



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

10 October 2019 – Week 41 report (up to week 40 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 40 (ending 06 October 2019)

- During week 40, all influenza activity indicators are **Below Baseline**.
- The impact of flu on healthcare services is **Below baseline** for hospitalisations and for ICU/HDU influenza admissions.

Community

- 38 new acute respiratory outbreaks have been reported in the past 7 days. 35 outbreaks were reported from care homes where 3 tested positive for influenza A(not subtyped). 2 outbreaks were reported from schools where 1 tested positive for influenza A(not subtyped). The remaining outbreak was reported from a hospital.

Primary Care

- The rate of influenza-like illness (ILI) was **Below Baseline** threshold levels. The overall weekly ILI GP consultation rate was 4.3 per 100,000 registered population in participating GP practices for England.
- 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 for laboratory confirmed influenza was **Below baseline** levels, with a rate of 0.04 per 100,000 trust catchment population for England (16 NHS Trusts).
- ICU/HDU admission rate observed for laboratory confirmed influenza was **Below baseline** levels, with a rate of 0.00 per 100,000 trust catchment population for England (132/143 NHS Trusts).
- There were no laboratory confirmed influenza admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 40 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 40, however excess all-cause mortality was noted in Scotland in week 38 2019.

Microbiological surveillance

- Primary care: no samples tested positive for influenza through the UK GP sentinel swabbing schemes in week 40 2019.
- Secondary care: There were 16 detections recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 10 influenza A(H3) and 5 influenza A(not subtyped)). The overall influenza percent positivity was 1.1% and **Below Baseline** threshold level.

Secondary
Care



Vaccination

- Weekly uptake: Up to week 40 2019, in 40.7% of GP practices the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was: 4.5% in under 65 years in a clinical risk group, 5.1% in pregnant women and 29.3% in 65+ year olds. In 40.8% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 0.0% in 2 year olds and 3 year olds respectively.
- Influenza vaccine uptake data in primary school age children will be collected through the school delivery programme and be published in the monthly report on 21 November 2019.

International situation

- In the temperate zones of the southern hemisphere, influenza activity was low in most countries, except Chile where a second wave of influenza activity of predominately B viruses was reported. In the temperate zone of the Northern hemisphere, influenza activity 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 |

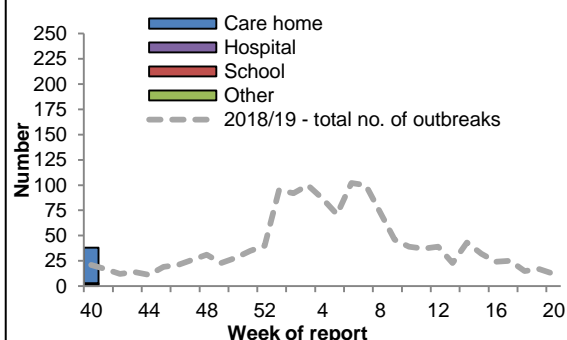
38 new acute respiratory outbreaks were reported in the past 7 days, with 4 confirmed with influenza. ILI rates observed through internet based surveillance were low in week 40.

- Acute respiratory disease outbreaks

-38 new acute respiratory outbreaks have been reported in the past 7 days. 35 outbreaks were reported from care homes where 8 tested positive for rhinovirus, 3 for influenza A(not subtyped) and 1 for adenovirus, 1 co-infection of rhinovirus and adenovirus and another co-infection of rhinovirus and seasonal coronavirus. 2 outbreaks were reported from schools where 1 tested positive for influenza A(not subtyped). The remaining outbreak was from a hospital which tested positive for rhinovirus.

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

Figure 1: Number of acute respiratory outbreaks by institution, 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).

- Data will be reported from week 45.

- 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.

- Data will be reported from week 45.

- 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.

