (130/143 NHS Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 20)

- In week 20 2019, there were 12 hospitalised laboratory confirmed influenza cases (1 influenza A(H1N1)pdm09, 3 influenza A(H3N2) and 8 influenza A(unknown subtype)) reported from 16 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.21 per 100,000 trust catchment population compared to 0.20 per 100,000 in the previous week (Figures 6 and 7). This is below the baseline threshold of 0.89 per 100,000.

- A total of 5,667 hospitalised confirmed influenza admissions (1,864 influenza A(H1N1)pdm09, 844 influenza A(H3N2), 2,916 influenza A(unknown) and 43 influenza B) have been reported in the England since week 40 2018 via the sentinel scheme.

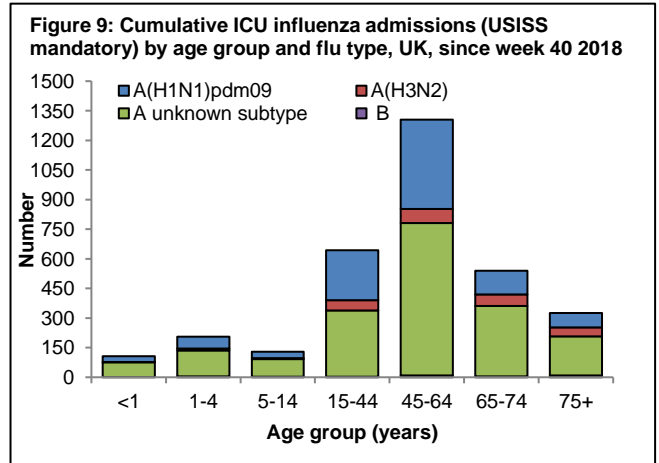
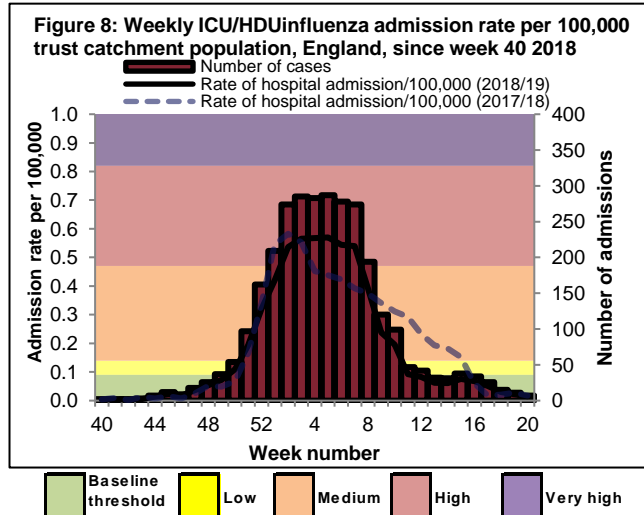


*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 7 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#disease-severity-and-mortality-data>

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 20)

- In week 20 2019, there were 7 new admissions to ICU/HDU with confirmed influenza (3 influenza A(H1N1)pdm09 and 4 influenza A(unknown subtype)) reported through the USISS mandatory ICU scheme in the UK (130/143). The rate for England (n=7) was 0.01 per 100,000 trust catchment population (Figures 8 and 9) compared to 0.02 per 100,000 in week 19 2019. No fatal influenza case in ICU were reported in week 20 2019 in the UK.

- A total of 3,253 new admissions (1,018 influenza A(H1N1)pdm09, 242 influenza A(H3N2), 1,959 influenza A(unknown subtype) and 34 influenza B) and 317 confirmed deaths have been reported in the UK since week 40 2018.



*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 7 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#disease-severity-and-mortality-data>

- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 20)

- In week 20, there were no new admissions for laboratory confirmed influenza among the 6 Severe Respiratory Failure (SRF) centres in the UK.

- Since week 40 2018 there have been 110 confirmed influenza admissions (84 influenza A(H1N1)pdm09, 6 influenza A(H3N2) and 20 influenza A(unknown subtype) among ECMO centres.

