



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

06 February 2020 – Week 06 report (up to week 05 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.

[Summary](#) | [Community surveillance](#) | [GP consultation rates](#) | [Hospitalisations](#) | [All-cause mortality](#) | [Microbiological surveillance](#) | [Vaccination](#) | [International](#) | [Acknowledgements](#) | [Related links](#)

Summary – Week 05 (ending 02 February 2020)

- During week 05, influenza activity continues to decrease with several indicators remaining below baseline levels.
- The impact of flu on healthcare services is at **low intensity levels** for hospitalisations and **below baseline levels** for ICU/HDU influenza admissions. The Department of Health & Social Care has issued an [alert](#) on the prescription of antiviral medicines by GPs.

Community

- 39 new acute respiratory outbreaks have been reported in the past 7 days. 32 outbreaks were reported from care homes where 5 tested positive for influenza A. 5 outbreaks were reported from schools with no test results available. The remaining 2 outbreaks were from the Other settings category where one tested positive for respiratory syncytial virus (RSV).

Primary Care

- The overall weekly influenza-like illness (ILI) rate decreased to 10.3 per 100,000 registered population in participating GP practices for England and is **below baseline** threshold levels. This is a slight increase from 9.0 per 100,000 in the previous week.
- In the devolved administrations, ILI rates were at baseline levels in Scotland, Northern Ireland and in Wales for week 05.

GP ILI Consultations England



Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza was at **low impact levels**, with a rate of 1.27 per 100,000 trust catchment population for England (20 NHS Trusts) compared to 1.01 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was **below baseline levels**, with a rate of 0.07 per 100,000 trust catchment population for England (140/143 NHS Trusts) compared to 0.11 per 100,000 the previous week.
- 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 05 2020, no statistically significant excess all-cause mortality by week of death was seen overall in England. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland and for Scotland in week 03 2020.

Microbiological surveillance

- **Primary care:** 7 samples tested positive for influenza (2 influenza A(H1N1)pdm09, 3 influenza A(H3), 1 influenza A(not subtyped) and 1 influenza B), through the UK GP sentinel swabbing schemes in week 04 2020, with an overall influenza positivity of 25.0%.
- **Secondary care:** There were 194 influenza detections recorded through the DataMart scheme (30 influenza A(H1N1)pdm09, 62 influenza A(H3), 60 influenza A(not subtyped) and 42 influenza B). The overall influenza percent positivity was 7.1% and **Below baseline** threshold level.
- **Virus Characterisation:** 922 influenza A(H3N2) viruses have been genetically and/or antigenically characterised since week 40. 730 of 913 genetically characterised belong to the same subclade as the H3N2 component in this season's vaccine. 61 A(H1N1)pdm09 viruses have been characterised and are similar to the A(H1N1)pdm09 strain in this season's vaccine.

Secondary Care



Vaccination

- **Weekly uptake:** Up to week 04 2020, in 98.4% of GP practices reporting for the main collection, the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was: 43.1% in under 65 years in a clinical risk group, 42.8% in pregnant women and 71.6% in 65+ year olds. In 97.9% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 41.1% in 2 year olds and 41.8% in 3 year olds.
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 68.5% were vaccinated by 31 December 2019, compared to 65.8% vaccinated in the previous season by 31 December 2018.
- Provisional data from the third monthly collection of influenza vaccine uptake for children of school years reception to year 6 shows 61.6% in school year reception age, 60.9% in school year 1 age, 60.1% in school year 2 age, 58.1% in school year 3 age, 57.3% in school year 4 age, 55.0% in school year 5 and 52.8% in school year 6 age were vaccinated by 31 December 2019.

International situation

- In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continues to circulate with some countries having peaked. In the temperate zones of the southern hemisphere, influenza activity remained to interseasonal levels. Worldwide, seasonal influenza 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 |

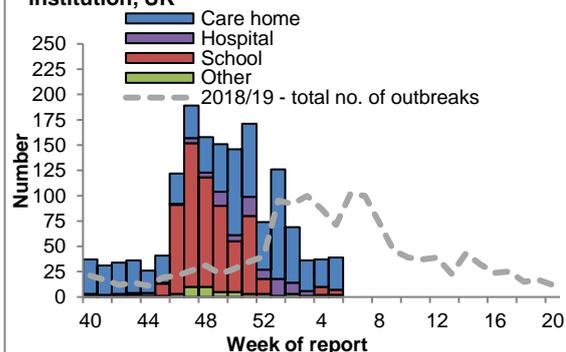
39 new acute respiratory outbreaks were reported in the past 7 days, with 5 confirmed with influenza.

- Acute respiratory disease outbreaks

- 39 new acute respiratory outbreaks have been reported in the past 7 days. 32 outbreaks were reported from care homes where 5 tested positive for influenza A(not subtyped), 6 for RSV and one for rhinovirus. 5 outbreaks were reported from schools with no test results available. where one tested positive for influenza B. The remaining 2 outbreaks were from the Other settings category where one tested positive for RSV.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and respscids@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). For the 2019/20 season, 17 MOSA schools have agreed to participate in the scheme, including a total of 4,000 boarders.

- The overall rate (all boarders) for week 05 was 0.5 per 1,000 boarders compared to 0.0 per 1,000 boarders in week 04. Since week 40, three outbreaks have been reported with a total of 15 ILI cases.