- FluDetector

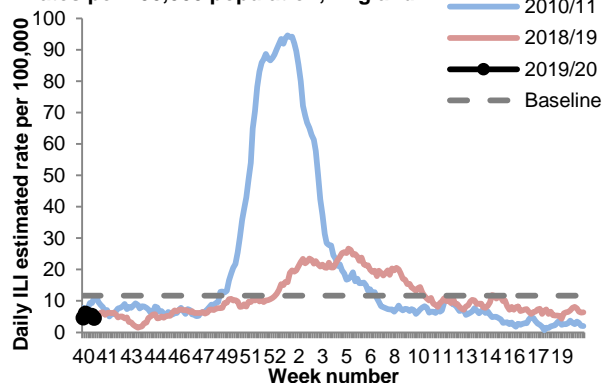
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- Daily ILI rate estimates are based on uniformly averaged search query frequencies for a week-long period (including the current day and the six days before it).

- The daily ILI rate estimates for week 40 was below the baseline threshold of 11.7 per 100,000, at 4.6 per 100,000 (Figure 2).

-For more information on i-sense and the work carried out on early warning sensing systems for infectious disease visit <https://www.i-sense.org.uk/>

Figure 2: Daily estimated ILI Google search query rates per 100,000 population, England



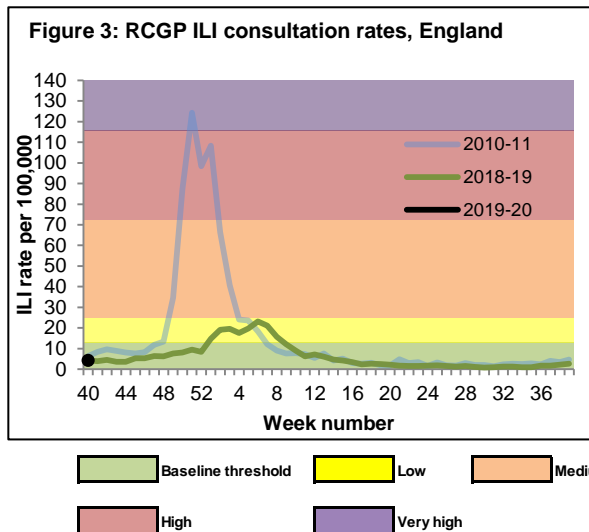
In week 40, the overall weekly influenza-like illness (ILI) GP consultation rate remained below baseline threshold levels in England. In the devolved administrations, ILI rates were below their respective baselines.

- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 4.3 per 100,000 registered population in participating GP practices in week 40 2019. This is below the baseline threshold (12.7 per 100,000) (Figure 3*). By age group, the highest rates were seen in the 15-44 year olds (5.2 per 100,000) and in the 65-74 year olds (4.9 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 40, overall weekly ILI consultation rates across the countries of the UK were all below their respective baseline threshold levels (Table 1).

- By age group, the highest rates were seen in the 15-44 year olds in Scotland (7.3 per 100,000), in the 45-64 year olds in Wales (4.6 per 100,000) and in the <1 year olds in Northern Ireland (10.5 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 |
| England (RCGP) | 4.3 | | | | | | | | | | | | | | | | |
| Wales | 1.7 | | | | | | | | | | | | | | | | |
| Scotland | 5.5 | | | | | | | | | | | | | | | | |
| Northern Ireland | 3.9 | | | | | | | | | | | | | | | | |

*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 3.5 per 100,000 in week 40 2019 (Figure 4).

GP In Hours consultations for both upper and lower respiratory tract infections increased in particular in the 0-4 year olds in week 40, but remained within baseline levels.

NHS 111 calls for coughs increased in the 1-4 year olds in week 40.

GP out of hours consultations and ED attendances for acute respiratory infections also increased particularly in children, in line with seasonal expectations in week 40.

- Figure 4 represents a map of GP ILI consultation rates in week 40 across England by PHE centres, with influenza-like illness surveillance MEM thresholds applied.