All-cause mortality data

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In week 20 2019, no statistically significant excess all-cause mortality by week of death was observed overall and by age group in England, through the EuroMOMO algorithm. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland in week 20 2019 and in Scotland in week 18 2019.

- All-cause death registrations, England and Wales

- In week 19 2019, an estimated 9,055 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 11,207 estimated death registrations in week 18 2019.

- Excess all-cause mortality by age group, England, Wales, Scotland and Northern Ireland

- In week 20 2019 in England, no statistically significant excess mortality by week of death above the upper 2 z-score threshold was seen overall, by age group and sub-nationally (all ages), after correcting ONS disaggregate data for reporting delay with the standardised [EuroMOMO](#) algorithm. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- In the devolved administrations, no statistically significant excess all-cause mortality for all ages observed in Wales and Northern Ireland in week 20 2019 and in Scotland in week 18 2019 (Table 2).

Table 2: Excess mortality by UK country, for all ages*

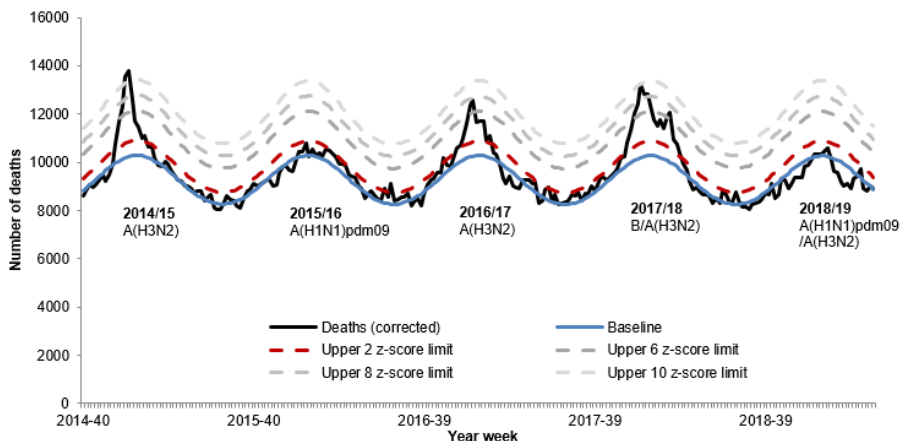
Country	Excess detected in week 20 2019?	Weeks with excess in 2018/19
England	×	NA
Wales	×	NA
Northern Ireland	×	1;6

Country	Excess detected in week 18 2019?	Weeks with excess in 2018/19
Scotland	×	52-2

* Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold

* NA refers to no excess seen

Figure 10: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2014 to week 20 2019



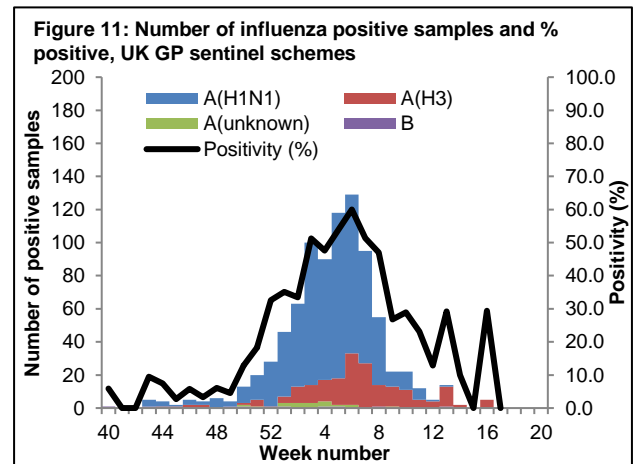
*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 20 2019, no samples tested positive for influenza the UK GP sentinel schemes. Thirty-eight positive detections were recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 20 influenza A(H3), 16 influenza A(not subtyped) and 1 influenza B) with a positivity of 2.3%, this is below the baseline threshold of 9.2%.

