



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

30 January 2020 – Week 05 report (up to week 04 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 04 (ending 26 January 2020)

- During week 04, influenza activity continues to decrease with several indicators remaining below baseline levels.
- The impact of flu on healthcare services is now at **low intensity** levels for hospitalisations and ICU/HDU influenza admissions. The Department of Health & Social Care has issued an [alert](#) on the prescription of antiviral medicines by GPs.

Community

- 37 new acute respiratory outbreaks have been reported in the past 7 days. 27 outbreaks were reported from care homes where 9 tested positive for influenza A. Eight outbreaks were reported from hospitals where one tested positive for influenza B. The remaining two outbreaks were from the Other settings category where one tested positive for influenza A.

Primary Care

- The overall weekly influenza-like illness (ILI) rate decreased to 9.0 per 100,000 registered population in participating GP practices for England and is **Below baseline** threshold levels. This is a decrease from 10.3 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 04.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza was at **low impact levels**, with a rate of 1.05 per 100,000 trust catchment population for England (19 NHS Trusts) compared to 1.39 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was at **low impact levels**, with a rate of 0.10 per 100,000 trust catchment population for England (134/143 NHS Trusts) compared to 0.13 per 100,000 the previous week.
- There were four new laboratory confirmed influenza (4 influenza A(H1N1)pdm09) admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 04 2020, statistically significant excess all-cause mortality by week of death was seen overall in England. In the devolved administrations, statistically significant excess all-cause mortality for all ages was observed in Wales. No excess was observed for Northern Ireland for week 04 2020. And for Scotland in week 02 2020.

Microbiological surveillance

- **Primary care:** Eight samples tested positive for influenza (3 influenza A(H1N1)pdm09, 1 influenza A(H3), 1 influenza A(not subtyped) and 3 influenza B), through the UK GP sentinel swabbing schemes in week 04 2020, with an overall influenza positivity of 12.1%.
- **Secondary care:** There were 171 influenza detections recorded through the DataMart scheme (33 influenza A(H1N1)pdm09, 61 influenza A(H3), 52 influenza A(not subtyped) and 25 influenza B). The overall influenza percent positivity was 6.9% and **Below baseline** threshold level.
- **Virus Characterisation:** 875 influenza A(H3N2) viruses have been genetically and/or antigenically characterised since week 40. 697 of 866 genetically characterised belong to the same subclade as the H3N2 component in this season's vaccine. 49 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

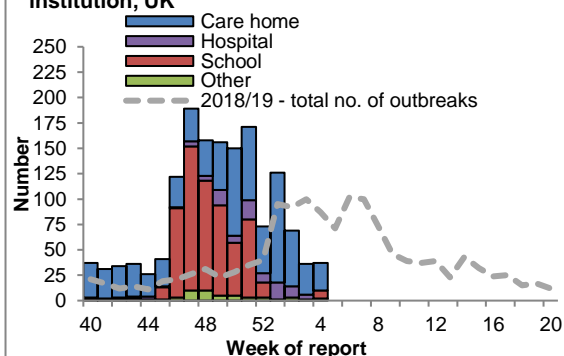
37 new acute respiratory outbreaks were reported in the past 7 days, with 11 confirmed with influenza.

- Acute respiratory disease outbreaks

- 37 new acute respiratory outbreaks have been reported in the past 7 days. 27 outbreaks were reported from care homes where 8 tested positive for influenza A(not subtyped), one influenza A(H3), one human metapneumovirus (hMPV) and one for rhinovirus. Eight outbreaks were reported from schools where one tested positive for influenza B. The remaining two outbreaks were from the Other settings category and tested positive for influenza A(not subtyped).