ILI thresholds were calculated separately for each of the nine PHE Centres to allow for differences between areas e.g. background ILI rates are historically higher in London than other areas of England and based upon previous influenza seasons from 2012/13 on wards. ILI thresholds should be interpreted with caution and reference made to other GP surveillance systems incorporating more historical data.

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

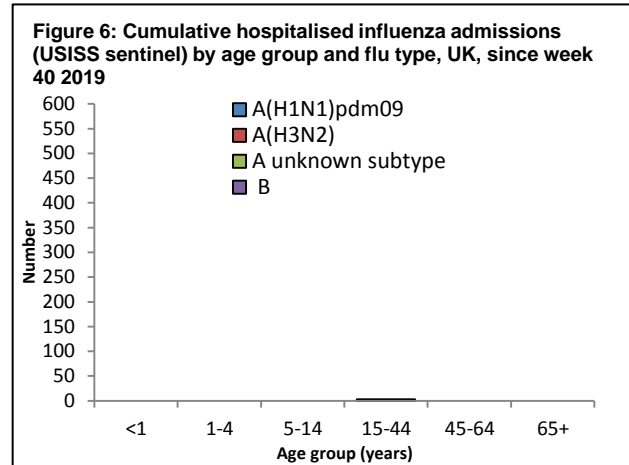
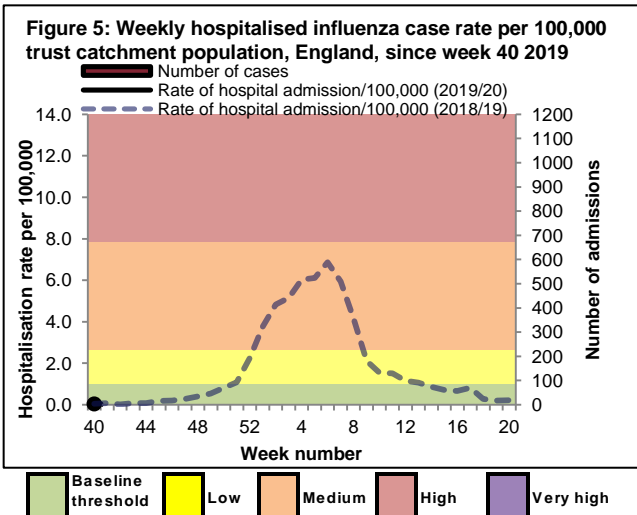
Figure 4: Map of GP ILI consultation rates in week 40



In week 40 2019, there were 3 hospitalised confirmed influenza case (1 influenza A(H3N2), 1 influenza A(unknown subtype) and 1 influenza B) reported through the USISS sentinel hospital network across England (16 Trusts). There were 2 new admissions to ICU/HDU with confirmed influenza (2 influenza A(unknown subtype)) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (132/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 40)

