



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

During week 14 (ending 08 April 2018), influenza continues to circulate but decreases are noted across most indicators. Influenza A and B are co-circulating. As week 14 was a bank holiday week, some indicators should be interpreted with caution. The Department of Health has issued an [alert](#) on the prescription of antiviral medicines by GPs.

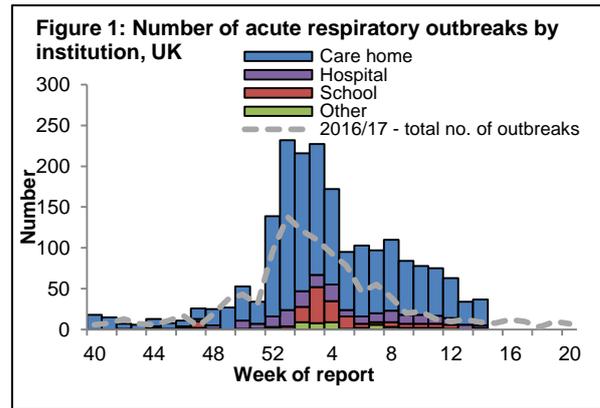
- [Community influenza surveillance](#)
 - Thirty-seven new acute respiratory outbreaks have been reported in the past 7 days compared to 34 in the previous week. Thirty-two outbreaks were from care homes, where 12 tested positive for influenza A(unknown subtype), two were positive for influenza B and one was positive for a mixed infection of influenza A(unknown subtype) and human metapneumovirus (hMPV). Three outbreaks were from hospitals where two tested positive for influenza A(unknown subtype) and one for influenza A(H1N1)pdm09. The remaining two outbreaks were from the Other settings category where one tested positive for influenza A(unknown subtype) and the other for influenza B.
- [Overall weekly influenza GP consultation rates across the UK](#)
 - Due to bank holidays in week 14 (ending 08 April 2018), GP surgeries were only open for four days – data should therefore be interpreted with caution.
 - In week 14, the overall weekly influenza-like illness (ILI) GP consultation rate was 8.0 per 100,000 in England, compared to 9.9 per 100,000 in week 14. This is below the baseline threshold of 13.1 per 100,000 for this season. In the devolved administrations, ILI rates continued to decrease and are below baseline levels.
 - Through the Syndromic Surveillance systems, GP In Hours consultations for influenza like illness continued to decrease and are similar to baseline levels. NHS 111 calls for cold/flu also continued to decrease but remain above baseline levels.
- [Influenza-confirmed hospitalisations](#)
 - In week 13, there were 72 new admissions to ICU/HDU with confirmed influenza (nine influenza A(H1N1)pdm09, nine influenza A(H3N2), 33 influenza A(unknown subtype) and 21 influenza B) reported across the UK (119/144 Trusts in England) through the USISS mandatory ICU scheme with a rate of 0.17 per 100,000 for England, compared to 0.19 in the previous week. This is above the baseline threshold of 0.05 per 100,000 for the 2017/18 season.
 - In week 14, there were 206 hospitalised confirmed influenza cases (22 influenza A(H1N1)pdm09, 55 influenza A(H3N2), 80 influenza A(unknown subtype) and 49 influenza B) reported through the USISS sentinel hospital network (all levels of care) (18 NHS Trusts across England), with a rate of 2.68 per 100,000 compared to 2.99 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 two new influenza admissions (two influenza A(H1N1)pdm09) reported from the six Severe Respiratory Failure centres in the UK in week 14.
- [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 and Wales, through the EuroMOMO algorithm. In the devolved administrations, statistically significant excess all-cause mortality for all ages was observed in Scotland but not in Northern Ireland in week 14 2018.
- [Microbiological surveillance](#)
 - Three samples tested positive for influenza (one influenza A(H3) and two influenza B) through the UK GP sentinel schemes, with an overall positivity of 27.3% in week 14 compared to 36.1% in week 13.
 - Two hundred and eighty positive detections were recorded through the DataMart scheme (158 influenza A(H3), 53 influenza A(unknown subtype), 22 influenza A(H1N1)pdm09 and 47 influenza B) with a positivity of 16.3% in week 14 compared to 19.0% in week 13, 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 appeared to decrease in most of the countries in the temperate zone of the northern hemisphere, with exception of Eastern Europe where activity continued to increase. In the temperate zone of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