- 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 05 was 27.5 per 1,000 (52/1,892 people reported at least 1 ILI), with the highest rate seen in the 20-44 year olds (51.1 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.

- FluDetector

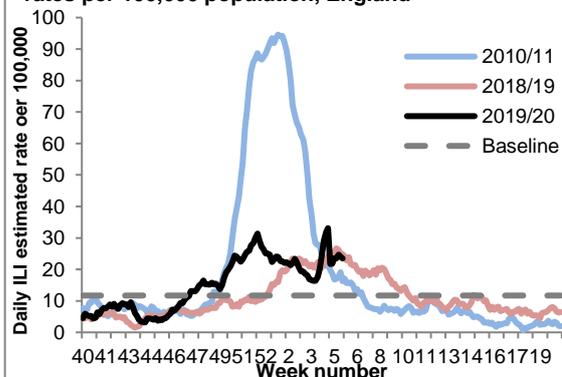
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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 05 decreased but remained above the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 23.4 per 100,000 compared to 33.1 per 100,000 in week 04 (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



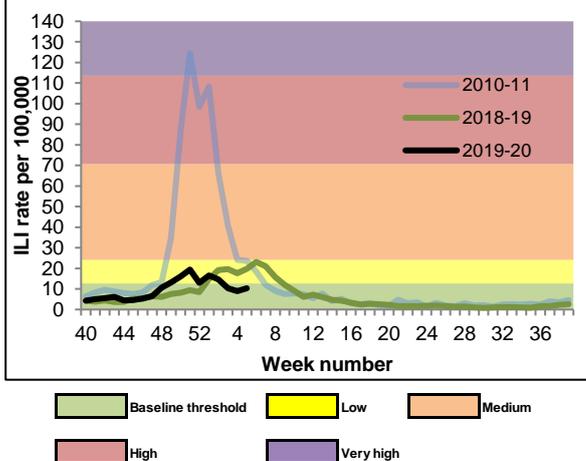
In week 05, the overall weekly influenza-like illness (ILI) GP consultation rate continues to be below baseline threshold in England. In the devolved administrations, ILI rates continue to be below baseline levels in Scotland, Northern Ireland and Wales for week 05.

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 10.3 per 100,000 registered population in participating GP practices in week 05 compared to 9.0 per 100,000 in week 04. 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 (13.5 per 100,000) and in the 45-64 year olds (10.6 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>

Figure 3: RCGP ILI consultation rates, England



UK

- In week 05, overall weekly ILI consultation rates increased slightly but were below baseline levels in Scotland, Northern Ireland and Wales (Table 1).

- By age group, the highest rates were seen in the 15-44 year olds in Scotland and Wales (15.0 and 13.4 per 100,000 respectively) and in the 5-14 year olds in Northern Ireland (9.5 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 | 5 |
| England (RCGP) | 4.3 | 5.0 | 5.5 | 6.2 | 4.5 | 4.6 | 5.3 | 6.5 | 10.6 | 13.1 | 16.0 | 19.4 | 12.9 | 16.6 | 14.7 | 10.3 | 9.0 | 10.3 |
| Wales | 1.7 | 4.0 | 4.2 | 6.2 | 1.7 | 4.2 | 3.7 | 10.1 | 10.6 | 8.5 | 24.4 | 23.8 | 37.1 | 34.5 | 22.3 | 14.3 | 8.6 | 9.1 |
| Scotland | 5.1 | 6.3 | 4.4 | 4.0 | 8.0 | 5.0 | 7.0 | 11.9 | 11.9 | 14.0 | 19.6 | 21.3 | 17.1 | 13.0 | 21.8 | 11.5 | 11.3 | 11.4 |
| Northern Ireland | 1.7 | 4.0 | 4.2 | 6.2 | 1.7 | 4.2 | 3.7 | 10.1 | 10.6 | 8.5 | 24.4 | 23.8 | 37.1 | 34.5 | 22.3 | 14.3 | 8.6 | 9.1 |

*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 8.8 per 100,000 in week 05 2020 (Figure 4). GP In Hours consultations for ILI remained stable and at low intensity levels in week 05 2020.

During week 05, further increases in NHS 111 cold/flu calls were noted. These data should be interpreted with some caution due to the current national media coverage of the 2019-nCoV incident and the potential subsequent impact on the number of NHS 111 callers.

For GP out-of-hours contacts, there were small increases for acute respiratory infection, however consultations for ILI remain at low intensity levels in week 05.

Further small increases in Emergency Department (ED) attendances for acute respiratory infection were noted, particularly in children but were within seasonal baselines for week 05.

Figure 4 represents a map of GP ILI consultation rates in week 05 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.