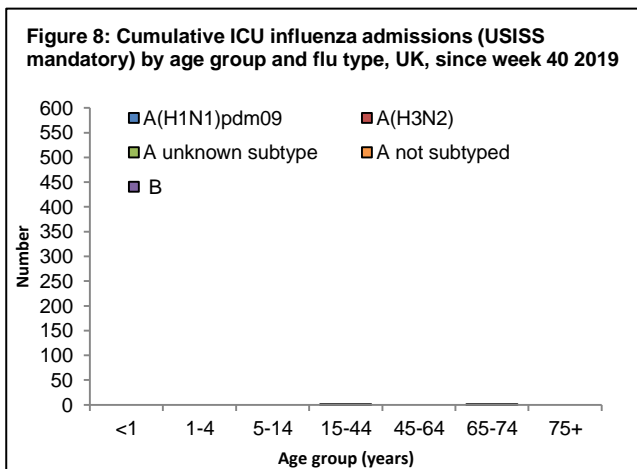
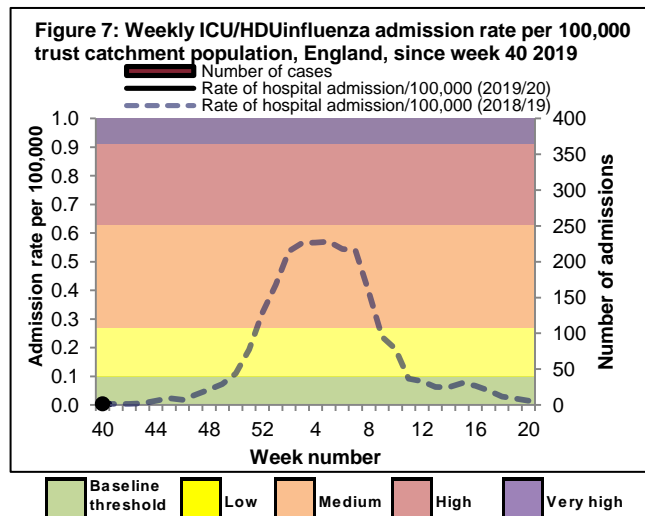
- In week 40, there were 3 hospitalised laboratory confirmed influenza case (1 influenza A(H3N2), 1 influenza A(unknown subtype) and 1 influenza B) reported from 16 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.04 per 100,000 trust catchment population (Figures 5 and 6). This is below the baseline impact threshold of 0.99 per 100,000.



*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 40)

- In week 40, there were 2 new admissions to ICU/HDU with confirmed influenza (2 influenza A(unknown subtype)) reported across the UK (132/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.00 per 100,000 (Figures 7 and 8), this is below the baseline impact threshold of 0.10 per 100,000. One influenza laboratory confirmed death was reported to have occurred in ICU/HDU week 40 in the UK.



*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 40)

- In week 40, there were no new admissions for laboratory confirmed influenza among the 6 Severe Respiratory Failure (SRF) centres in the UK.

All-cause mortality data

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In week 40 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 40 2019, however excess was observed in Scotland in week 38 2019.

- All-cause death registrations, England and Wales

- In week 39 2019, an estimated 9,517 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to the 9,440 estimated death registrations in week 38 2019.

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

- In week 40 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 40 2019, however excess was noted in Scotland in week 38 2019 (Table 2).

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

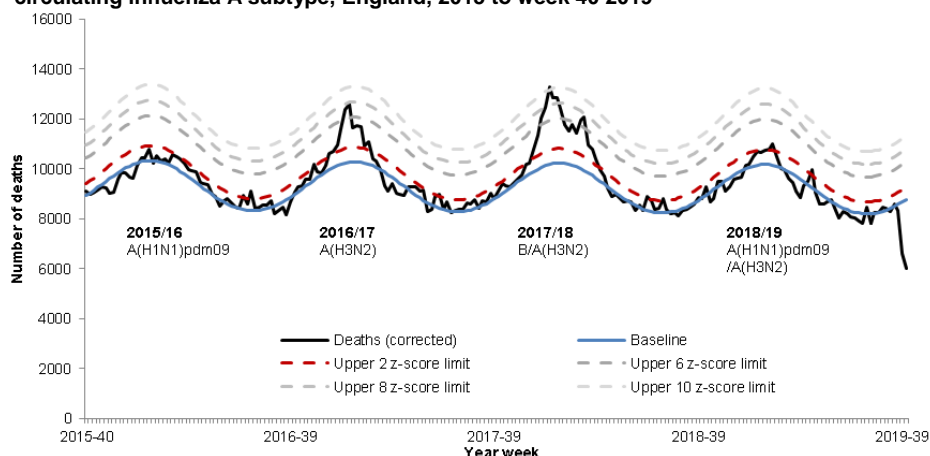
| Country | Excess detected in week 40 2019? | Weeks with excess in 2019/20 |
|------------------|----------------------------------|------------------------------|
| England | x | NA |
| Wales | x | NA |
| Northern Ireland | x | NA |

| Country | Excess detected in week 38 2019? | Weeks with excess in 2018/19 |
|----------|----------------------------------|------------------------------|
| Scotland | ✓ | 52-02; 19; 38 |