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and respcidsc@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 04 was 0.0 per 1,000 boarders compared to 0.7 per 1,000 boarders in week 03. 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 04 was 21.2 per 1,000 (42/1,690 people reported at least 1 ILI), with the highest rate seen in the 20-44 year olds (37.8 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

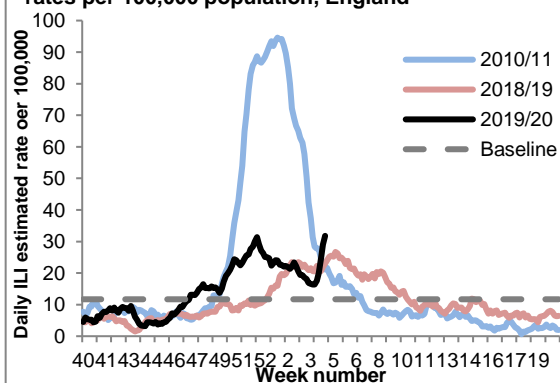
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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 04 increased but remained above the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 33.1 per 100,000 compared to 16.3 per 100,000 in week 03 (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



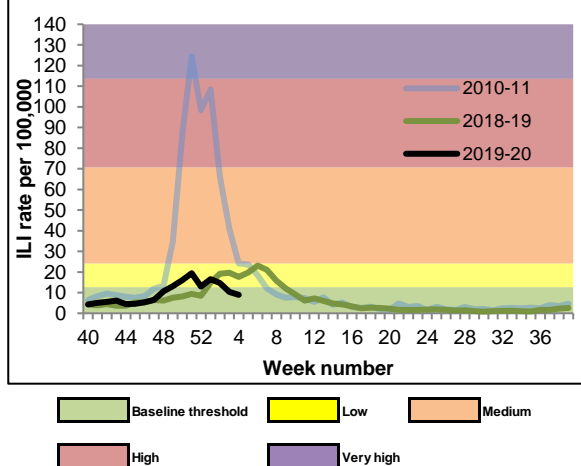
In week 04, the overall weekly influenza-like illness (ILI) GP consultation rate continues to be below baseline threshold in England. In the devolved administrations, ILI rates were at baseline levels in Scotland, Northern Ireland and Wales for week 04.

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 9.0 per 100,000 registered population in participating GP practices in week 04 compared to 10.3 per 100,000 in week 03. 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 (10.0 per 100,000) and in the 45-64 year olds (9.9 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>

Figure 3: RCGP ILI consultation rates, England



UK

- In week 04, overall weekly ILI consultation rates were at baseline levels in Scotland, Northern Ireland and Wales (Table 1).

- By age group, the highest rates were seen in the 45-64 year olds in Scotland and Wales (16.4 and 14.1 per 100,000 respectively) and in the 65-74 year olds in Wales (8.6 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	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
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	8.8
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	11.5
Northern Ireland	3.9	4.8	4.6	5.1	6.5	7.2	6.9	14.2	28.2	29.2	24.8	21.3	10.4	15.9	13.4	7.6	6.6

*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 7.7 per 100,000 in week 04 2020 (Figure 4). GP In Hours consultations for ILI decreased and remain at low intensity levels in week 04 2020.

During week 04, a small increase in NHS 111 cold/flu calls was noted which are at low intensity threshold levels. Cough and difficulty breathing calls also increased mainly in the <15 year olds but remain below baseline levels.

For GP out-of-hours contacts, there were small increases in a number of respiratory indicators, including consultations for influenza-like illness, however they all remain at or below baseline levels in week 04.

Small increases in Emergency Department (ED) attendances for respiratory indicators were noted in children but is stabilising overall and remain within seasonal baselines for week 04.

Figure 4 represents a map of GP ILI consultation rates in week 04 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 04

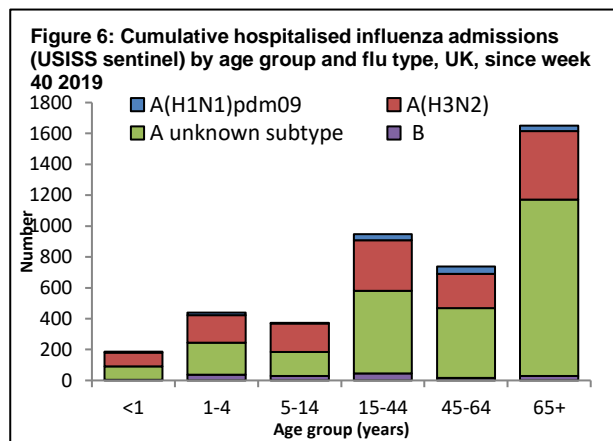
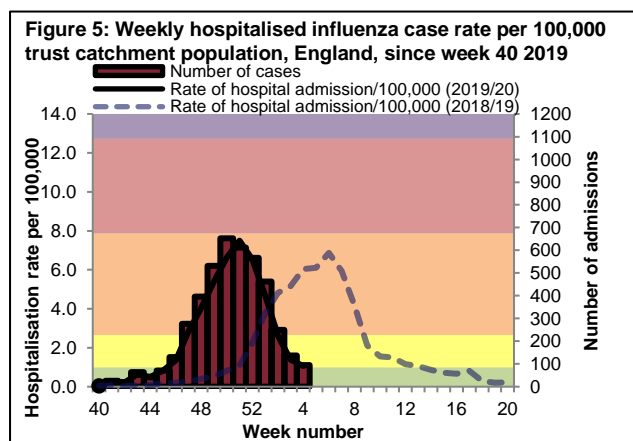