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

- Acute respiratory disease outbreaks

- Thirty-seven new acute respiratory outbreaks have been reported in the past 7 days compared to 34 in the previous week. Thirty-two outbreaks were from care homes, where 12 tested positive for influenza A(unknown subtype), two were positive for influenza B and one was positive for a mixed infection of influenza A(unknown subtype) and human metapneumovirus (hMPV). Three outbreaks were from hospitals where two tested positive for influenza A(unknown subtype) and one for influenza A(H1N1)pdm09. The remaining two outbreaks were from the Other settings category where one tested positive for influenza A(unknown subtype) and the other for influenza B.

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



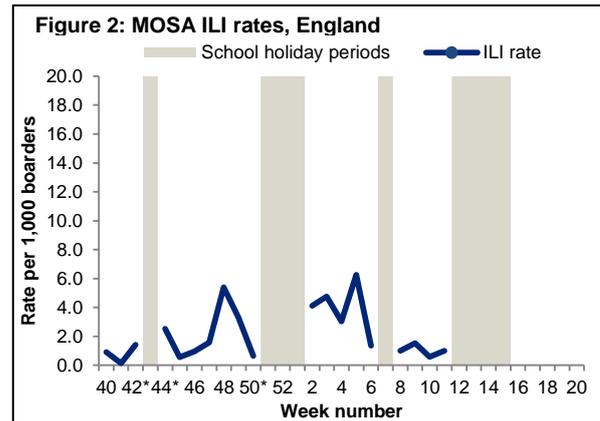
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- 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 for more information.



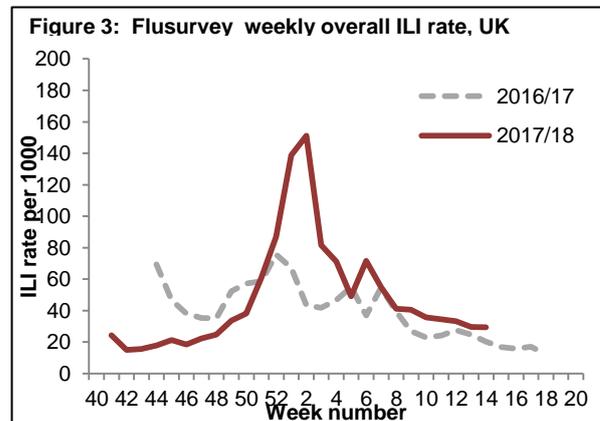
*represents weeks where not all schools will be reporting due to varying school holiday periods.

- 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 14 was 29.3 per 1,000 (78/2,663 people reported at least 1 ILI) (Figure 3) compared to 29.6 per 1,000 in week 13.

- 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.



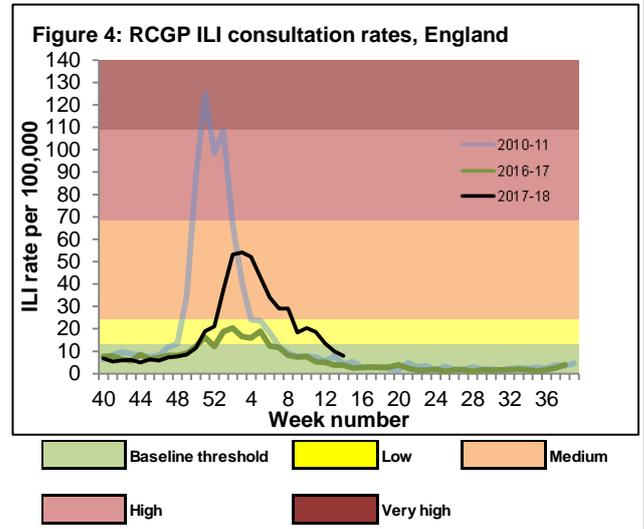
In week 14, the overall weekly influenza-like illness (ILI) GP consultation rate continued to decrease and is below the baseline threshold. In the devolved administrations, ILI rates continued to decrease and are below baseline levels.

- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was at 8.0 per 100,000 in week 14 compared to 9.9 per 100,000 in week 13. 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 (11.2 per 100,000) and 65-74 year olds (8.7 per 100,000).

- Due to bank holidays in week 14 (ending 08 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:

UK

- In week 14, overall weekly ILI consultation rates across the countries of the UK decreased or remained similar compared to the previous week and are all below their respective baseline thresholds (Table 1).

- By age group, the highest rates were seen in the 65-74 year olds in Northern Ireland (10.3 per 100,000), 45-64 year olds in Wales (16.8 per 100,000) and in the 15-44 year olds in Scotland (13.2 per 100,000).

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

GP ILI consultation rates (all ages)	Week number																										
	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14
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	8.0
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	8.9
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	9.5
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	6.0

*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 6.6 per 100,000 in week 14 (Figure 5).

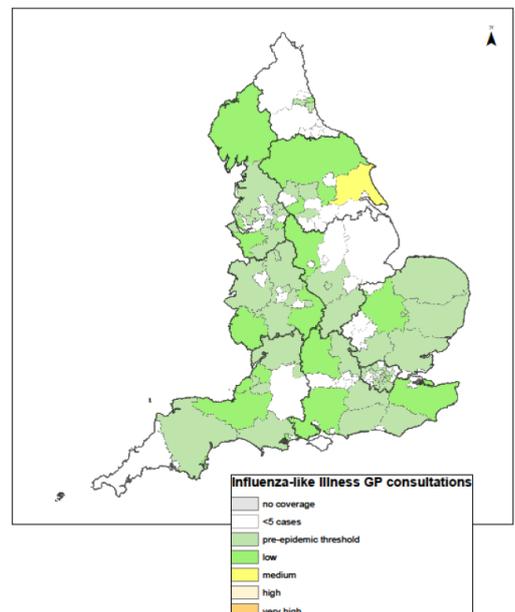
During week 14, GP In Hours consultations for influenza like illness continued to decrease and are similar to baseline levels. NHS 111 calls for cold/flu also continued to decrease but remain above baseline levels.

Figure 5 represents a map of GP ILI consultation rates in week 14 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 14

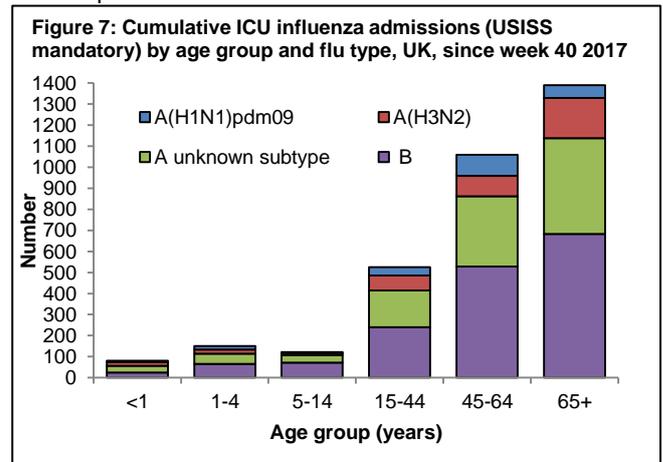
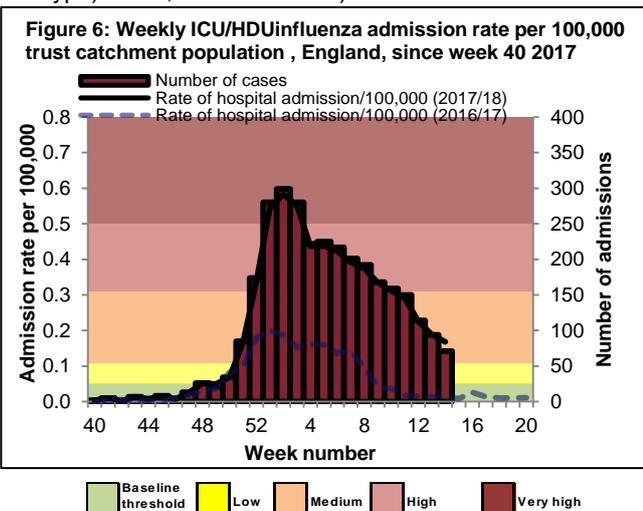