- Sentinel swabbing schemes in England (RCGP) and the Devolved Administrations

-In week 20 2019, no samples tested positive for influenza through the UK GP sentinel swabbing schemes (Figure 11).

-Since week 40, a total of 870 samples (656 influenza A(H1N1)pdm09, 188 influenza A(H3), 17 influenza A(unknown subtype) and 9 influenza B) tested positive for influenza through this scheme.

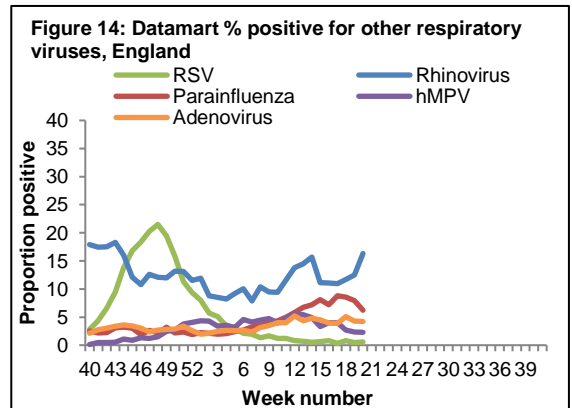
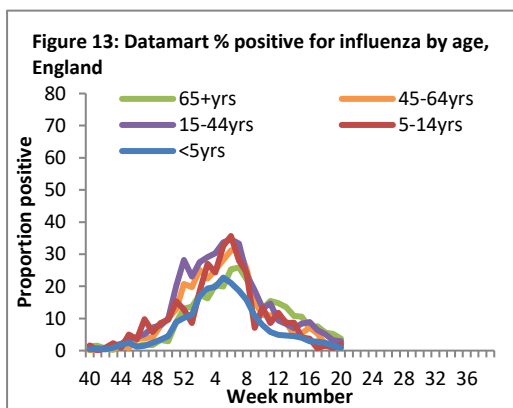
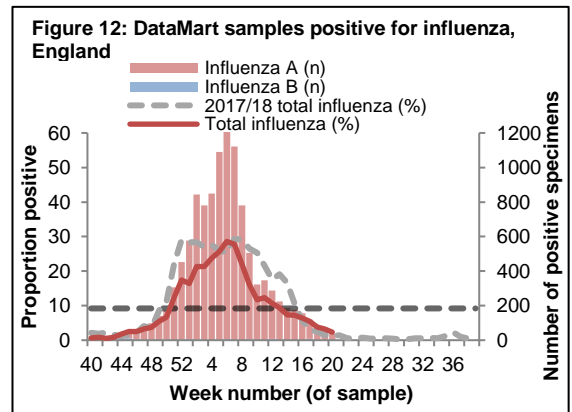


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

- In week 20 2019, out of the 1,619 respiratory specimens reported through the Respiratory DataMart System, 38 samples were positive for influenza (1 influenza A(H1N1)pdm09, 20 influenza A(H3), 16 influenza A(not subtyped) and 1 influenza B) (Figure 12), with an overall positivity of 2.3% compared to 3.3% the previous week, which is below the MEM baseline threshold for this season of 9.2%. The highest positivity for influenza by age group was seen in the 65+ year olds at 3.8% in week 20 (Figure 13).

-RSV positivity remained low (<1%). Rhinovirus positivity increased slightly from 12.5% in week 19 to 16.3% in week 20 2019. Parainfluenza positivity decreased slightly from 8.0% in week 19 to 6.2% in week 19, although still relatively high in the context of increases from week 12. Adenovirus positivity remained similar in week 20 (4.2%) compared to 4.3% in week 19. Human metapneumovirus (hMPV) positivity remained low at 2.3% in week 20 2019 (Figure 14).



*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold to indicate a likelihood of influenza community circulation for Datamart % positive as calculated through the Moving Epidemic Method is 9.2% in 2018/19.