In week 04 2020, there were 95 hospitalised confirmed influenza cases (9 influenza A(H1N1)pdm09, 11 influenza A(H3N2), 63 influenza A(not subtyped) and 12 influenza B) reported through the USISS sentinel hospital network across England (19 Trusts). There were 52 new admissions to ICU/HDU with confirmed influenza (8 influenza A(H1N1)pdm09, 3 influenza A(H3N2), 38 influenza A(not subtyped) and 3 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (134/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 04)

In week 04, there were 95 hospitalised laboratory confirmed influenza cases (9 influenza A(H1N1)pdm09), 11 influenza A(H3N2), 63 influenza A(not subtyped) and 12 influenza B) reported from 19 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 1.05 per 100,000 trust catchment population (Figures 5 and 6) compared to 1.39 per 100,000 in week 03. This remains within low impact levels.

A total of 4,337 hospitalised confirmed influenza admissions (150 influenza A(H1N1)pdm09, 1,446 influenza A(H3N2), 2,579 influenza A(not subtyped), and 162 influenza B) have been reported in England since week 40 2019 via the sentinel scheme.

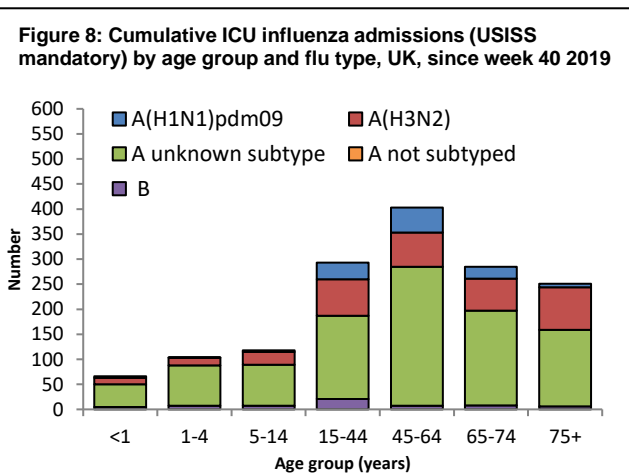
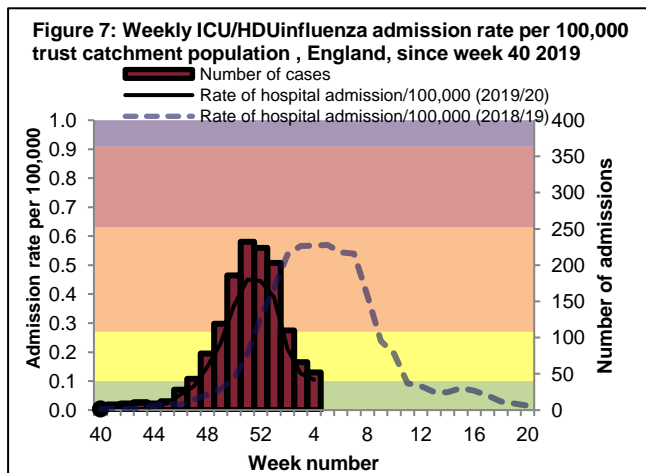


Legend for Figure 5: Baseline threshold (light green), Low (yellow), Medium (orange), High (red), Very high (purple)

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 04)

In week 04, there were 52 new admissions to ICU/HDU with confirmed influenza (8 influenza A(H1N1)pdm09), 3 influenza A(H3N2), 38 influenza A(not subtyped) and 3 influenza B) reported across the UK (134/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.10 per 100,000 (Figures 7 and 8) compared to 0.13 per 100,000 in week 03. This is in the low impact threshold of 0.27 per 100,000. One influenza laboratory confirmed death was reported to have occurred in ICU/HDU week 04 in the UK.

