



# PHE Weekly National Influenza Report

## Summary of UK surveillance of influenza and other seasonal respiratory illnesses

05 April 2018 – Week 14 report (up to week 13 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

During week 13 (ending 01 April 2018), influenza continues to circulate but decreases are noted across most indicators. Influenza A and B are co-circulating. The Department of Health has issued an [alert](#) on the prescription of antiviral medicines by GPs.

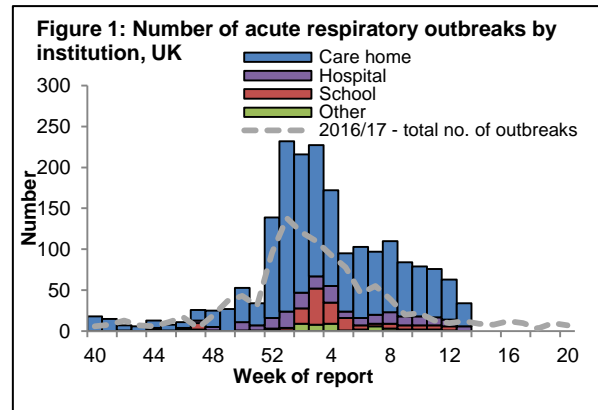
- [Community influenza surveillance](#)
  - Thirty- four new acute respiratory outbreaks have been reported in the past 7 days compared to 63 in the previous week. Twenty-eight outbreaks were from care homes, where one tested positive for influenza A(H1N1)pdm09, 10 were positive for influenza A(unknown subtype) and 4 were positive for influenza B. The remaining six outbreaks were reported from the hospitals where all 6 tested positive for influenza A(unknown subtype).
- [Overall weekly influenza GP consultation rates across the UK](#)
  - Due to bank holidays in week 13 (ending 01 April 2018), GP surgeries were only open for four days – data should therefore be interpreted with caution.
  - In week 13, the overall weekly influenza-like illness (ILI) GP consultation rate was 9.9 per 100,000 in England, compared to 13.5 per 100,000 in week 12. This is below the baseline threshold of 13.1 per 100,000 for this season. In the devolved administrations, ILI rates continued to decrease.
  - Through the Syndromic Surveillance systems, GP Out of Hours consultations for acute respiratory infections increased in the youngest age groups (<1, 1-4 and 5-14 years), with overall trend remaining stable. Emergency attendances for influenza-like illness (ILI) and acute respiratory infections remained stable but above baseline levels during week 13.
- [Influenza-confirmed hospitalisations](#)
  - In week 13, there were 69 new admissions to ICU/HDU with confirmed influenza (five influenza A(H1N1)pdm09, 7 influenza A(H3N2), 38 influenza A(unknown subtype) and 19 influenza B) reported across the UK (109/144 Trusts in England) through the USISS mandatory ICU scheme with a rate of 0.17 per 100,000 for England, compared to 0.22 in the previous week. This is above the baseline threshold of 0.05 per 100,000 for the 2017/18 season.
  - In week 13, there were 207 hospitalised confirmed influenza cases (15 influenza A(H1N1)pdm09, 36 influenza A(H3N2), 114 influenza A(unknown subtype) and 42 influenza B) reported through the USISS sentinel hospital network (all levels of care) (17 NHS Trusts across England), with a rate of 2.80 per 100,000 compared to 3.48 per 100,000 in the previous week. This is above the baseline threshold of 0.56 per 100,000 for the 2017/18 season.
  - There were no new influenza admissions reported from the six Severe Respiratory Failure centres in the UK in week 13.
- [All-cause mortality data](#)
  - In week 12 2018, no statistically significant excess all-cause mortality by week of death was seen 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 week 12 2018.
- [Microbiological surveillance](#)
  - Four samples tested positive for influenza (one influenza A(H1N1)pdm09, two influenza A(H3), and one influenza B) through the UK GP sentinel schemes, with an overall positivity of 25.0% in week 13 compared to 39.7% in week 12.
  - Three hundred and nine positive detections were recorded through the DataMart scheme (178 influenza A(H3), 42 influenza A(unknown subtype), 18 influenza A(H1N1)pdm09 and 71 influenza B) with a positivity of 18.9% in week 13 compared to 17.5% in week 12, which is above the baseline threshold of 8.6%.
- [Vaccination](#)
  - Up to week 04 2018, in 96.9% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2017/18 influenza vaccine in targeted groups was: 48.7% in under 65 years in a clinical risk group, 47.1% in pregnant women and 72.4% in 65+ year olds. In 96.8% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2017/18 influenza vaccine in targeted groups was: 42.6% in 2 year olds and 44.0% in 3 year olds.
  - Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 68.7% were vaccinated by 28 February 2018, compared to 63.4% vaccinated in the previous season by 28 February 2017.
  - Provisional data from the fourth monthly collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3 and 4 age show the provisional proportion of children in England who received the 2017/18 influenza vaccine via school, pharmacy or GP practice by 31 January 2018 in targeted groups was as follows: 62.6% in children of school year Reception age (4-5 years); 60.9% in children of school Year 1 age (5-6 years); 60.3% in children of school Year 2 age (6-7 years); 57.5% in children of school Year 3 age (7-8 years) and 55.7% in children of school Year 4 age (8-9 years).
  - Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2018 is available. The report provides uptake at national, Local Team (LT), Area Team (AT), Clinical Commissioning Group (CCG) and at Local Authority (LA) levels.
  - [WHO](#) have published their recommendations for the composition of the 2018/19 northern hemisphere influenza vaccine.
- [International situation](#)
  - Globally, influenza activity remained high but appeared to have peaked in some countries in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

**Thirty-four new acute respiratory outbreaks were reported in the past 7 days.**

- Acute respiratory disease outbreaks

- Thirty-four new acute respiratory outbreaks have been reported in the past 7 days compared to 63 in the previous week. Twenty-eight outbreaks were from care homes, where one tested positive for influenza A(H1N1)pdm09, 10 were positive for influenza A(unknown subtype), and 4 were positive for influenza B. Six outbreaks were from hospitals where all tested positive for influenza A(unknown subtype).