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

* NA refers to no excess seen

Figure 9: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2015 to week 40 2019

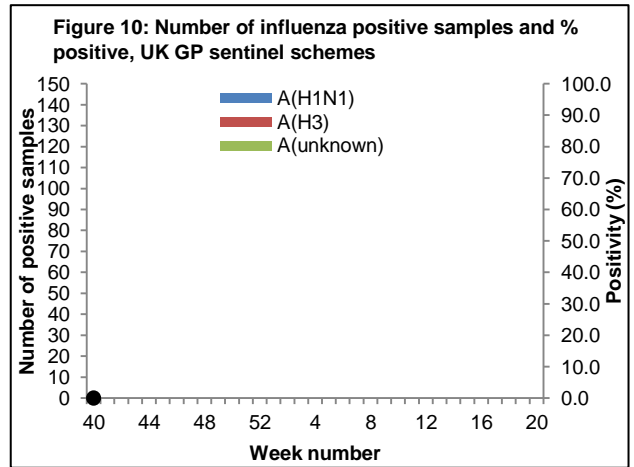


*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 40 2019, no samples tested positive for influenza the UK GP sentinel schemes. 16 positive detections were recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 10 influenza A(H3) and 5 influenza A(not subtyped)) with a positivity of 1.1%, this is below the baseline threshold of 9.7%.

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

-In week 40 2019, no samples tested positive for influenza through the UK GP sentinel swabbing schemes (Figure 10).

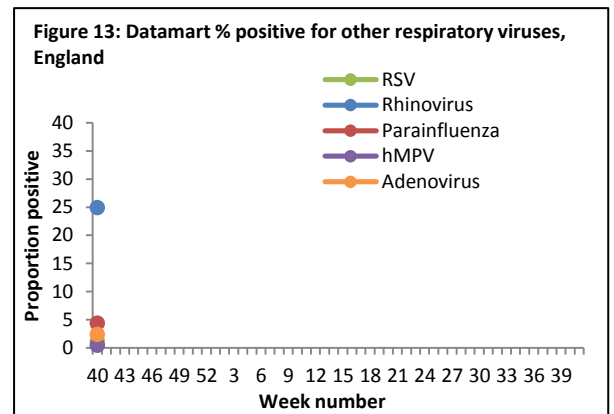
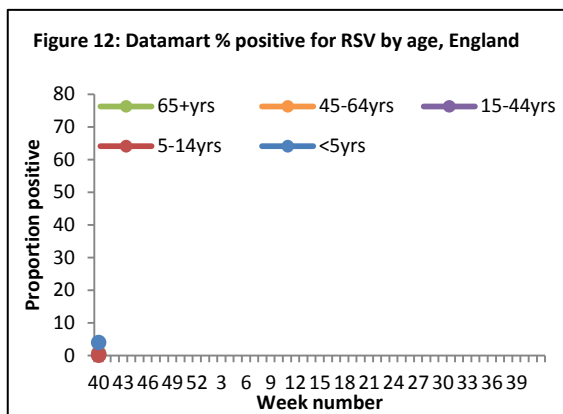
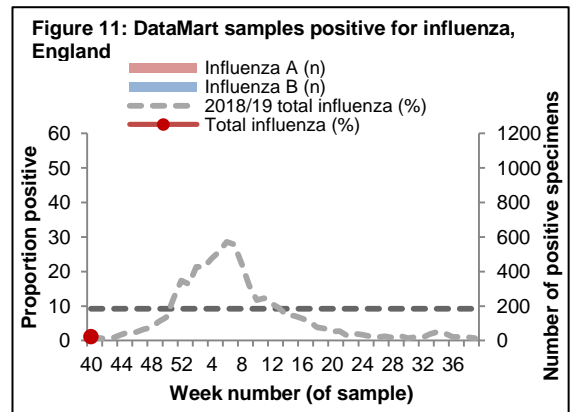


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

- In week 40 2019, out of the 1,466 respiratory specimens reported through the Respiratory DataMart System, 16 samples were positive for influenza (1 influenza A(H1N1)pdm09, 10 influenza A(H3) and 5 influenza A(not subtyped)) (Figure 11), with an overall positivity of 1.1%, which is below the MEM baseline threshold for this season of 9.7%.