Figure 4: Map of GP ILI consultation rates in week 05

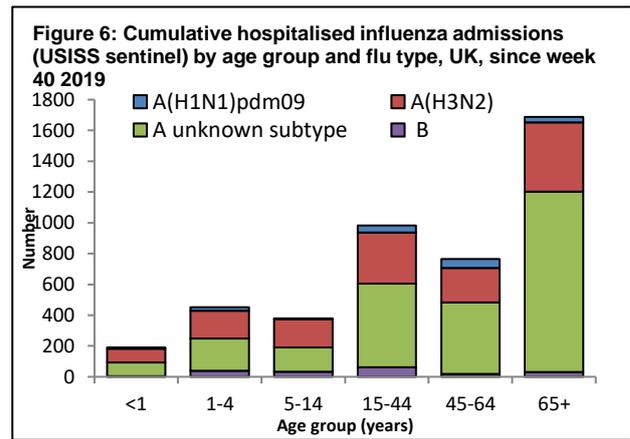
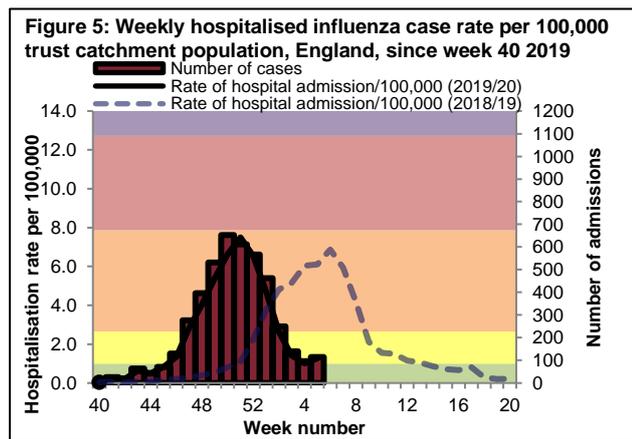


In week 05 2020, there were 115 hospitalised confirmed influenza cases (20 influenza A(H1N1)pdm09, 12 influenza A(H3N2), 56 influenza A(not subtyped) and 27 influenza B) reported through the USISS sentinel hospital network across England (20 Trusts). There were 38 new admissions to ICU/HDU with confirmed influenza (2 influenza A(H1N1)pdm09, 2 influenza A(H3N2), 31 influenza A(not subtyped) and 3 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (140/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 05)

In week 05, there were 115 hospitalised laboratory confirmed influenza cases (20 influenza A(H1N1)pdm09), 12 influenza A(H3N2), 56 influenza A(not subtyped) and 27 influenza B) reported from 20 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 1.27 per 100,000 trust catchment population (Figures 5 and 6) compared to 1.01 per 100,000 in week 04. This remains above the baseline threshold but within low impact levels.

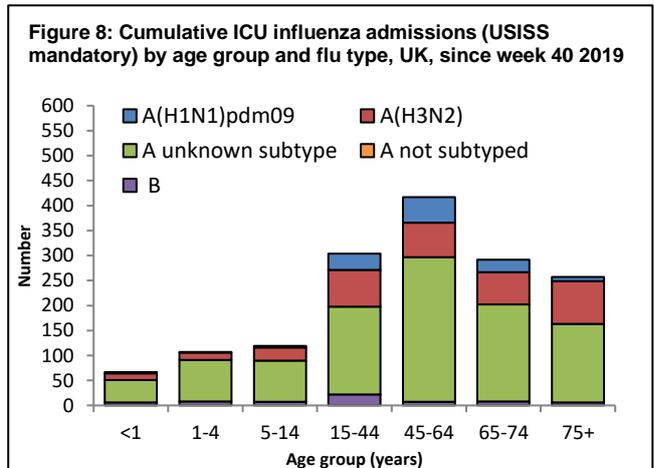
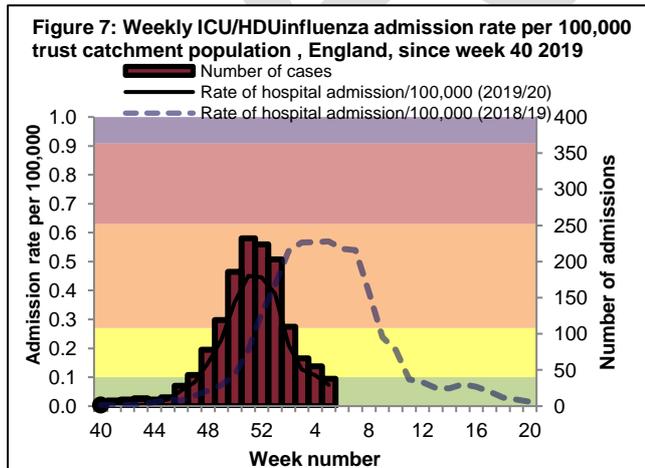
A total of 4,457 hospitalised confirmed influenza admissions (172 influenza A(H1N1)pdm09, 1,458 influenza A(H3N2), 2,637 influenza A(not subtyped), and 190 influenza B) have been reported in England since week 40 2019 via the sentinel scheme.



- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 05)

In week 05, there were 38 new admissions to ICU/HDU with confirmed influenza (2 influenza A(H1N1)pdm09), 2 influenza A(H3N2), 31 influenza A(not subtyped) and 3 influenza B) reported across the UK (140/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.07 per 100,000 (Figures 7 and 8) compared to 0.11 per 100,000 in week 04. This is now below the baseline threshold of 0.10 per 100,000. Two influenza laboratory confirmed deaths were reported to have occurred in ICU/HDU week 05 in the UK.