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [respcidsc@phe.gov.uk](mailto:respcidsc@phe.gov.uk)



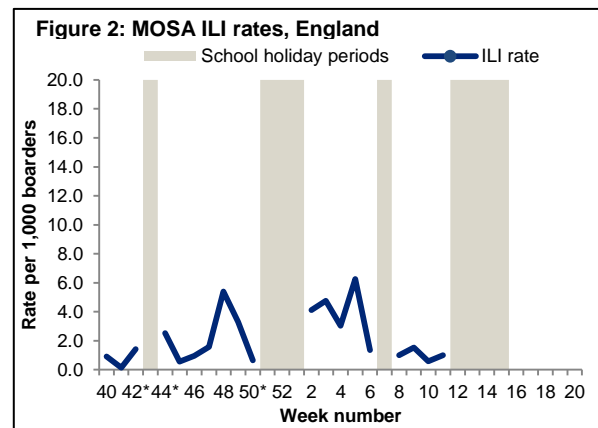
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- Boarding schools in England within the MOSA network are recruited each season to report various respiratory related illnesses including influenza like illnesses (ILI). For the 2017/18 season, 21 MOSA schools have agreed to participate in the scheme, including a total of 7,575 boarders.

- The overall ILI rate (all boarders) for week 11 was 1.0 per 1,000 boarders compared to 0.6 per 1,000 boarders in week 10.

-Since week 40, 44 outbreaks have been reported from 13 MOSA schools, with a total of 241 ILI cases identified. Out of the 44 outbreaks, seven tested positive for influenza B, one outbreak was positive for influenza A(H3) and four outbreaks were negative for influenza and other respiratory viruses.

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



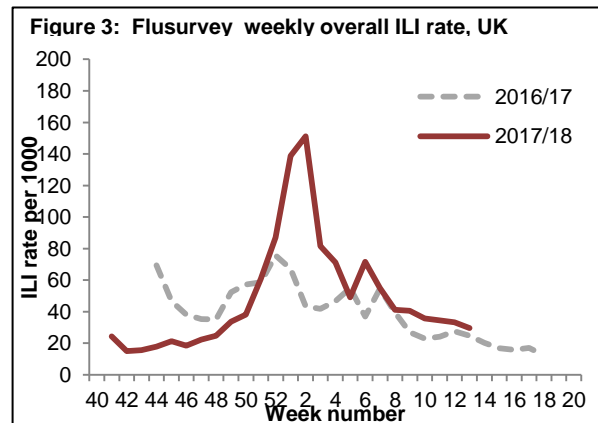
\*represents weeks where not all schools will be reporting due to varying school holiday periods.

- FluSurvey

- Internet-based surveillance of influenza-like illness in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine.

- The overall ILI rate (all age groups) for week 13 was 29.6 per 1,000 (80/2,699 people reported at least 1 ILI) (Figure 3) compared to 33.2 per 1,000 in week 12.

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



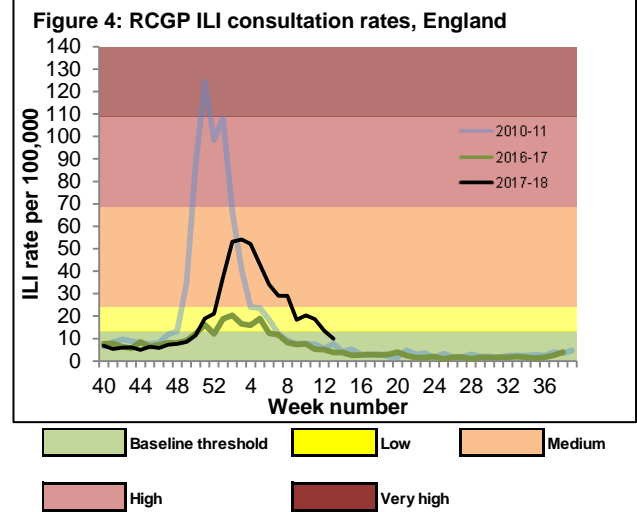
In week 13, the overall weekly influenza-like illness (ILI) GP consultation rate continued to decrease, below the baseline threshold. In the devolved administrations, ILI rates continued to decrease.

- GP ILI consultations in the UK

**RCGP (England)**

- The weekly ILI consultation rate through the RCGP surveillance was at 9.9 per 100,000 in week 13 compared to 13.5 per 100,000 in week 12. This is below the baseline threshold (13.1 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 45-64 year olds (15.3 per 100,000) and 15-44 year olds (9.5 per 100,000).

- Due to bank holidays in week 13 (ending 01 April 2018), GP surgeries were only open for four days – data should therefore be interpreted with caution.



\*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 13, overall weekly ILI consultation rates across the countries of the UK decreased further compared to the previous week (Table 1).

- By age group, the highest rates were seen in the 65-74 year olds in Northern Ireland (20.5 per 100,000), 75 + year olds in Scotland (17.6 per 100,000) and in the 15-44 year olds in Wales (10.3 per 100,000).