A total of 1,520 new admissions (121 influenza A(H1N1)pdm09), 344 influenza A(H3N2), 994 influenza A(not subtyped) and 61 influenza B) and 70 confirmed deaths have been reported in the UK since week 40 2019.



Legend for Figure 7: Baseline threshold (light green), Low (yellow), Medium (orange), High (red), Very high (purple)

*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 04)

- In week 04, there were four new admissions with laboratory confirmed influenza (4 influenza A(H1N1)pdm09) 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

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In week 04 2020, statistically significant excess all-cause mortality by week of death was observed overall in England, through the EuroMOMO algorithm. In the devolved administrations, statistically significant excess all-cause mortality for all ages was observed in Wales in week 03 2020. No excess was noted for Northern Ireland in week 04 and for Scotland in week 02 2020.

- All-cause death registrations, England and Wales

- In week 03 2020, an estimated 12,990 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 14,058 estimated death registrations in week 02 2020.

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

- In week 04 2020 in England, statistically significant excess mortality by week of death above the upper 2 z-score threshold was seen overall, and sub-nationally (all ages) in the North West and West Midlands, 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, statistically significant excess all-cause mortality for all ages observed in Wales in week 04 2020. No excess was noted for Northern Ireland in week 04 and for Scotland in week 02 (Table 2).

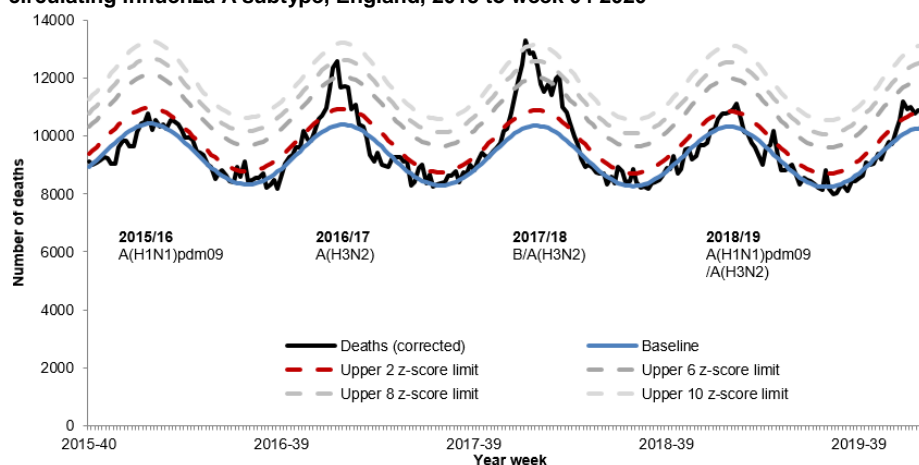
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 04 2020?	Weeks with excess in 2019/20
England	✓	50-01; 03-04
Wales	✓	51-01; 03-04
Northern Ireland	x	49-51

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

* 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 04 2020



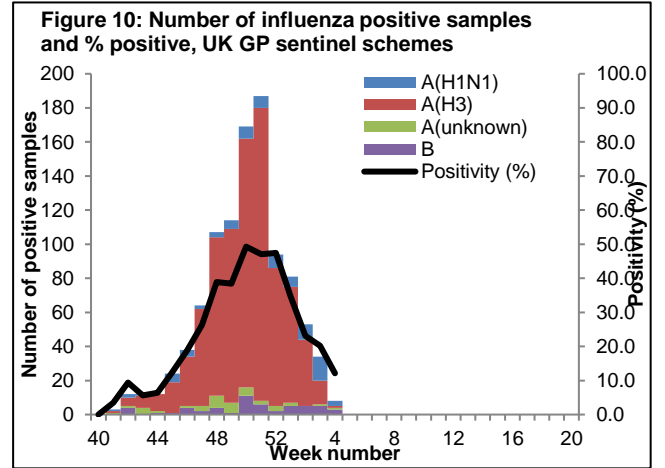
*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 04 2020, eight samples tested positive for influenza (3 influenza A(H1N1)pdm09, 1 influenza A(H3), 1 influenza A(not subtyped) and 3 influenza B) with an overall positivity of 12.1%, through the UK GP sentinel schemes. 171 positive detections were recorded through the DataMart scheme (33 influenza A(H1N1)pdm09, 61 influenza A(H3), 52 influenza A(not subtyped) and 25 influenza B) with a positivity of 6.9%, which is below the baseline threshold of 9.7%.