In week 14 2018, there were 72 new admissions to ICU/HDU with confirmed influenza (nine influenza A(H1N1)pdm09, nine influenza A(H3N2), 33 influenza A(unknown subtype) and 21 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (119 Trusts in England). There were 206 hospitalised confirmed influenza cases (22 influenza A(H1N1)pdm09, 55 influenza A(H3N2), 80 influenza A(unknown subtype) and 49 influenza B) were reported through the USISS sentinel hospital network across England (18 Trusts).

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 14)

- In week 14, there were 72 new admissions to ICU/HDU with confirmed influenza (nine influenza A(H1N1)pdm09, nine influenza A(H3N2), 33 influenza A(unknown subtype) and 21 influenza B) reported across the UK (119/144 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.17 per 100,000 compared to 0.19 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 five deaths were reported to have occurred in week 14 in the UK.

A total of 3,327 new admissions (228 influenza A(H1N1)pdm09, 409 influenza A(H3N2), 1,077 (influenza A(unknown subtype) and 1,613 influenza B) and 364 confirmed deaths have been reported in the UK since week 40 2017.

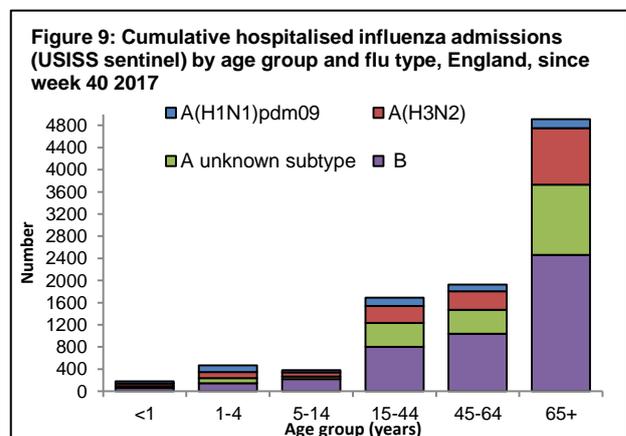
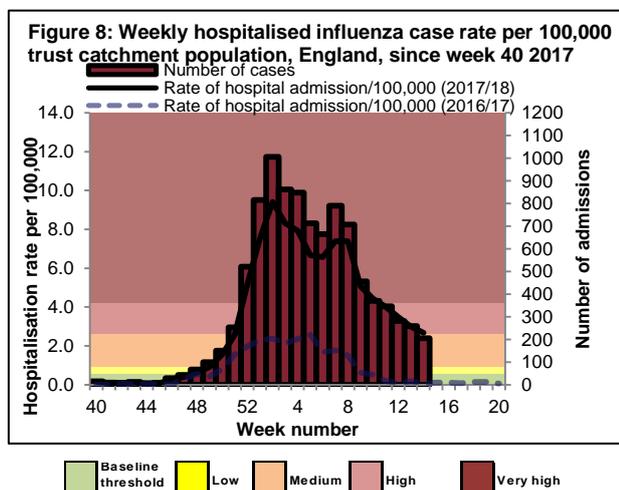


*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 6 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <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 14, there were 206 hospitalised confirmed influenza cases (22 influenza A(H1N1)pdm09, 55 influenza A(H3N2), 80 influenza A(unknown subtype) and 49 influenza B) reported from 18 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 2.68 per 100,000 compared to 2.99 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 9,554 hospitalised confirmed influenza admissions (629 influenza A(H1N1)pdm09, 1,895 influenza A(H3N2), 2,302 influenza A(unknown subtype) and 4,728 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 14)

- In week 14, there were two new influenza admissions (two influenza A(H1N1)pdm09) reported from the six Severe Respiratory Failure (SRF) centres in the UK. Since week 40, a total of 57 laboratory confirmed influenza admissions (13 influenza A(H1N1)pdm09, five influenza A(H3N2), 13 influenza A(unknown subtype) and 26 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 and Wales, through the EuroMOMO algorithm. In the devolved administrations, statistically significant excess all-cause mortality for all ages was observed in Scotland but not in Northern Ireland in week 14 2018.