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

GP ILI consultation rates (all ages)	Week number																									
	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13
England (RCGP)	6.8	5.4	5.9	6.1	5.0	6.4	5.9	7.3	7.6	8.5	11.4	18.9	21.0	37.3	53.1	54.1	52.1	43.0	34.0	29.1	29.1	18.3	20.3	18.6	13.5	9.9
Wales	5.7	6.5	6.6	5.4	5.0	5.4	6.2	6.4	5.9	6.4	8.7	13.2	16.7	36.3	62.0	74.5	52.8	52.3	44.2	42.4	33.3	25.8	24.6	17.3	11.3	5.9
Scotland	10.0	15.3	8.3	10.8	12.4	11.7	10.3	9.1	9.4	18.4	32.5	40.3	44.9	107.2	113.9	102.1	82.3	45.5	30.3	39.4	35.1	28.5	24.9	26.4	18.7	9.4
Northern Ireland	3.4	3.9	3.7	3.3	4.0	3.6	4.5	5.3	4.0	8.2	10.1	20.7	22.7	52.6	65.2	52.1	44.2	29.0	30.6	25.2	23.6	16.7	18.3	18.3	13.0	11.7

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

**GP In Hours Syndromic Surveillance System (England)**

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 8.2 per 100,000 in week 13 (Figure 5).

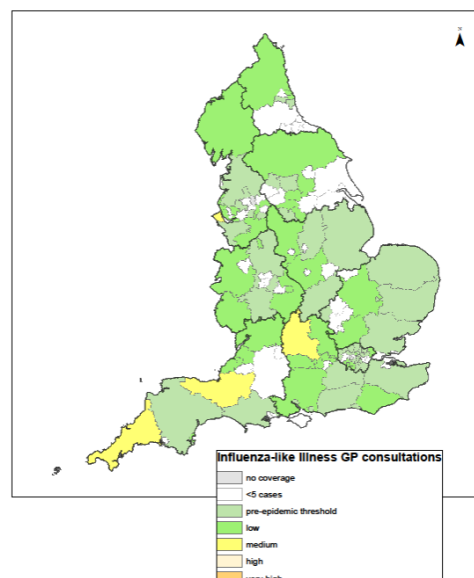
During week 13, GP Out of Hours consultations for acute respiratory infections increased in the youngest age groups (<1, 1-4 and 5-14 years), with overall trend remaining stable. Emergency attendances for influenza-like illness (ILI) and acute respiratory infections remained stable but above baseline levels during week 13.

Figure 5 represents a map of GP ILI consultation rates in week 13 across England by upper tier Local Authorities (utLA), with influenza-like illness surveillance MEM thresholds applied.

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

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

**Figure 5: Map of GP ILI consultation rates in week 13**

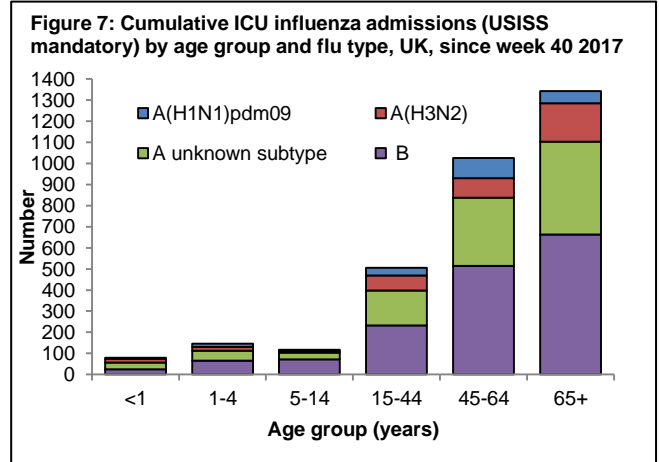
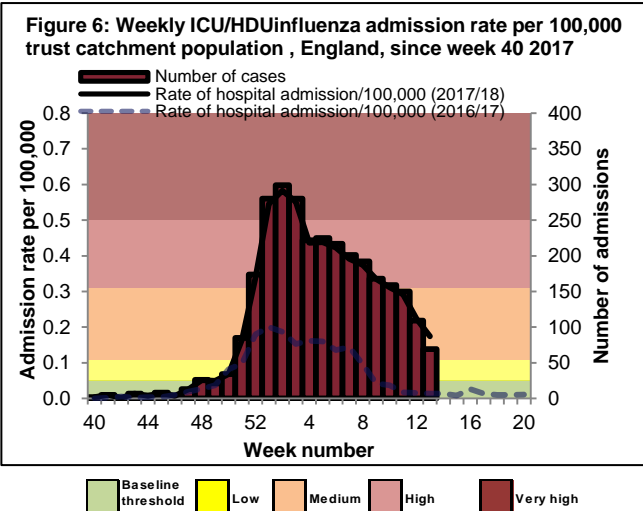


In week 13 2018, there were 69 new admissions to ICU/HDU with confirmed influenza (five influenza A(H1N1)pdm09, 7 influenza A(H3N2), 38 influenza A(unknown subtype) and 19 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (109 Trusts in England). There were 207 hospitalised confirmed influenza cases (15 influenza A(H1N1)pdm09, 36 influenza A(H3N2), 114 influenza A(unknown subtype) and 42 influenza B) were reported through the USISS sentinel hospital network across England (17 Trusts).

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 13)

- In week 13, there were 69 new admissions to ICU/HDU with confirmed influenza (five influenza A(H1N1)pdm09, seven influenza A(H3N2), 38 influenza A(unknown subtype) and 19 influenza B) reported across the UK (109/144 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.17 per 100,000 compared to 0.22 per 100,000 in the previous week for England data (Figures 6 and 7), this is above the medium impact threshold of 0.11 per 100,000. A total of two deaths were reported to have occurred in week 13 in the UK.

A total of 3,218 new admissions (216 influenza A(H1N1)pdm09, 394 influenza A(H3N2), 1,035 (influenza A(unknown subtype) and 1,573 influenza B) and 352 confirmed deaths have been reported in the UK since week 40 2017.