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

In week 04 2020, eight samples tested positive for influenza (3 influenza A(H1N1)pdm09, 1 influenza A(H3), 1 influenza A(not subtyped) and 3 influenza B) with an overall positivity of 12.1% compared to 20.2% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).

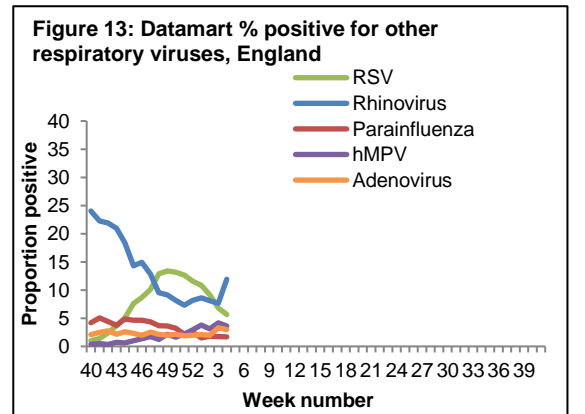
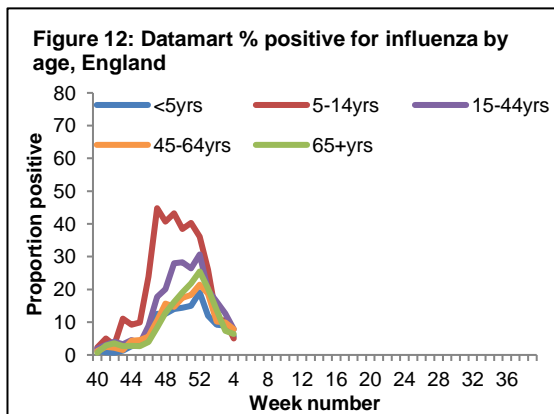
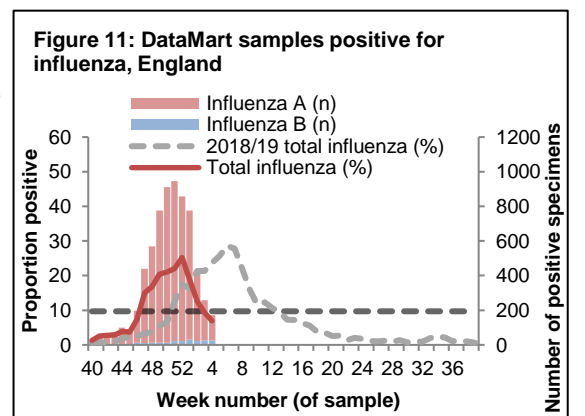
Since week 40, a total of 985 samples (70 influenza A(H1N1)pdm09, 834 influenza A(H3N2), 38 influenza A(not subtyped), 43 influenza B, five co-infection of influenza A(H3) and B, three co-infections of influenza A(H1N1)pdm09 and B, three co-infections of influenza A(H1N1)pdm09, influenza A(H3) and influenza 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 04 2020, out of the 2,487 respiratory specimens reported through the Respiratory DataMart System, 171 samples were positive for influenza (33 influenza A(H1N1)pdm09, 61 influenza A(H3), 52 influenza A(not subtyped) and 25 influenza B) (Figure 11), with an overall positivity of 6.9%, a decrease from 9.3% 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 7.9% in week 04 (Figure 12).