- Virus characterisation

PHE characterises the properties of influenza viruses through one or more tests, including [genome sequencing](#) (genetic analysis) and [haemagglutination inhibition \(HI\)](#) assays (antigenic analysis). These data are used to compare how similar the currently circulating influenza viruses are to the strains included in seasonal influenza vaccines, and to monitor for changes in circulating influenza viruses. The interpretation of genetic and antigenic data sources is complex due to a number of factors, for example, not all viruses can be cultivated in sufficient quantity for antigenic characterisation, so that viruses with sequence information may not be able to be antigenically characterised as well. Occasionally, this can lead to a biased view of the properties of circulating viruses, as the viruses which can be recovered and analysed antigenically, may not be fully representative of majority variants, and genetic characterisation data does not always predict the antigenic characterisation.

The PHE Respiratory Virus Unit has characterised 1,052 influenza A(H1N1)pdm09 viruses detected since week 40. Genetic characterisation of 1,013 influenza A(H1N1)pdm09 viruses detected since week 40 shows that they all belong in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2017/18 season. Three hundred and eighteen A(H1N1)pdm09 viruses have been antigenically characterised and are similar to the A/Michigan/45/2015-like Northern Hemisphere 2018/19 (H1N1)pdm09 vaccine strain.

Genetic characterisation of 317 A(H3N2) influenza viruses shows that 95% belong to genetic subclade 3C.2a, with 291 belonging to a cluster within this genetic subclade designated as 3C.2a1. Sixteen viruses belonging to the genetic subclade 3C.3a have been identified. The Northern Hemisphere 2018/19 influenza A(H3N2) vaccine strain belongs in genetic subclade 3C.2a1. Of four influenza B viruses characterised to date, two influenza B viruses have been characterised where sequencing of the haemagglutinin (HA) gene shows they belong within genetic clade 1A of the B/Victoria lineage. One of them clusters in a subgroup characterised by deletion of two amino acids in the HA. The N.Hemisphere 2018/19 B/Victoria-lineage quadrivalent and trivalent vaccine component virus (a B/Colorado/06/2017-like virus), is a double deletion subgroup virus. One influenza B virus has been characterised genetically as belonging to genetic clade 3 of the B/Yamagata lineage and two viruses have been characterised as antigenically as similar to the B/Phuket/3073/2013 B/Yamagata lineage vaccine component in the N.Hemisphere 2018/19 quadrivalent vaccine.

Table 3: Viruses characterised by PHE Reference Laboratory, 2018/19

Virus	No. viruses characterised			
	Genetic and antigenic	Genetic only	Antigenic only	Total
A(H1N1)pdm09	279	734	39	1,052
A(H3N2)	0	317	0	317
B/Yamagata-lineage	1	0	1	2
B/Victoria-lineage	0	2	0	2

- Antiviral susceptibility

Influenza positive samples are screened for mutations in the virus neuraminidase gene known to confer oseltamivir and/or zanamivir resistance. Additionally, testing of influenza A(H1N1)pdm09, A(H3N2), and influenza B virus isolates for neuraminidase inhibitor susceptibility (oseltamivir and zanamivir) is performed at PHE-RVU using a functional assay. The data summarized below combine the results of both testing methods. The samples tested are routinely obtained for surveillance purposes, but diagnostic testing of patients suspected to be infected with neuraminidase inhibitor-resistant virus is also performed.

During the current 2018/19 season since week 40 2018, 992 influenza A(H1N1)pdm09 viruses have been tested for oseltamivir susceptibility, 969 were fully susceptible and 23 were resistant confirmed by PHE-RVU. All 23 oseltamivir resistant cases have the H275Y amino acid substitution. 7 of the 23 cases are known to have received oseltamivir treatment. One case has no known exposure to oseltamivir. The remaining 15 cases are under investigation. 808 out of the 992 influenza A(H1N1)pdm09 virus have also been tested for zanamivir susceptibility and all were susceptible. 239 and 223 influenza A(H3N2) viruses have been tested for oseltamivir susceptibility and for zanamivir susceptibility, respectively, and all were susceptible. Three influenza B viruses have been tested for susceptibility for both oseltamivir and zanamivir and all were susceptible to both agents