-RSV positivity is low at 1% in week 40 2019. Rhinovirus positivity has increased in recent weeks and is at 24.9% in week 40 2019. Parainfluenza positivity was slightly increased at 4.3%. 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 and human metapneumovirus (hMPV) positivity were low at 2.3% and 0.4% respectively in week 40 2019 (Figure 13).



*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.

In week 40, no influenza viruses were characterised by PHE Respiratory Virus Unit (RVU).

- 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.

In week 40 2019, no influenza viruses were tested for antiviral susceptibility.

- Antimicrobial susceptibility

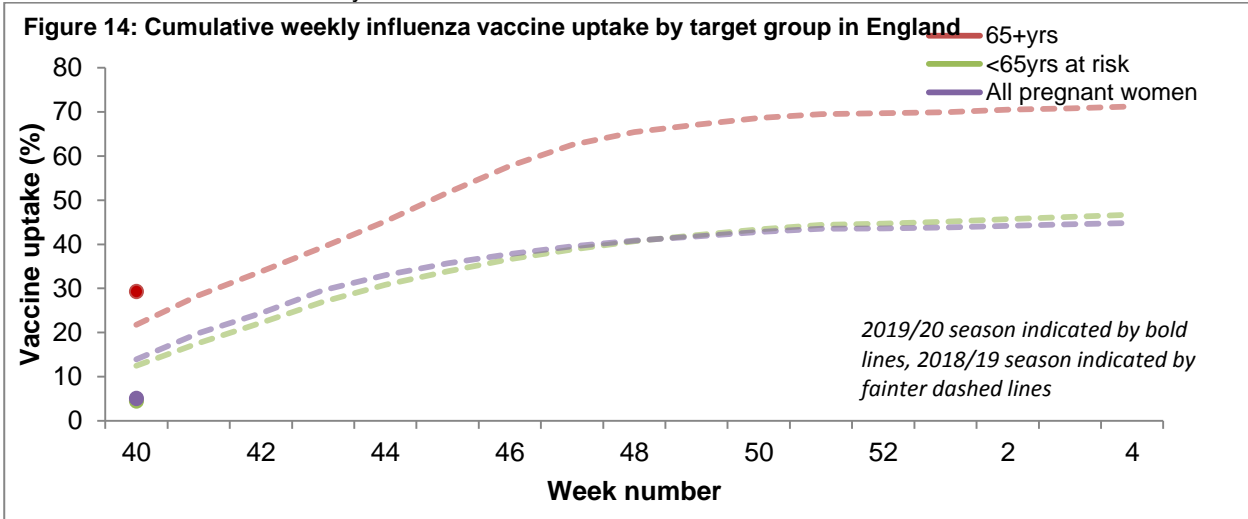
-Table 4 shows in the 12 weeks up to 06 October 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 06 October 2019, E&W