RSV positivity decreased further from 6.8% in week 03 to 5.6% in week 04. Rhinovirus positivity increased from 7.6% in week 03 to 11.9% in week 04. Parainfluenza remained low at 1.7% in week 04. Human metapneumovirus (hMPV) and adenovirus positivity remained slightly increased at 3.6% and 3.0% in week 04 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 875 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of 866 of these shows that 697 belong to the genetic clade 3C.3a, and 169 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 49 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. Twenty-four 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. Twenty-six influenza B viruses have been characterised to date, where sequencing of the haemagglutinin (HA) gene shows this virus belongs 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. 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	21	28	3	52
A(H3N2) 3C.2a1	0	169	0	169
A(H3N2) 3C.3a	396	301	9	706
A(H3N2) total	396	470	9	875
B/Yamagata-lineage	0	0	0	0
B/Victoria-lineage	0	26	0	26

- 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, 69 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

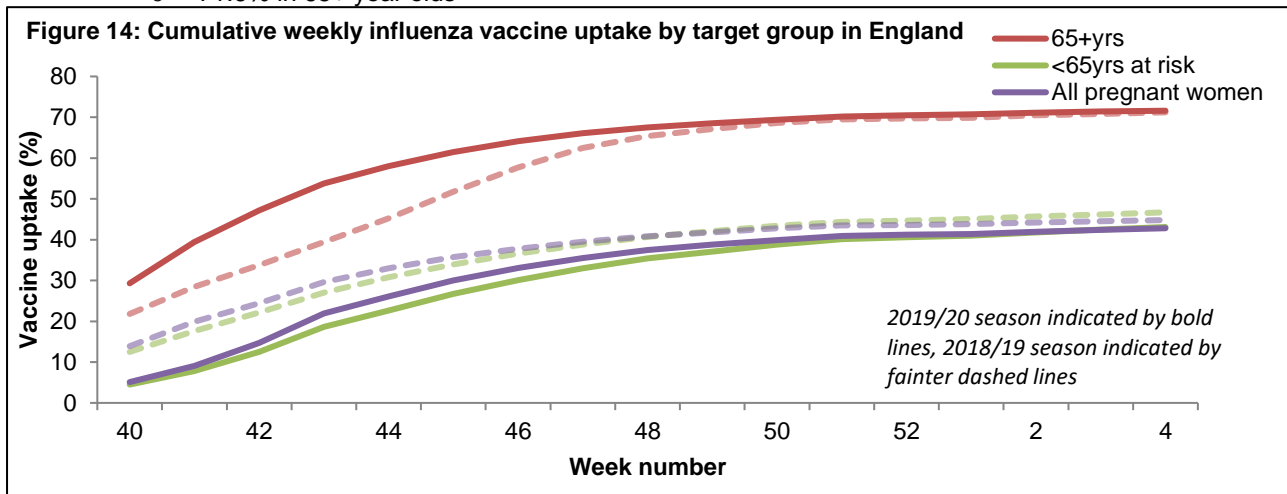
-Table 4 shows in the 12 weeks up to 26 January 2020, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community-acquired 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 26 January 2020, E&W

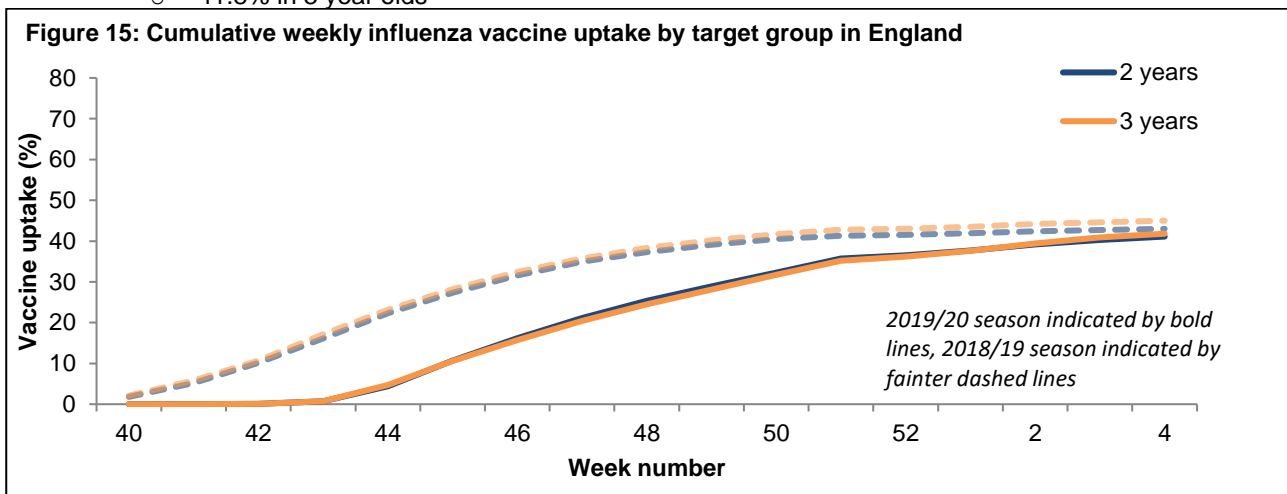
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4475	89
	Macrolides	4869	84
	Tetracycline	4840	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	18622	67
	Co-amoxiclav	20265	81
	Macrolides	3819	6
	Tetracycline	20448	98
<i>S. aureus</i>	Methicillin	7581	92
	Macrolides	8447	66
MRSA	Clindamycin	429	44
	Tetracycline	539	79
MSSA	Clindamycin	5114	72
	Tetracycline	6597	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