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 19 May 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 19 May 2019, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4319	89
	Macrolides	4671	83
	Tetracycline	4629	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	18071	67
	Co-amoxiclav	19620	82
	Macrolides	3373	6
	Tetracycline	19681	98
<i>S. aureus</i>	Methicillin	7100	92
	Macrolides	7791	66
MRSA	Clindamycin	417	42
	Tetracycline	540	79
MSSA	Clindamycin	4590	76
	Tetracycline	6071	93

*Macrolides = erythromycin, azithromycin and clarithromycin

- Provisional data from the fifth monthly collection of the influenza vaccine uptake by frontline healthcare workers show 70.3% were vaccinated by 28 February 2019 from 98.8% of all organisations, compared to 68.7 % vaccinated in the previous season by 28 February 2018. The [report](#) provides uptake at national, NHS England local team and Trust-level.
- Provisional data from the fourth [monthly](#) collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4 and 5 age (from a sample of 100% of all Local Authorities in England) show the provisional proportion of children in England who received the 2018/19 influenza vaccine via school, pharmacy or GP practice by 31 January 2019 in targeted groups as follows:
 - 63.9% in children school year reception age (4-5 yrs) compared to 62.6% by 31 January 2018
 - 63.4% in children school year 1 age (5-6 yrs) compared to 60.9% by 31 January 2018
 - 61.4% in children school year 2 age (6-7 yrs) compared to 60.3% by 31 January 2018
 - 60.2% in children school year 3 age (7-8 yrs) compared to 57.5% by 31 January 2018
 - 58.0% in children school year 4 age (8-9 yrs) compared to 55.7% by 31 January 2018
 - 56.2% in children school year 5 age (9-10 yrs); age group not included in 2017/18 school vaccine programme.
- Provisional data from the fifth [monthly](#) collection of influenza vaccine uptake in GP patients up to 28 February 2019 show that in 97.6% of all GP practices in England responding to the main GP survey, the proportion of people in England who receive the 2018/19 influenza vaccine was as follows:
 - 48.0% under 65 year olds in a clinical risk group compared to 48.9 % by 31 January 2018
 - 45.2% in pregnant women compared to 47.2% by 31 January 2018
 - 72.0% in 65+ year olds compared to 72.6% by 31 January 2018
- Provisional data from the fourth [monthly](#) collection of influenza vaccine uptake in GP patients up to 31 January 2019 show that in 99.4% of all GP practices in England responding to the child GP survey, the proportion of people in England who receive the 2018/19 influenza vaccine was as follows:
 - 43.1% in 2 year olds compared to 42.8% by 31 January 2018
 - 45.2% in 3 year olds compared to 44.2% by 31 January 2018
- The 2018/19 mid-season influenza vaccine effectiveness study was recently [published](#). The report is based on 6 European studies including the UK, analysing influenza data from October 2018 to January 2019.

International Situation

In the temperate zone of the Northern hemisphere, influenza activity decreased overall. In the temperate zones of the Southern hemisphere, influenza detections increased in southern Australia and South Africa. The influenza of South America remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

- [Europe](#) updated on 17 May 2019 (Joint ECDC-WHO Europe Influenza weekly update)

In week 19 2019, all countries reporting ILI or acute respiratory infection (ARI) thresholds reported activity below baseline levels, indicating a return to inter-season levels. Of the few countries that reported influenza detections the number of detections were low.

For week 19 2019, of 39 Member States and areas reporting on intensity, 23 reported baseline and 16 reported low intensity. Of 39 Member States and areas reporting on geographic spread, 16 reported no activity, 20 reported sporadic cases, 3 reported regional spread and 1 reported widespread activity.

For week 19 2019, 8 (10.1%) of 79 sentinel specimens tested positive for an influenza virus; 7 were influenza A and 1 was influenza B. Of the influenza A viruses subtyped, 4 were influenza A(H3N2) and 1 was influenza A(H1N1)pdm09.