A total of 1,563 new admissions (124 influenza A(H1N1)pdm09), 347 influenza A(H3N2), 1,028 influenza A(not subtyped) and 64 influenza B) and 76 confirmed deaths have been reported in the UK since week 40 2019.



*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 05)

- In week 05, there were no new admissions with laboratory confirmed influenza among the 6 Severe Respiratory Failure (SRF) centres in the UK.

Since week 40 2019, a total of 27 confirmed influenza admissions (8 influenza A(H1N1)pdm09, 7 influenza A(H3N2), 10 influenza A(not subtyped) and 2 influenza B) have been reported among the 6 centres in the UK.

All-cause mortality data

[| Back to top |](#)

In week 05 2020, no statistically significant excess all-cause mortality by week of death was observed overall in England, through the EuroMOMO algorithm. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed for Northern Ireland and Wales in week 05 and for Scotland in week 03 2020.

- All-cause death registrations, England and Wales

- In week 04 2020, an estimated 11,856 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 12,990 estimated death registrations in week 03 2020.

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

- In week 05 2020 in England, no statistically significant excess mortality by week of death above the upper 2 z-score threshold was seen overall, by age group or 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 for Northern Ireland and Wales in week 05 and for Scotland in week 03 2020 (Table 2).

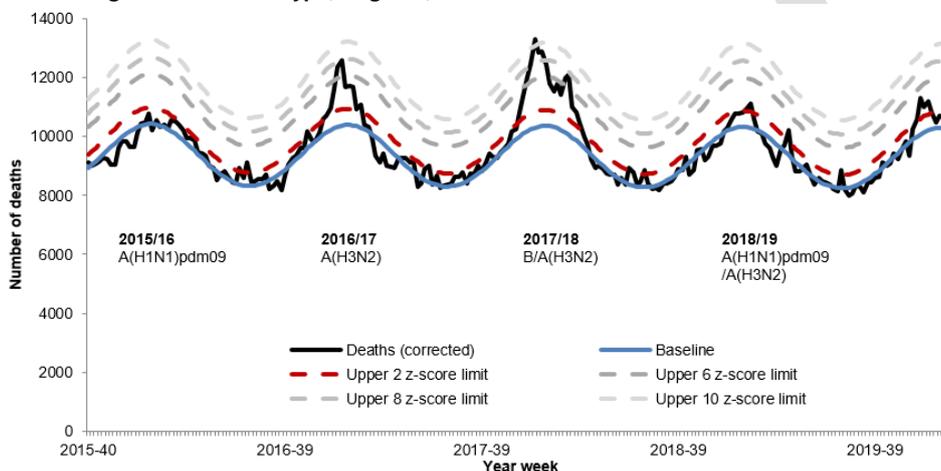
Table 2: Excess mortality by UK country, for all ages*

| Country | Excess detected in week 05 2020? | Weeks with excess in 2019/20 |
|------------------|----------------------------------|------------------------------|
| England | x | 50-02 |
| Wales | x | 51,01 |
| Northern Ireland | x | 49-51; 02-03 |

| Country | Excess detected in week 03 2020? | Weeks with excess in 2019/20 |
|----------|----------------------------------|------------------------------|
| Scotland | x | 41,46, 49-51, 01-02 |

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

Figure 9: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2015 to week 05 2020



*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.

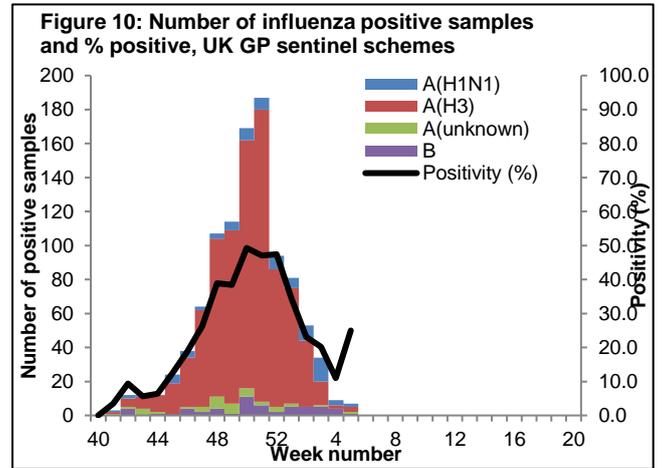
In week 05 2020, 7 samples tested positive for influenza (2 influenza A(H1N1)pdm09, 3 influenza A(H3), 1 influenza A(not subtyped) and 1 influenza B) with an overall positivity of 25.0%, through the UK GP sentinel schemes. 194 positive detections were recorded through the DataMart scheme (30 influenza A(H1N1)pdm09, 62 influenza A(H3), 60 influenza A(not subtyped) and 42 influenza B) with a positivity of 7.1%, which is below the baseline threshold of 9.7%.

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

In week 05 2020, 7 samples tested positive for influenza (2 influenza A(H1N1)pdm09, 3 influenza A(H3), 1 influenza A(not subtyped) and 1 influenza B) with an overall positivity of 25.0% compared to 11.0% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).

Note: the overall positivity for this week should be interpreted with caution due to a low number of samples received this week.