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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 24 January 2020 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 03, influenza activity continued to increase across the Region with widespread influenza activity reported by the majority of Member States.

For week 03 2020, of 48 Member States and areas reporting on intensity, 14 reported activity at baseline levels, 25 reported low intensity, 8 reported medium intensity and 1 reported high intensity. Of 48 Member States and areas reporting on geographic spread, 2 reported no activity, 10 reported sporadic cases, 6 reported local spread (across the Region), 6 reported regional spread and 24 reported widespread activity.

For week 03/2020, 921 (45%) of 2, 066 sentinel specimens tested positive for an influenza virus; 72% were type A and 28% were type B. Of 562 subtyped A viruses, 76% were A(H1N1)pdm09 and 24% were A(H3N2). Of 83 type B viruses ascribed to a lineage, all were B/Victoria lineage.

For the season to date, more influenza type A (n=4 091, 68%) than type B (n=1 955, 32%) viruses have been detected. Of 3 890 subtyped A viruses, 2 120 (54%) were A(H1N1)pdm09 and 1 770 (46%) were A(H3N2). Of 561 influenza type B viruses ascribed to a lineage, 98% were B/Victoria and 2% were B/Yamagata lineage.

Since week 40 2019, more influenza type A (n=1, 884, 94%) than type B (n=112, 6%) viruses were detected among laboratory confirmed influenza ICU cases. Of 594 subtyped influenza A viruses, 63% were A(H3N2) and 37% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 534 cases with known age, 50% were 15-64 years old and 39% were 65 years and older.

Since week 40 2019, more influenza type A (n=3,321, 94%) than type B (n=218, 6%) viruses were detected among laboratory confirmed influenza cases in wards other than ICU. Of 724 subtyped influenza A viruses, 73% were A(H3N2) and 27% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 3 539 cases with known age, 47% were 65 years and older and 28% were 15-64 years old.

- [United States of America](#) updated on 24 January 2020 (Centre for Disease Control report)

During week 02, key indicators for influenza remain high and, after falling during the first two weeks of the year, increased slightly this week. Indicators that track severity (hospitalizations and deaths) are not high at this point in the season.

Nationwide during week 03, 5.0% 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 03, 25.6% of respiratory specimens tested by clinical laboratories were influenza positive.

The overall hospitalisation rate for the season increased to 24.1 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 23 January 2020, 6.7% of the deaths occurring during the week ending 11 January 2020 (week 02) were due to P&I. This percentage is below the epidemic threshold of 7.0% for week 01.

54 influenza-associated paediatric deaths occurring during the 2019-2020 season have been reported to CDC. 37 deaths were associated with influenza B viruses. Seven of these had the lineage determined and all were B/Victoria viruses. 17 deaths were associated with influenza A viruses. Ten of these had subtyping performed and all were A(H1N1)pdm09 viruses.

- [Canada](#) updated on 24 January 2020 (Public Health Agency report)

In week 03, influenza activity either decreased or remained similar to the previous week across multiple indicators; however, activity remains elevated overall in many parts of the country. Influenza A remains the predominant circulating type with influenza A(H1N1)pdm09 being the dominant A type currently.