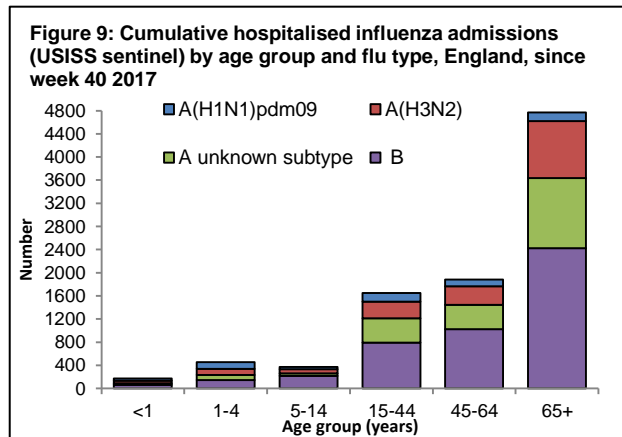
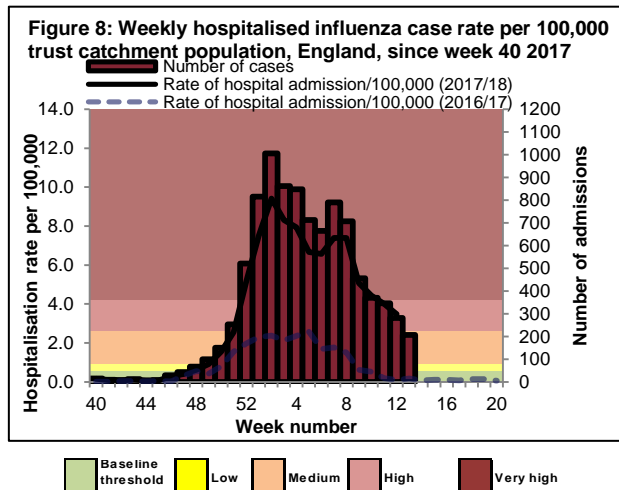


\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 6 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#disease-severity-and-mortality-data>

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 13)

- In week 13, there were 207 hospitalised confirmed influenza cases (15 influenza A(H1N1)pdm09, 36 influenza A(H3N2), 114 influenza A(unknown subtype) and 42 influenza B) reported from 17 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 2.80 per 100,000 compared to 3.48 per 100,000 in the previous week (Figures 8 and 9), this is above the high impact threshold of 2.65 per 100,000.

A total of 9,295 hospitalised confirmed influenza admissions (600 influenza A(H1N1)pdm09, 1,816 influenza A(H3N2), 2,211 influenza A(unknown subtype) and 4,668 influenza B) have been reported since week 40 2017 via the sentinel scheme.



\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 6 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 13)

- In week 13, there were no new influenza admissions reported from the six Severe Respiratory Failure (SRF) centres in the UK. Since week 40, a total of 54 laboratory confirmed influenza admissions (11 influenza A(H1N1)pdm09, five influenza A(H3N2), 13 influenza A(unknown subtype) and 25 influenza B) were reported from the SRFs for the season to date.

In week 12 2018, 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 week 12 2018.

- All-cause death registrations, England and Wales

- In week 11 2018, an estimated 12,788 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 12,997 estimated death registrations in week 10 2018.

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

- In week 12 2018 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 subnationally (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 was observed in week 12 2018 (Table 2).

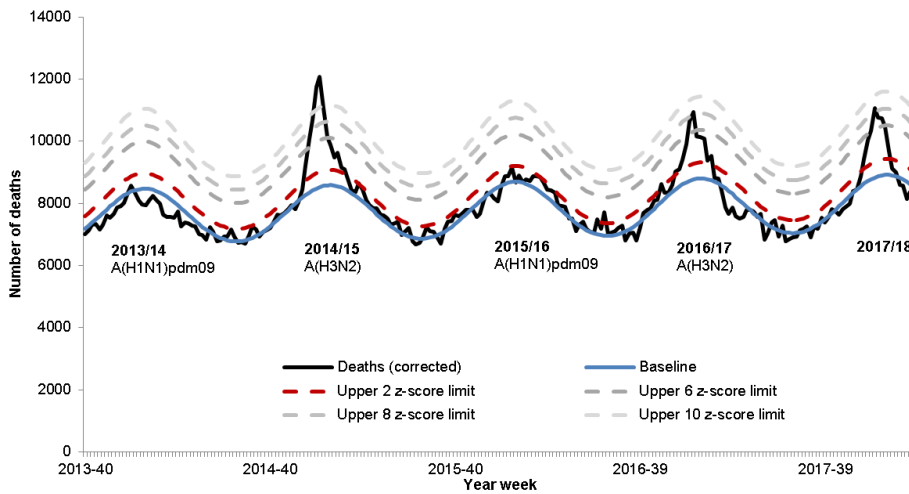
**Table 2: Excess mortality by UK country, for all ages\***

Country	Excess detected in week 12 2018?	Weeks with excess in 2017/18
England	x	50-04
Wales	x	52,02-03
Scotland	x	49-04,09
Northern Ireland	x	51-05, 07

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

\* NA refers to no excess seen

**Figure 10: Weekly observed and expected number of all-cause deaths in 65+ year olds, with the dominant circulating influenza A subtype, England, 2013 to 2018**

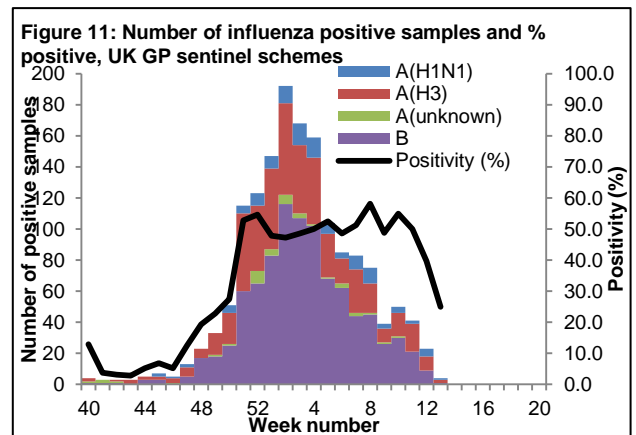


In week 13 2018, 4 samples tested positive for influenza (one influenza A(H1N1)pdm09, two influenza A(H3), and one influenza B) through the UK GP sentinel schemes, with an overall positivity of 25.0% compared to 39.7% in week 12. Three hundred and nine positive detections were recorded through the DataMart scheme (178 influenza A(H3), 42 influenza A(unknown subtype), 18 influenza A(H1N1)pdm09 and 71 influenza B) with a positivity of 18.9% in week 13 compared to 17.5% in week 12, which is above the baseline threshold of 8.6%.