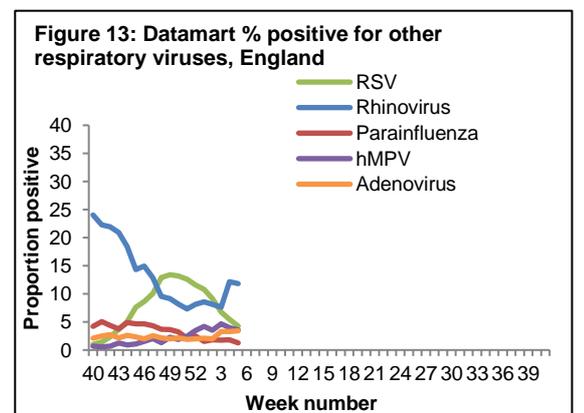
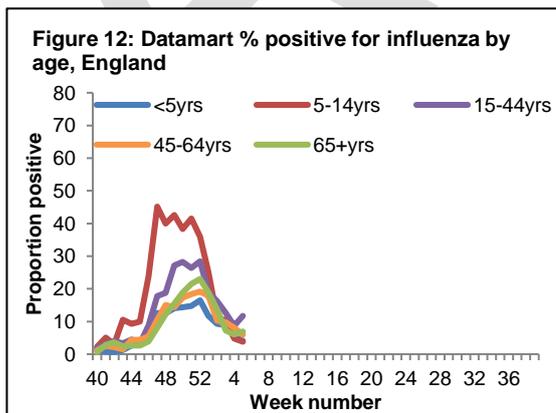
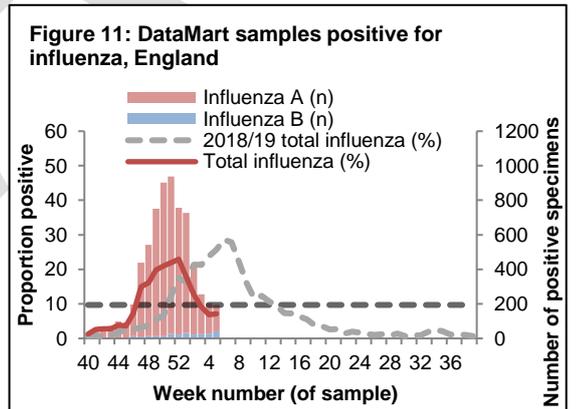
Since week 40, a total of 993 samples (72 influenza A(H1N1)pdm09, 838 influenza A(H3N2), 38 influenza A(not subtyped), 45 influenza B, five co-infection of influenza A(H3) and B, three co-infections of influenza A(H1N1)pdm09 and B, three co-infections of influenza A(H1N1)pdm09, influenza A(H3) and influenza B and one co-infection of influenza A(H1N1)pdm09 and influenza A(H3)) tested positive for influenza through this scheme.



- Respiratory DataMart System (England)

In week 05 2020, out of the 2,487 respiratory specimens reported through the Respiratory DataMart System, 194 samples were positive for influenza (30 influenza A(H1N1)pdm09, 62 influenza A(H3), 60 influenza A(not subtyped) and 42 influenza B) (Figure 11), with an overall positivity of 7.1%, similar to 6.9% in the previous week. This is below the baseline threshold of 9.7% for this season. The highest positivity was seen among the 15-44 year olds at 11.7% in week 05 (Figure 12).

RSV positivity decreased further from 5.4% in week 04 to 4.3% in week 05. Rhinovirus positivity decreased slightly from 12.2% in week 04 to 11.8% in week 05. Parainfluenza remained low at 1.3% in week 05. Human metapneumovirus (hMPV) and adenovirus positivity remained slightly increased at 3.6% and 3.4% in week 05 2020 (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 9.7% in 2019/20.

- 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 922 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of 913 of these shows that 730 belong to the genetic clade 3C.3a, and 183 fall into a cluster within the 3C.2a1 subclade, designated 3C.2a1b. The Northern Hemisphere 2019/20 influenza A(H3N2) vaccine strain belongs in genetic subclade 3C.3a. Four hundred and five A(H3N2) viruses have been antigenically characterised and are similar to the A/Kansas/14/2017-like Northern Hemisphere 2019/20 (H3N2) vaccine strain. Difficulties remain with detection and typing of A(H3N2) viruses by HI assays due to observed receptor binding changes, particularly with viruses from the 3C.2a1 subclade and these are under-represented in the antigenic characterisation data.

A total of 61 A(H1N1)pdm09 viruses have been genetically characterised to date and all fall in clade 6B.1A, as does the A(H1N1)pdm09 N. Hemisphere 2019/20 vaccine strain. Forty A(H1N1)pdm09 viruses have been antigenically characterised and are similar to the A/Brisbane/02/2018-like N. Hemisphere 2019/20 A(H1N1)pdm09 vaccine strain.

Thirty-seven influenza B viruses have been characterised to date, where sequencing of the haemagglutinin (HA) gene shows these viruses belong in genetic clade 1A of the B/Victoria lineage, clustering in a subgroup within this clade characterised by deletion of three amino acids in the HA. One influenza B virus has been characterised genetically as belonging to genetic clade 3 of the B/Yamagata lineage. The N. Hemisphere 2019/20 B/Victoria-lineage quadrivalent and trivalent vaccine component virus (a B/Colorado/06/2017-like virus) belongs in genetic clade 1A, clustering in a subgroup with two deletions in the HA.