The percentage of tests positive for influenza was similar to the previous three weeks at 26.0%. While this is slightly higher than the average (23%) for week 03 over the past five seasons, the plateau suggests that we are in the peak of laboratory detections.

In week 03, the percentage of visits to healthcare professionals due to influenza-like illness (ILI) was 2.1% which is the average for this time of year.

To date this season, 946 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, 560 paediatric hospitalizations have been reported by the IMPACT network; 52% (289) of cases were associated with influenza B and 49% (271) with influenza A. The largest proportion of hospitalisations (66%) were among children under 5 years of age.

- [Global influenza update](#) updated on 20 January 2020 (based on data up to 05 January 2020) (WHO website)

In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continued to increase in most countries. 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 Central Asia, influenza activity remained elevated with influenza B viruses predominant in all reporting countries. ILI activity increased in Kyrgyzstan and decreased in the other reporting countries.

In Northern Africa, influenza activity was low overall, though Morocco and Tunisia reported influenza B virus detections in recent weeks.

In Western Asia, influenza activity remained elevated overall. Influenza activity continued to increase in Iraq, Israel, Turkey and Yemen, with detections of predominately influenza A(H1N1)pdm09. In the West Bank and Gaza Strip, influenza and severe acute respiratory infection (SARI) activity increased during this period with all subtypes reported. In Bahrain and Qatar, influenza activity remained elevated with all seasonal influenza subtypes co-circulating. Detections of predominantly influenza B/Victoria lineage continued to be reported in Georgia and Lebanon. In Oman and Saudi Arabia, influenza activity appeared to decrease with detections of influenza A and B viruses.

In East Asia, ILI and influenza activity continued to increase overall.

In the Caribbean and Central American countries, influenza activity was low in general, except for Mexico where influenza activity continued to increase with co-circulation of influenza A(H1N1)pdm09 and A(H3N2) viruses.

In the tropical countries of South America, increased influenza activity was reported in recent weeks in Ecuador with influenza A(H1N1)pdm09 most frequently detected.

In Western Africa and Eastern Africa, influenza activity and detections were low across reporting countries.

In Southern Asia, influenza detections were low across reporting countries except for Afghanistan where influenza activity of predominantly influenza A(H1N1)pdm09 viruses increased in recent weeks.

In South East Asia, influenza activity was reported in some countries. Influenza activity continued to be reported in Lao People's Democratic Republic and Malaysia with co-circulation of all seasonal influenza subtypes in the former and influenza A(H1N1)pdm09 most frequently detected in the latter. Influenza activity of predominantly influenza A(H1N1)pdm09 viruses increased in Singapore.

The WHO GISRS laboratories tested more than 174,604 specimens between 23 December 2019 and 05 January 2020. 44,847 were positive for influenza viruses, of which 27,946 (62.3%) were typed as influenza A and 16,901 (37.7%) as influenza B. Of the sub-typed influenza A viruses, 5,081 (31.6%) were influenza A (H1N1)pdm09 and 11,005 (68.4%) were influenza A (H3N2). Of the characterized B viruses, 23 (0.6%) belonged to the B-Yamagata lineage and 3,753 (99.4%) 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 29 January 2020

Up to 29 January 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 1,750 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

On [29 December 2019](#), the National IHR Focal Point of the United Arab Emirates (UAE) reported one laboratory-confirmed case of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) to WHO.

On [5 December 2019](#), the National IHR Focal Point for Qatar reported three laboratory-confirmed cases of Middle East respiratory syndrome (MERS-CoV) infection to WHO.

Globally, since September 2012 and up to 29 December 2019, [WHO](#) has been notified of 2,494 laboratory-confirmed cases of infection with MERS-CoV, including 858 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 21 January 2020

On [20 January 2020](#), National IHR Focal Point (NFP) for Republic of Korea reported the first case of novel coronavirus in the Republic of Korea

On [15 January 2020](#), the Ministry of Health, Labour and Welfare, Japan (MHLW) reported an imported case of laboratory-confirmed 2019-novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China.

On [13 January 2020](#), the Thailand's Ministry of Public Health (MoPH) reported the first imported case of lab-confirmed novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China.

On [31 December 2019](#), the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. As of 3 January 2020, a total of 44 patients with pneumonia of unknown etiology have been reported to WHO by the national authorities in China.

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](#))