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

-In week 13, 4 samples tested positive for influenza (one influenza A(H1N1)pdm09, two influenza A(H3), and one influenza B) through the UK GP sentinel schemes, with an overall positivity of 25.0% compared to 39.7% in week 12 (Figure 11).

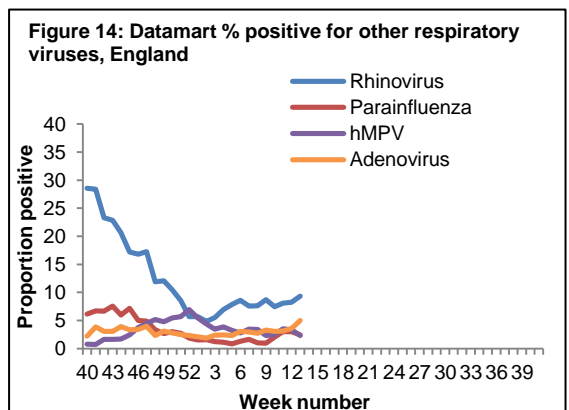
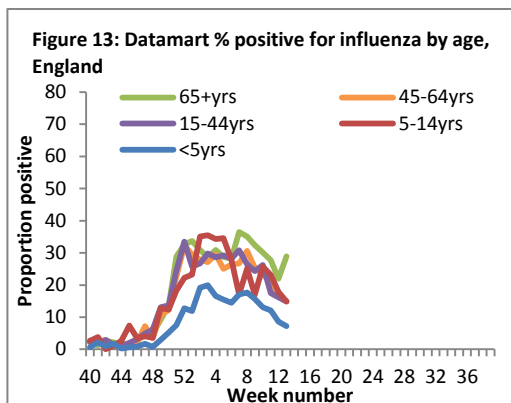
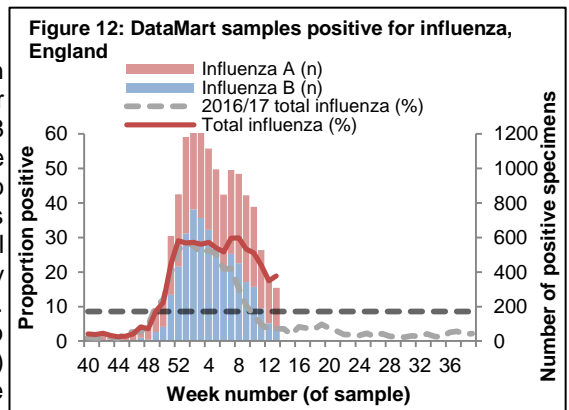
Since week 40, a total of 1,558 samples (493 influenza A(H3), 38 influenza (unknown subtype), 114 influenza A(H1N1)pdm09 and 913 influenza B) tested positive for influenza through this scheme.



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

- Respiratory DataMart System (England)

In week 13 2018, out of the 1,638 respiratory specimens reported through the Respiratory DataMart System, 309 samples (18.9%) were positive for influenza (178 influenza A(H3), 42 influenza A(unknown subtype), 18 influenza A(H1N1)pdm09 and 71 influenza B) (Figure 12), which is above the MEM baseline threshold for this season of 8.6%. This compares to 17.5% in week 12. The highest positivity for influenza by age group was seen in the 65+ year olds at 28.9% in week 13 (Figure 13). The overall positivity for RSV was low at 1.7% in week 13. Rhinovirus positivity increased slightly at 9.3% in week 13 compared to 8.3% in week 12. Adenovirus positivity increased slightly at 5.0% in week 13 compared to 3.7% in week 12, parainfluenza and human metapneumovirus (hMPV) positivity remained low at 2.4% and 2.3% respectively in week 13 (Figure 14).



\*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold to indicate a likelihood of influenza community circulation for Datamart % positive as calculated through the Moving Epidemic Method is 8.6% in 2017/18.

- 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 (RVU) has characterised 1593 influenza viruses detected since week 37 (Table 3). Eight hundred and fifty four influenza B viruses have been analysed; 847 were characterised as belonging to the B/Yamagata/16/88-lineage and 7 belonging to the B/Victoria/2/1987-lineage. All characterised B/Yamagata/16/88-lineage viruses to date are antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of the 2017/18 Northern Hemisphere quadrivalent vaccine. Three of the B/Victoria/2/87-lineage viruses are antigenically similar to B/Brisbane/60/2008, the influenza B/Victoria-lineage component of 2017/18 Northern Hemisphere trivalent and quadrivalent vaccines. Four influenza B viruses have been characterised where sequencing of the haemagglutinin (HA) gene shows they belong within genetic clade 1A of the B/Victoria lineage, in a subgroup characterised by deletion of two amino acids in the HA. These double deletion subgroup viruses are antigenically distinct from the 2017/18 N.hemisphere B/Victoria lineage vaccine component, with similar viruses having been identified in a minority of influenza B/Victoria lineage viruses in the 2016/17 season in the US and Norway, and since detected in low proportions in other countries, including in Europe.