For week 19 2019, 13 laboratory-confirmed influenza cases were reported in ICUs, all were influenza type A viruses. Among the 9 laboratory-confirmed influenza cases in other wards reported, all were influenza type A viruses.

For week 19 2019, 395 specimens from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions) tested positive for an influenza virus; 91.9% were type A and 8.1% were type B. Of the 91 A viruses subtyped, 29% were A(H1N1)pdm09 and 71% were A(H3N2). No influenza B viruses were ascribed to a lineage.

For week 19 2019, data from the 24 Member States or areas reporting to the [EuroMOMO](#) project were included in pooled analyses. The pooled estimates indicated that all-cause mortality was within expected ranges.

- [United States of America](#) updated on 17 May 2019 (Centre for Disease Control report)

During week 19, influenza activity continues to decrease in the United States. Influenza A(H1N1)pdm09 viruses predominated from October to mid-February and influenza A(H3N2) viruses have been more commonly identified since late February. Small numbers of influenza B viruses have also been reported.

A cumulative rate of 65.7 laboratory-confirmed influenza-associated hospitalisations per 100,000 population was reported, with the highest rate among those aged 65+ years old (221.8 per 100,000).

Nationwide during week 19, the proportion of outpatient visits for influenza-like illness (ILI) decreased to 1.5% which is below the national baseline of 2.2%.

In week 18, the proportion of deaths attributed to pneumonia and influenza (P&I) reported was 5.6%, below the epidemic threshold (6.7% for week 18) in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Three influenza-associated paediatric deaths (2 influenza A(H1N1)pdm09 and influenza A(not subtyped)) were reported to the CDC during week 19.

- [Canada](#) updated on 17 May 2019 (Public Health Agency report)

Overall, influenza activity continues to decline overall.

In week 19, the percentage of tests positive for influenza increased slightly from 11% to 12%. A total 592 laboratory detections of influenza were reported, of which 76% were influenza A. Influenza A(H3N2) accounted for 83% of subtyped influenza A detections.

In week 19, 0.8% of visits to healthcare professionals were due to ILI.

To date this season, 3,092 influenza-associated hospitalisations have been reported by participating provinces and territories, of which 3,018 (97.6%) were associated with influenza A. Amongst those subtyped (n=1,704) 83% were A(H1N1)pdm09. The highest estimated rate seen was among adults over 65 years of age. Data from one participating jurisdiction has not been available since week 13, so these figures are an underestimate.

To date this season, 555 ICU admissions and 179 deaths have been reported; all but 8 ICU admissions and all but 1 of the reported deaths were associated with influenza A, with the highest percentage of ICU admissions were reported in adults aged 45-64 years (41%).

- [Global influenza update](#) updated on 13 May 2019 (WHO website)

In the temperate zone of the Northern hemisphere, influenza activity decreased overall. In the temperate zones of the Southern hemisphere, influenza detections increased in southern Australia and South Africa. The influenza of South America remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

In North America, influenza-like illness (ILI) and influenza activity were low, overall, with detections of predominantly influenza A(H3N2) viruses.

In Europe, influenza activity was low across the continent, with intensity ranging from low to baseline. Few influenza viruses were detected, with influenza A(H3N2) predominating.

In Central Asia, influenza detections were low.

In Northern Africa, influenza detections were low across reporting countries.

In Western Asia, influenza activity was low in most of the countries with the exception of Saudi Arabia, where severe acute respiratory infection (SARI) activity and influenza percent positivity remained elevated.

In East Asia, influenza activity was reported in some countries. ILI and influenza activity continued to decline in South China. In North China, although decreasing, influenza positivity remained high. In the Republic of Korea, influenza activity appeared to decrease after a second peak reported in week 15 2019, influenza B viruses predominated followed by influenza A(H3N2).

In the Caribbean and Central American countries, influenza activity remained low overall. Increased detections of mainly influenza A(H1N1)pdm09 were reported in Cuba. In the tropical countries of South America, influenza and respiratory syncytial virus (RSV) activity were low in general.