- All-cause death registrations, England and Wales

- In week 13 2018, an estimated 9,941 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 11,913 estimated death registrations in week 12 2018.

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

- In week 12 2018 in England and Wales, 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, statistically significant excess all-cause mortality for all ages was observed in Scotland but not in Northern Ireland in week 14 2018 (Table 2).

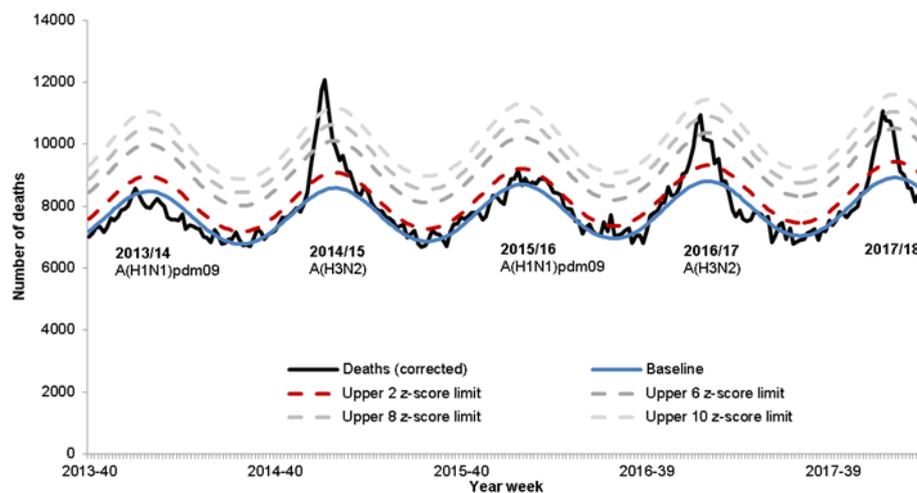
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 14 2018?	Weeks with excess in 2017/18
England	NA	50-04
Wales	NA	52,02-03
Scotland	✓	49-04,09,14
Northern Ireland	×	49,51-05,07

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

* NA refers to data not available for this week

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 week 12 2018

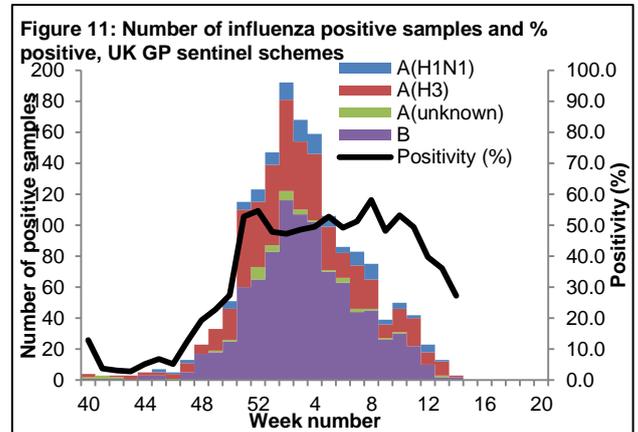


In week 14 2018, three samples tested positive for influenza (one influenza A(H3) and two influenza B) through the UK GP sentinel schemes, with an overall positivity of 27.3% compared to 36.1% in week 13. Two hundred and eighty positive detections were recorded through the DataMart scheme (158 influenza A(H3), 53 influenza A(unknown subtype), 22 influenza A(H1N1)pdm09 and 47 influenza B) with a positivity of 16.3% in week 14 compared to 19.0% in week 13, which is above the baseline threshold of 8.6%.

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

-In week 14, three samples tested positive for influenza (one influenza A(H3) and two influenza B) through the UK GP sentinel schemes, with an overall positivity of 27.3% compared to 36.1% in week 13 (Figure 11).