Genetic characterisation of 505 A(H3N2) influenza viruses detected since late summer, showed that the majority belong to genetic subclade 3C.2a, with 142 belonging to a cluster within this genetic subclade designated as 3C.2a1. Eleven viruses belonging to the genetic subclade 3C.3a were detected. The Northern Hemisphere 2017/18 influenza A(H3N2) vaccine strain A/HongKong/4801/2014 belongs in genetic subclade 3C.2a.

Of 234 A(H1N1)pdm09 influenza viruses characterised, those that have been genetically characterised all belong in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2016/17 season and to date during the current season. Viruses antigenically analysed are similar to the A/Michigan/45/2015 Northern Hemisphere 2017/18 (H1N1)pdm09 vaccine strain.

**Table 3: Viruses characterised by PHE Reference Laboratory, 2017/18**

Virus	No. viruses characterised			
	Genetic and antigenic	Genetic only	Antigenic only	Total
A(H1N1)pdm09	70	71	93	234
A(H3N2)	1	504	0	505
B/Yamagata-lineage	176	390	281	847
B/Victoria-lineage	7	0	0	7

- Antiviral susceptibility

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

During the current 2017/18 season since week 40 2017, 167 influenza A(H3N2) have been tested for oseltamivir susceptibility; 162 are susceptible but five are resistant. Of 148 A(H3N2) viruses with zanamivir susceptibility testing data, 145 are susceptible and three are resistant. After de-duplication, 192 influenza A(H1N1)pdm09 virus have been tested for oseltamivir susceptibility and all but four were fully susceptible. One hundred and five of the 192 influenza A(H1N1)pdm09 virus were also tested for zanamivir susceptibility and were all fully susceptible. Four hundred and twenty-five influenza B viruses have been tested for oseltamivir and all but one were fully susceptible. Four hundred and eleven out of the 425 influenza B viruses have also been tested for zanamivir susceptibility and all but one was fully susceptible.

- Antimicrobial susceptibility

-Table 4 shows in the 13 weeks up to 1 April 2018, 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.

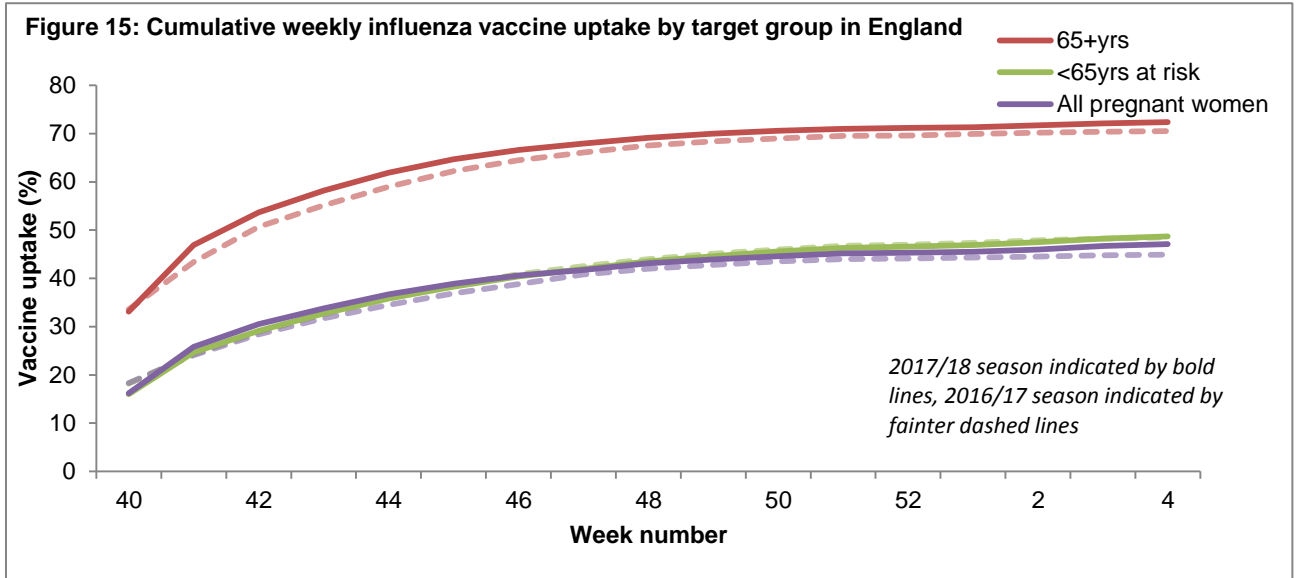
**Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 1 April 2018, E&W**

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4739	90
	Macrolides	5218	83
	Tetracycline	5122	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	22049	68
	Co-amoxiclav	23756	85
	Macrolides	7808	3
	Tetracycline	23731	99
<i>S. aureus</i>	Methicillin	8447	91
	Macrolides	9181	67
MRSA	Clindamycin	527	40
	Tetracycline	704	80
MSSA	Clindamycin	4986	77
	Tetracycline	7105	93