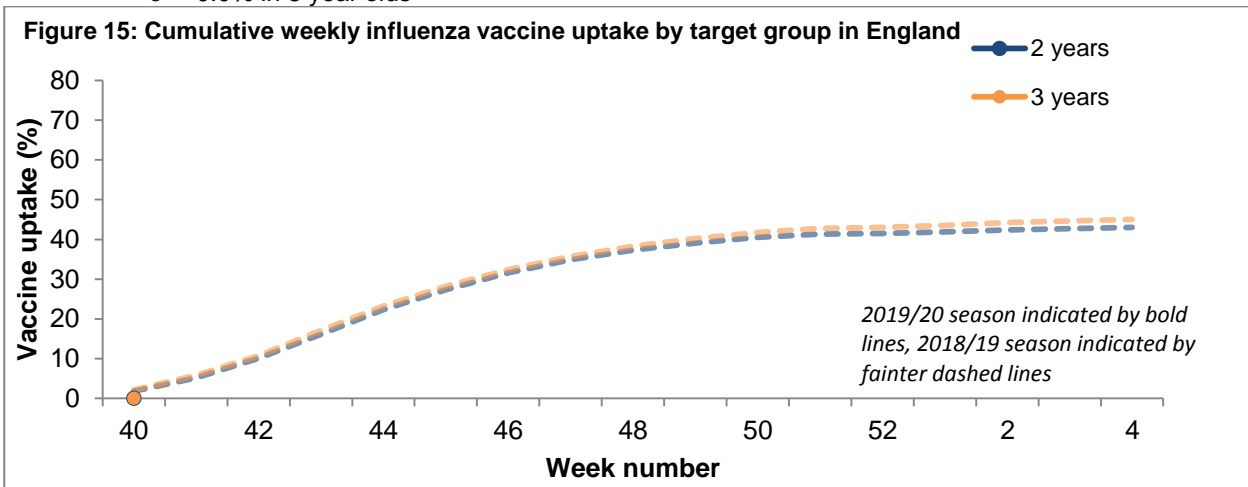
| Organism | Antibiotic | Specimens tested (N) | Specimens susceptible (%) |
|----------------------|------------------------|----------------------|---------------------------|
| <i>S. pneumoniae</i> | Penicillin | 2910 | 87 |
| | Macrolides | 3149 | 81 |
| | Tetracycline | 3105 | 81 |
| <i>H. influenzae</i> | Amoxicillin/ampicillin | 12169 | 68 |
| | Co-amoxiclav | 13417 | 82 |
| | Macrolides | 2453 | 7 |
| | Tetracycline | 13353 | 98 |
| <i>S. aureus</i> | Methicillin | 6589 | 92 |
| | Macrolides | 7454 | 66 |
| MRSA | Clindamycin | 368 | 47 |
| | Tetracycline | 467 | 76 |
| MSSA | Clindamycin | 4321 | 74 |
| | Tetracycline | 5734 | 92 |

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 40 2019 in 40.7% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 14):
 - 4.5% in under 65 years in a clinical risk group
 - 5.1% in pregnant women
 - 29.3% in 65+ year olds



- In 2019/20, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 40 2019, in 40.8% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 15):
 - 0.0% in 2 year olds
 - 0.0% in 3 year olds



- In addition, the childhood programme has been extended to all children of primary school age (Reception to school year 6). The data for the school programme, including the 4 year olds will be included in the monthly report to be published on 21 November 2019.

In the temperate zones of the southern hemisphere, influenza activity was low in most countries, except Chile where a second wave of influenza activity of predominately B viruses was reported. In the temperate zone of the Northern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

- [Europe](#) updated on 04 October 2019 (Joint ECDC-WHO Europe Influenza weekly update)

This is the last summer report for the 2018/19 influenza season. Weekly reporting will begin on 11 October 2019 for the 2019/20 season.

Overall, influenza activity was low and at interseasonal levels across Europe.

Of 1,584 sentinel specimens tested for influenza <1% tested positive and a similar proportion was observed for the SARI specimens tested.

- [United States of America](#) updated on 04 October 2019 (Centre for Disease Control report)

During week 39, influenza activity was low.

Nationwide during week 39, the proportion of outpatient visits for influenza-like illness (ILI) was 1.3% which is below the national baseline of 2.2%.