Different lineages may dominate during the season, and a close watch will be kept on the proportion of different viruses circulating to assist with the evaluation of vaccine effectiveness.

Table 3: Viruses characterised by PHE Reference Laboratory, 2019/20

| Virus type/subtype | No. viruses characterised | | | Total |
|---------------------------|---------------------------|--------------|----------------|-------|
| | Genetic and antigenic | Genetic only | Antigenic only | |
| A(H1N1)pdm09 | 30 | 31 | 10 | 71 |
| A(H3N2) 3C.2a1 | 0 | 183 | 0 | 183 |
| A(H3N2) 3C.3a | 396 | 334 | 9 | 739 |
| A(H3N2) total | 396 | 517 | 9 | 922 |
| B/Yamagata-lineage | 0 | 1 | 0 | 1 |
| B/Victoria-lineage | 0 | 37 | 0 | 37 |

- 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.

Since week 40 2019, 72 influenza A (H1N1) viruses, 847 influenza A (H3N2) and 25 influenza B viruses were tested for their susceptibility for oseltamivir, all but five influenza A(H3N2) viruses are sensitive. 46 influenza A (H1N1) viruses, 836 influenza A (H3N2) and 24 influenza B viruses were tested for their susceptibility for zanamivir and all were sensitive.

- Antimicrobial susceptibility

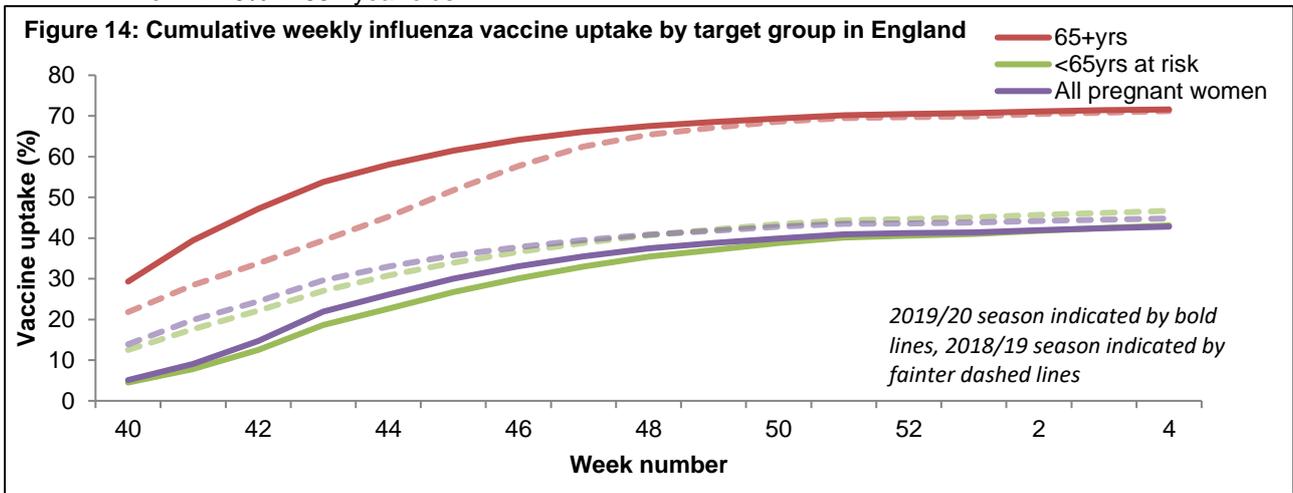
-Table 4 shows in the 12 weeks up to 02 February 2020, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community-acquired 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 02 February 2020, E&W

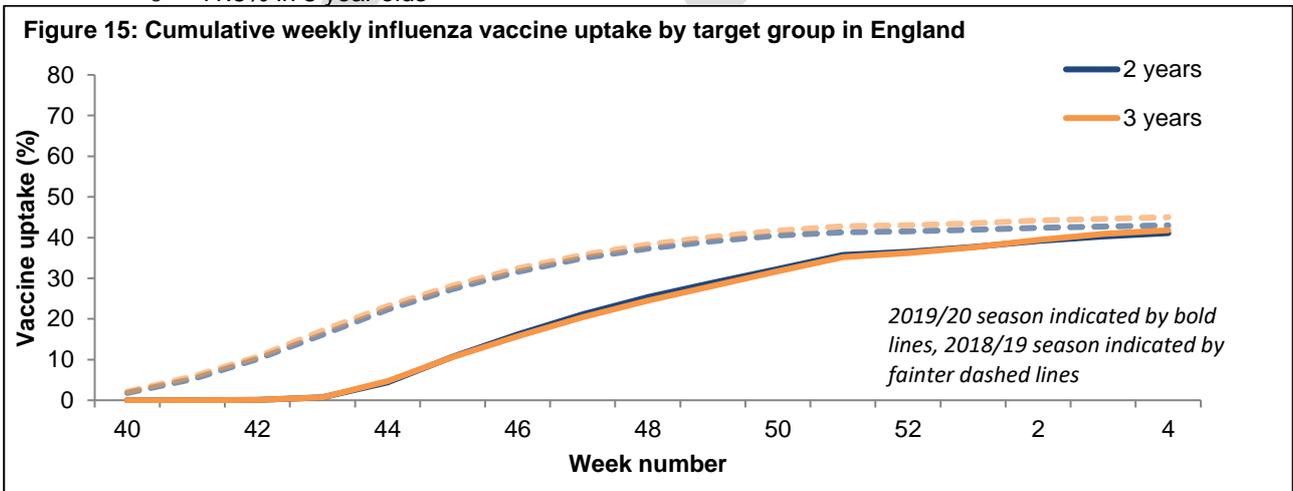
| Organism | Antibiotic | Specimens tested (N) | Specimens susceptible (%) |
|----------------------|------------------------|----------------------|---------------------------|
| <i>S. pneumoniae</i> | Penicillin | 4464 | 89 |
| | Macrolides | 4830 | 84 |
| | Tetracycline | 4815 | 85 |
| <i>H. influenzae</i> | Amoxicillin/ampicillin | 19094 | 67 |
| | Co-amoxiclav | 20734 | 82 |
| | Macrolides | 3923 | 6 |
| | Tetracycline | 20898 | 99 |
| <i>S. aureus</i> | Methicillin | 7515 | 92 |
| | Macrolides | 8406 | 67 |
| MRSA | Clindamycin | 423 | 42 |
| | Tetracycline | 524 | 78 |
| MSSA | Clindamycin | 5074 | 72 |
| | Tetracycline | 6530 | 92 |