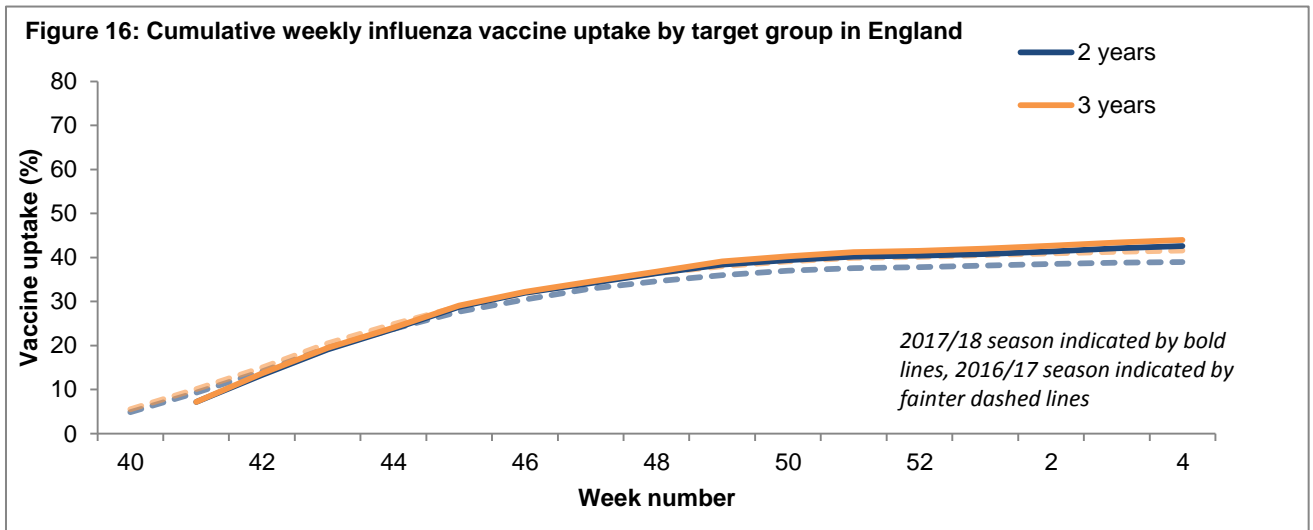
\*Macrolides = erythromycin, azithromycin and clarithromycin



- Up to week 04 2018 in 96.9% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2017/18 influenza vaccine in targeted groups was as follows (Figure 15):
  - 48.7% in under 65 years in a clinical risk group
  - 47.1% in pregnant women
  - 72.4% in 65+ year olds



- In 2017/18, all two- and three-year-olds continue to be eligible for flu vaccination, through their GPs. Up to week 04 2018 in 96.8% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2017/18 influenza vaccine in targeted groups was as follows (Figure 16):
  - 42.6% in 2 year olds
  - 44.0% in 3 year olds



- Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 68.7% were vaccinated by 28 February 2018 from 99.6% of all organisations, compared to 63.4% vaccinated in the previous season by 28 February 2017. The [report](#) provides uptake at national, NHS local team, “old” area teams and Trust-level.

- Provisional data from the fourth [monthly](#) collection of influenza vaccine uptake for children of school years Reception, 1,2, 3 and 4 age (from a sample of 96.7% of all Local Authorities in England) show the provisional proportion of children in England who received the 2017/18 influenza vaccine via school, pharmacy or GP practice by 31 January 2017 in targeted groups was as follows:
  - 62.6% in children school year Reception age (4-5 years)
  - 60.9% in children school year 1 age (5-6 years)
  - 60.3% in children school year 2 age (6-7 years)
  - 57.5% in children school year 3 age (7-8 years)
  - 55.7% in children school year 4 age (8-9 years)
- Provisional data from the fourth [monthly](#) collection of influenza vaccine uptake in GP patients up to 31 January 2018 show that in 99.5% of all GP practices in England responding to the main GP survey, the proportion of people in England who received the 2017/18 influenza vaccine was as follows:
  - 48.9% in under 65 year olds in a clinical risk group
  - 47.2% in pregnant women
  - 72.6% in 65+ year olds
- Provisional data from the fourth [monthly](#) collection of influenza vaccine uptake in GP patients up to 31 January 2018 show that in 99.3% of all GP practices in England responding to the child GP survey, the proportion of people in England who received the 2017/18 influenza vaccine was as follows:
  - 42.8% in 2 year olds
  - 44.2% in 3 year olds

## International Situation

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**Influenza activity remained high but appeared to have peaked in some countries in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.**

- [Europe](#) updated on 23 March 2018 (Joint ECDC-WHO Europe Influenza weekly update)

In week 11/2018, overall influenza viruses continue to circulate widely in the Region with some eastern European countries that have only recently reported increased activity, experiencing a late start to the season with increased circulation of influenza type A viruses. Both influenza virus types A and B were co-circulating with a higher proportion of type B viruses and with B/Yamagata continuing to be the dominant lineage.

In week 11/2018, influenza activity was at variable levels across the region. Of 46 Member States and areas reporting on intensity, Luxembourg reported very high intensity, while Denmark, Finland and Germany reported high intensity; 22 Member States including the United Kingdom (Wales) reported medium intensity and 20 Member States including the United Kingdom (England, Northern Ireland and Scotland) low intensity.

For week 11/2018, 898 (44%) of 2,055 sentinel specimens tested positive for influenza viruses; 48% were type A and 52% were type B. Of 326 subtyped A viruses, 60% were influenza A(H1N1)pdm09 and 40% A(H3N2). Of 275 type B viruses ascribed to a lineage, 99% were B/Yamagata and 1% B/Victoria.

In week 11, the overall numbers of reported laboratory confirmed ICU cases continued to decrease, 276 laboratory-confirmed influenza-infected cases were reported, with the majority reported by the United Kingdom (41%). A total of 225 cases were reported from other wards, with the majority reported from Denmark (50%).

Since week 40/2017, type A influenza viruses have been detected in 52% and type B in 48% of cases in ICUs. Of 1 482 subtyped influenza A viruses, 59% were A(H1N1)pdm09 and 41% A(H3N2). Of 4 796 cases with known age, 46% were 15–64 years old and 47% 65 years and older.

For week 11/2018, data from 19 countries or regions reporting to the [EuroMOMO](#) project were received and included in the pooled analyses of all-cause excess mortality. Excess mortality from all causes has been significantly elevated over recent months in the south-western part of the European region. However, mortality seems to be declining in some countries.

An [early risk assessment](#) based on data from EU/EEA countries was published by ECDC on 20 December 2017. First detections indicated circulation of A(H3N2) and B/Yamagata viruses in the highest proportions. As the A(H3N2) subtype dominated last season, a high proportion of the population should be protected.