In Western and Middle Africa, influenza detections were low across reporting countries. In Eastern Africa, influenza detections continued to be reported, although there was a decrease in trend. Influenza A(H1N1)pdm09 was the predominant detected virus followed by influenza A(H3N2).

In Southern Asia, influenza activity decreased overall with influenza A(H1N1)pdm09 virus predominating. Increased SARI and influenza activity were reported in Bangladesh with influenza A(H1N1)pdm09 and influenza B viruses co-circulating.

In South East Asia, influenza activity was low in most countries. In Thailand, influenza activity appeared to increase slightly with influenza B most frequently detected followed by influenza A(H1N1)pdm09. In Malaysia, decreased detections of all seasonal influenza subtypes were reported.

In the temperate zones of the southern hemisphere, an increase of influenza detections was reported from Australia and South Africa. In Australia, increased detections of mainly influenza A(H3N2) viruses were reported in Southern Australia and ILI activity appeared to increase in Western Australia. Several islands in the Pacific reported an increase in ILI and/or influenza activity. Influenza activity remained at inter-seasonal levels in South America.

The WHO GISRS laboratories tested more than 78,989 specimens between 15 April 2019 and 28 April 2019. 11,262 were positive for influenza viruses, of which 6,777 (60.2%) were typed as influenza A and 4,485 (39.8%) as influenza B. Of the sub-typed influenza A viruses, 1,111 (32.3%) were influenza A (H1N1)pdm09 and 2,330 (67.7%) were influenza A (H3N2). Of the characterized B viruses, 89 (2.6%) belonged to the B-Yamagata lineage and 3,285 (97.4%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 15 April 2019 (WHO website)

Influenza A(H5) viruses

Between [12 February 2019 and 9 April 2019](#), no new laboratory-confirmed human cases of influenza A(H5) virus infections were reported to WHO.

According to reports received by the World Organization for Animal Health (OIE), various influenza A(H5) subtypes continue to be detected in birds in Africa, Europe and Asia.

Influenza A(H7N9)

Between [12 February 2019 and 9 April 2019](#), 1 new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO from China. There have been no publicly available reports from animal health authorities in China of influenza A(H7N9) virus detections in animals this year, except for one report of an outbreak in domesticated birds.

Influenza A(H9N2)

Between [12 February 2019 and 9 April 2019](#), 1 new laboratory-confirmed case of influenza A(H9N2) virus infection was reported to WHO from China. Avian influenza A(H9N2) viruses are enzootic in poultry in China.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 17 May 2019

Up to 22 May 2019, a total of five cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (three imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 1,516 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

From [09 April to 30 April 2019](#), the National IHR Focal Point of Saudi Arabia reported 9 additional cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection, including 3 deaths. Of the 9 MERS-CoV cases reported, 5 cases were associated with ongoing clusters in 3 cities.

Globally, since September 2012 and up to 08 April 2019, [WHO](#) has been notified of 2,428 laboratory-confirmed cases of infection with MERS-CoV, including 839 related deaths. Further information on management and guidance of possible cases is available [online](#). The latest ECDC MERS-CoV risk assessment can be found [here](#), where it is highlighted that risk of widespread transmission of MERS-CoV remains very low.

Acknowledgements

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This report was prepared by the Influenza section, Immunisations and Countermeasures Division, National Infection Service, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance[®] and EMIS and EMIS practices contributing to the QSurveillance[®] database.

Related links

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Sources of flu data

- [Clinical surveillance through primary care in the UK](#)
- [Outbreak reporting](#)
- [FluSurvey](#)
- [MOSA](#)
- [Real time syndromic surveillance](#)
- MEM threshold [methodology paper](#) and [UK pilot paper](#)

Disease severity and mortality data

- [USISS](#) system
- [EuroMOMO](#) mortality project

Vaccination

- Seasonal influenza vaccine programme ([Department of Health Book](#))
- Childhood flu programme information for healthcare practitioners ([Public Health England](#))
- 2018/19 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))