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 04 2020 in 98.4% of GP practices reporting weekly to Immform for the main collection, the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 14):
 - 43.1% in under 65 years in a clinical risk group
 - 42.8% in pregnant women
 - 71.6% 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 04 2020, in 97.9% of GP practices reporting weekly to Immform for the childhood collection, the provisional proportion of children in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 15):
 - 41.1% in 2 year olds
 - 41.8% in 3 year olds



- Provisional data from the third monthly collection of the influenza vaccine uptake by frontline healthcare workers show 68.5% were vaccinated by 31 December 2019 from 99.2% of all organisations, compared to 65.8% vaccinated in the previous season by 31 December 2018. The report provides uptake at national, NHS England local team and Trust-level.

- Provisional data from the third monthly collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4, 5 and 6 age (from a sample of 99.3% of all Local Authorities in England) show the provisional proportion of children in England who received the 2019/20 influenza vaccine via school, pharmacy or GP practice by 31 December 2019 in targeted groups in Table 5.

Table 5: Provisional cumulative influenza vaccine uptake (%) in children in school years Reception to Year 6, up to 31 December 2019 & 2018, England

| School Year | % Vaccine uptake (up to 31 December) | |
|-----------------------|--------------------------------------|---------|
| | 2019/20 | 2018/19 |
| Reception (4-5 years) | 61.6 | 62.6 |
| Year 1 (5-6 years) | 60.9 | 62.2 |
| Year 2 (6-7 years) | 60.1 | 60.3 |
| Year 3 (7-8 years) | 58.1 | 59.1 |
| Year 4 (8-9 years) | 57.3 | 56.9 |
| Year 5 (9-10 years) | 55.0 | 55.1 |
| Year 6 (10-11 years) | 52.8 | - |

- : Year 6 were not part of the programme in 2018/19

International Situation

[Back to top](#)

In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continues to circulate with some countries having peaked. In the temperate zones of the southern hemisphere, influenza activity remained to interseasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

- [Europe](#) updated on 31 January 2020 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 04, influenza activity continued to increase across the Region with widespread influenza activity reported by the majority of Member States.

For week 04 2020, of 48 Member States and areas reporting on intensity, 11 reported activity at baseline levels, 21 reported low intensity, 12 reported medium intensity, 3 reported high intensity and 1 reported very high intensity. Of 48 Member States and areas reporting on geographic spread, 1 reported no activity, 5 reported sporadic cases, 4 reported local spread (across the Region), 8 reported regional spread and 30 reported widespread activity.

For week 04/2020, 1,364 (47%) of 2,910 sentinel specimens tested positive for an influenza virus; 68% were type A and 32% were type B. Of 841 subtyped A viruses, 67% were A(H1N1)pdm09 and 33% were A(H3N2). Of 119 type B viruses ascribed to a lineage, 99% were of the B/Victoria lineage.

For the season to date, more influenza type A (n=5,193, 68%) than type B (n=2,457, 32%) viruses have been detected. Of 4,955 subtyped A viruses, 2,856 (58%) were A(H1N1)pdm09 and 2,099 (42%) were A(H3N2). Of 730 influenza type B viruses ascribed to a lineage, 98% were of the B/Victoria lineage.

Since week 40 2019, more influenza type A (n=2,059, 94%) than type B (n=126, 6%) viruses were detected among laboratory confirmed influenza ICU cases. Of 660 subtyped influenza A viruses, 58% were A(H3N2) and 42% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 665 cases with known age, 51% were 15-64 years old and 38% were 65 years and older.

Since week 40 2019, more influenza type A (n=3,663, 94%) than type B (n=253, 6%) viruses were detected among laboratory confirmed influenza cases in wards other than ICU. Of 844 subtyped influenza A viruses, 65% were A(H3N2) and 35% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 3,915 cases with known age, 47% were 65 years and older and 28% were 15-64 years old.