- [United States of America](#) updated on 30 March 2018 (Centre for Disease Control report)

During week 12, influenza activity decreased in the United States.

Overall, influenza A(H3) viruses have predominated this season. However, in recent weeks the proportion of influenza A viruses has declined, and during week 12, influenza B viruses were more frequently reported than influenza A viruses. The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.

A cumulative rate of 96.1 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.

The proportion of outpatient visits for influenza-like illness (ILI) was 2.5%, which is above the national baseline of 2.2%.

- [Canada](#) updated on 30 March 2018 (Public Health Agency report)

Overall, during week 12, influenza activity remains elevated in many part of the country and laboratory detections of influenza are steadily decreasing.

In week 12, influenza B accounted for 53% of influenza detections in week 12.

In week 12, 1.5% of visits to healthcare professionals were due to influenza-like illness; a decrease from the previous week.

To date this season, 4,376 influenza-associated hospitalizations were reported by participating provinces and territories. Among the hospitalizations, 3,067 (70%) were associated with influenza A, and 2,929 cases (67%) were in adults 65 years of age or older.

Additionally, 429 ICU admissions and 218 deaths have been reported to date. Adults aged 65 years of age or older accounted for the greatest proportion of ICU cases (43%), followed closely by adults aged 20-64 (40%). Adults aged 65 years of age or older accounted the majority of deaths (84%).

A [Canadian study](#) reported a mid-season estimate of influenza vaccine effectiveness of 42% overall. The study confirmed an anticipated low vaccine effectiveness of 17% against the A(H3N2) strain and moderate vaccine effectiveness against influenza B of 55%, which is circulating at high levels in Canada this season.

- [Global influenza update](#) updated on 19 March 2018 (WHO website)

Influenza activity remained high but appeared to have peaked in some countries in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

In Canada, influenza activity remained elevated but appeared to have peaked in week 07/2018. Influenza B continued to be the most frequently detected virus. In the United States of America (USA), influenza like illness (ILI) and influenza activity decreased, however hospitalization rate due to influenza remained high, especially in adults aged 65 years and older. Influenza A(H3N2) and B viruses co-circulated.

In Europe, influenza activity remained high in the most of the European region. All seasonal influenza subtypes were present in the region, with influenza B as the predominant virus. In Eastern Europe, influenza activity continued to increase with influenza A (H1N1)pdm09, influenza A(H3N2) and influenza B-Yamagata co-circulating.

In Northern Africa, influenza activity decreased across the region. Detections of influenza A(H1N1)pdm09 and B viruses remained high in Egypt.

In Western Asia, influenza activity appeared to decrease across the region, with all seasonal influenza subtypes present in the region. In East Asia, influenza activity appeared to decrease across the region but remained elevated in China.

In Central Asia, influenza activity increased in recent weeks, with all seasonal influenza subtypes co-circulating.

In the Caribbean, influenza activity varied by country. All seasonal subtypes of influenza continue to be detected in the region.

In Western Africa, influenza activity remained low across the region.

In Southern Asia and South East Asia, low levels of influenza activity were reported.

The WHO GISRS laboratories tested more than 281,243 specimens between 05 February 2018 to 18 February 2018. 90,570 were positive for influenza viruses, of which 44,502 (49.1%) were typed as influenza A and 46,068 (50.9%) as influenza B. Of the sub-typed influenza A viruses, 7,773 (58.2%) were influenza A(H1N1)pdm09 and 5,574 (41.8%) were influenza A(H3N2). Of the characterized B viruses, 5,835 (94.4%) belonged to the B-Yamagata lineage and 346 (5.6%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 02 March 2018 (WHO website)

#### **Influenza A(H5) viruses**

Between [25 January 2018 and 02 March 2018](#), no new laboratory-confirmed human case of influenza A(H5) virus infection were reported to WHO.

Influenza A(H5) subtype viruses have the potential to cause disease in humans and thus far, no human cases, other than those with influenza A(H5N1) and A(H5N6) viruses, have been 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(H7N4)**

On [25 January 2018 and 02 March 2018](#), one laboratory-confirmed human case of influenza A(H7N4) virus infection was reported to WHO from the Jiangsu province in China.

#### **Influenza A(H7N9)**

Between [25 January 2018 and 02 March 2018](#), one new laboratory-confirmed human case of influenza A(H7N9) virus infection was reported to WHO from China.

Since 2013, a total of 1,567 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 615 deaths, have been reported to WHO.

#### **Influenza A(H9N2)**

Between [25 January 2018 and 02 March 2018](#), three laboratory-confirmed human cases of A(H9N2) virus infection were reported to WHO from China.

#### **Influenza A (H1N2)**

On [20 March 2018](#), the National International Health Regulations focal point for the Netherlands notified WHO about a human infected with a new reassortant A(H1N2) of seasonal influenza viruses that was detected in the routine sentinel influenza surveillance for influenza-like illness and other acute respiratory infections in the Netherlands.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 21 March 2018

Up to 28 March 2018, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 1,168 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

On [4 March 2018](#), the National IRH focal point of Oman reported one additional case of Middle East respiratory syndrome coronavirus (MERS-CoV).

Between [9 December 2017 and 17 January 2018](#), the National IHR Focal Point of The Kingdom of Saudi Arabia reported 20 additional cases of Middle East Respiratory Syndrome (MERS), including nine deaths. In addition, one death from a previously reported case was reported to WHO.

Globally, since September 2012, WHO has been notified of 2,143 laboratory-confirmed cases of infection with MERS-CoV, including at least 750 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 low.

This report was prepared by the Influenza section, Respiratory Diseases Department, Centre for Infectious Disease Surveillance and Control, 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<sup>®</sup> and EMIS and EMIS practices contributing to the QSurveillance<sup>®</sup> 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](#))
- 2017/18 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))