In week 38, the proportion of deaths attributed to pneumonia and influenza (P&I) reported was 5.0%, below the epidemic threshold (5.7% for week 38) in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

- [Canada](#) updated on 27 September 2019 (Public Health Agency report)

Overall, influenza activity remains at interseasonal levels across the country in weeks 37 and 38.

In weeks 37 and 38, the percentage of tests positive for influenza was 1.1%, this is similar to the percentage observed since mid-July (weeks 29-36).

Influenza A(H3N2) accounted for 85% of subtyped influenza A detections during weeks 37 and 38.

In week 37 and 38, 0.8% and 1.7% of visits to healthcare professionals were due to ILI, respectively.

- [Global influenza update](#) updated on 30 September 2019 (WHO website)

In the temperate zones of the southern hemisphere, influenza activity was low in most countries, except Chile where a second wave of influenza activity of predominately B viruses was reported. In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels overall. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

In Oceania, influenza activity decreased across the transmission zone. In Australia, at national level ILI and weekly laboratory-confirmed notifications of influenza were lower than average for this time of the year. The proportion of influenza B viruses continued to slightly increase. Influenza activity in New Zealand were below their seasonal baseline thresholds.

In South Africa, influenza activity returned below seasonal threshold.

In temperate South America, influenza activity decreased in most countries with exception of Chile, where a second wave of influenza activity of predominately B viruses was reported.

In the Caribbean countries and the tropical countries of South America, influenza activity remained low overall.

In Central American countries, influenza activity continued to increase in EL Salvador with influenza A(H1N1)pdm09 predominating and increases in RSV were noted in Panama.

In Western and Eastern Africa, influenza detections were low across the reporting countries. In Middle Africa, low detections of influenza A(H1N1)pdm09 and B/Victoria lineage viruses were reported in Central African Republic.

In Southern Asia and South East Asia, influenza activity was low across reporting countries with the exception of Bhutan and Nepal who reported co-circulation of influenza A(H3N2) and B/Victoria lineage

viruses; and moderate levels of influenza A(H1N1)pdm09 and B viruses circulating in Malaysia and Myanmar and all seasonal influenza subtyped co-circulating in Thailand.

The WHO GISRS laboratories tested more than 36,387 specimens between 02 September 2019 and 15 September 2019. 2,704 were positive for influenza viruses, of which 1,650 (61.0%) were typed as influenza A and 1,054 (39.0%) as influenza B. Of the sub-typed influenza A viruses, 405 (31.7%) were influenza A (H1N1)pdm09 and 874 (68.3%) were influenza A (H3N2). Of the characterized B viruses, 63 (17.7%) belonged to the B-Yamagata lineage and 292 (82.3%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 27 September 2019 (WHO website)

Influenza A(H5) viruses

Between [25 June 2019 to 27 September 2019](#), one new laboratory-confirmed human case of influenza A(H5N6) virus infection was reported to WHO.

A total of 24 laboratory-confirmed cases of human infection with influenza A(H5N6) virus have been reported to WHO from China since 2014.

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 [25 June 2019 and 27 September 2019](#), no new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO from China. Publicly available reports from animal health authorities in China of influenza A(H7N9) virus detections in animals in recent months indicate virus detections in two provinces from samples taken in the first half of the year. Overall, the risk assessment has not changed.

For more information on A(H5), A(H7N9), A(H9N2) and A(H1)v viruses, please see the September 2019 report: [Antigenic and genetic characteristics of zoonotic influenza viruses and candidate vaccine viruses developed for potential use in human vaccines](#).

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

Up to 09 September 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 1,669 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

Between [1 and 31 August 2019](#), the National IHR Focal Point of Saudi Arabia reported 6 additional laboratory-confirmed cases of Middle East respiratory syndrome (MERS-CoV) infection and one associated death.

Globally, since September 2012 and up to 31 August 2019, [WHO](#) has been notified of 2,464 laboratory-confirmed cases of infection with MERS-CoV, including 850 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](#))
- 2019/20 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))