- [United States of America](#) updated on 31 January 2020 (Centre for Disease Control report)

During week 04, key indicators for influenza remain high and, after falling during the first two weeks of the year, increased over the last two weeks. Indicators that track severity (hospitalizations and deaths) are not high at this point in the season.

Nationwide during week 04, 5.7% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI), which is above the national baseline of 2.4%.

During week 04, 27.7% of respiratory specimens tested by clinical laboratories were influenza positive.

The overall hospitalisation rate for the season increased to 29.7 per 100,000. This is similar to what has been seen at this time in recent seasons.

Based on National Centre for Health Statistics (NCHS) mortality surveillance data available on 30 January 2020, 6.7% of the deaths occurring during the week ending 18 January 2020 (week 03) were due to P&I. This percentage is below the epidemic threshold of 7.2% for week 03.

68 influenza-associated paediatric deaths occurring during the 2019-2020 season have been reported to CDC. 45 deaths were associated with influenza B viruses. Eight of these had the lineage determined and all were B/Victoria viruses. 23 deaths were associated with influenza A viruses. Thirteen of these had subtyping performed and all were A(H1N1) pdm09 viruses.

- [Canada](#) updated on 31 January 2020 (Public Health Agency report)

In week 04, influenza activity remained high with many indicators similar or slightly higher than the previous week. Influenza A and B continue to co-circulate with influenza A(H1N1)pdm09 being the dominant A type currently.

The percentage of tests positive for influenza increased to 28% in week 04. The percentage of tests positive for influenza A has remained similar however has increased for influenza B.

In week 04, the percentage of visits to healthcare professionals due to influenza-like illness (ILI) was 1.5% which is the average for this time of year.

To date this season, 1,115 influenza-associated hospitalisations have been reported with the majority of cases being aged greater than 65 years and children under 5 years and associated with influenza A(H3N2).

To date this season, 658 paediatric hospitalizations have been reported by the IMPACT network; 51% (338) of cases were associated with influenza B and 49% (320) with influenza A. The largest proportion of hospitalisations (65%) were among children under 5 years of age.

- [Global influenza update](#) updated on 03 February 2020 (based on data up to 19 January 2020) (WHO website)

In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators remained elevated overall. In the temperate zones of the southern hemisphere, influenza activity remained to interseasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

In North America, influenza activity remained elevated influenza A(H1N1)pdm09 and B viruses co-circulating.

In Europe, influenza activity continued to increase across the region but appeared to decrease in some countries of Northern Europe.

In Central Asia, influenza activity increased with influenza B viruses predominant.

In Northern Africa, influenza activity appeared to decrease in Egypt after peaking in recent weeks.

In Western Asia, influenza activity remained elevated overall and continued to increase in Lebanon and Turkey.

In East Asia, influenza-like illness (ILI) and influenza activity remained elevated overall.

In the Caribbean and Central American countries, influenza activity was low across reporting countries, except for Mexico with increased activity of influenza A(H1N1)pdm09 viruses.

In tropical South American countries, increased influenza activity was reported in Peru.

In tropical Africa, influenza activity was low across most reporting countries.

In Southern Asia, influenza activity was low in most reporting countries, but increased in Afghanistan.

In South East Asia, influenza activity continued to be reported in Lao People's Democratic Republic and Malaysia and increased in Singapore.

The WHO GISRS laboratories tested more than 130,830 specimens between 06 January 2020 and 19 January 2020. 33,190 were positive for influenza viruses, of which 23,283 (70.2%) were typed as influenza A

and 9,907 (29.8%) as influenza B. Of the sub-typed influenza A viruses, 7,834 (58.8%) were influenza A (H1N1)pdm09 and 5,478 (41.2%) were influenza A (H3N2). Of the characterized B viruses, 42 (1.4%) belonged to the B-Yamagata lineage and 2,925 (98.6%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 20 January 2020 (WHO website)

Influenza A(H5) viruses

Between [26 November 2019 to 20 January 2020](#), no new laboratory-confirmed human cases of influenza A(H5) virus infection were reported to WHO.

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

Influenza A(H7N9)

Between [26 November 2019 to 20 January 2020](#), no new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO. There have been no publicly available reports from animal health authorities in China on influenza A(H7N9) virus detections in animals in recent months. Overall, the risk assessment has not changed.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 05 February 2020

Up to 05 February 2020, 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 1,760 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

On [9 and 13 January 2020](#), the National IHR Focal Point of the United Arab Emirates (UAE) reported an additional two (2) laboratory-confirmed cases of Middle East respiratory syndrome Coronavirus (MERS-CoV) to WHO.

Globally, since September 2012 and up to 15 January 2020, [WHO](#) has been notified of 2,506 laboratory-confirmed cases of infection with MERS-CoV, including 862 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.

- [Other respiratory viruses](#) latest update on 05 February 2020

Up to [05 February 2020](#), a total of two confirmed cases of 2019-nCoV, have been confirmed in the UK. On-going surveillance has identified 466 suspected cases in the UK that tested negative.

Globally, up to 04 February 2020, [WHO](#) has been notified of 20,630 laboratory-confirmed cases of 2019-nCoV infection, including 426 related deaths.

Acknowledgements

[| Back to top |](#)

This report was prepared by the Influenza Surveillance 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.

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](#))