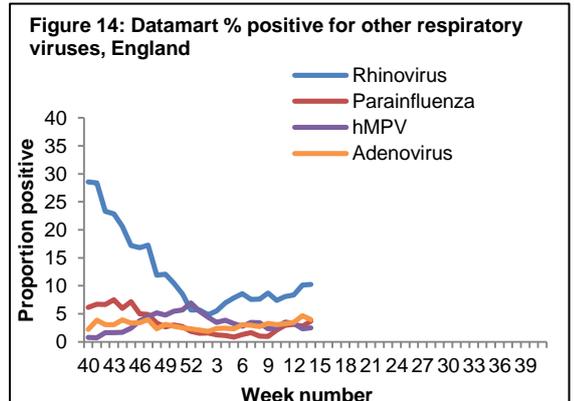
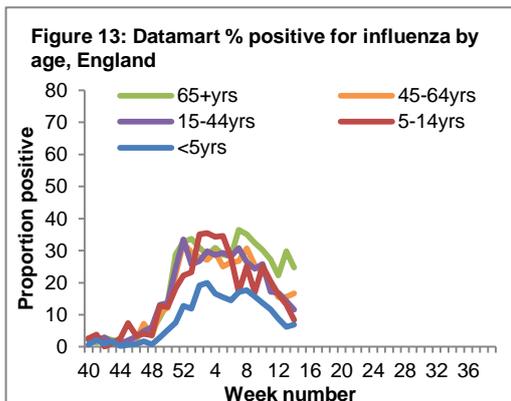
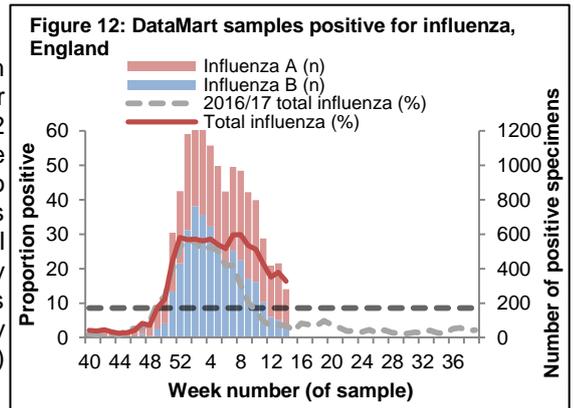
Since week 40, a total of 1,574 samples (500 influenza A(H3), 39 influenza (unknown subtype), 114 influenza A(H1N1)pdm09 and 921 influenza B) tested positive for influenza through this scheme.



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

- Respiratory DataMart System (England)

In week 14 2018, out of the 1,717 respiratory specimens reported through the Respiratory DataMart System, 280 samples (16.3%) were positive for influenza (158 influenza A(H3), 53 influenza A(unknown subtype), 22 influenza A(H1N1)pdm09 and 47 influenza B) (Figure 12), which is above the MEM baseline threshold for this season of 8.6%. This compares to 19.0% in week 13. The highest positivity for influenza by age group was seen in the 65+ year olds at 24.8% in week 14 (Figure 13). The overall positivity for RSV was low at 2.2% in week 14. Rhinovirus positivity remained similar to the previous week at 10.3% in week 14. Adenovirus positivity decreased slightly at 4.0% in week 14. Parainfluenza positivity increased slightly to 3.7% in week 14. Human metapneumovirus (hMPV) positivity remained low at 2.5% in week 14 (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 1658 influenza viruses detected since week 37 (Table 3). Eight hundred and eighty five influenza B viruses have been analysed; 878 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 531 A(H3N2) influenza viruses detected since late summer, showed that the majority belong to genetic subclade 3C.2a, with 143 belonging to a cluster within this genetic subclade designated as 3C.2a1. Thirteen 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 242 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			Total
	Genetic and antigenic	Genetic only	Antigenic only	
A(H1N1)pdm09	81	76	85	242
A(H3N2)	1	530	0	531
B/Yamagata-lineage	188	409	281	878
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, 169 influenza A(H3N2) have been tested for oseltamivir susceptibility; 164 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, 197 influenza A(H1N1)pdm09 virus have been tested for oseltamivir susceptibility and all but four were fully susceptible. One hundred and seven of the 197 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 fifteen out of the 429 influenza B viruses have also been tested for zanamivir susceptibility and all but one was fully susceptible.

- Antimicrobial susceptibility

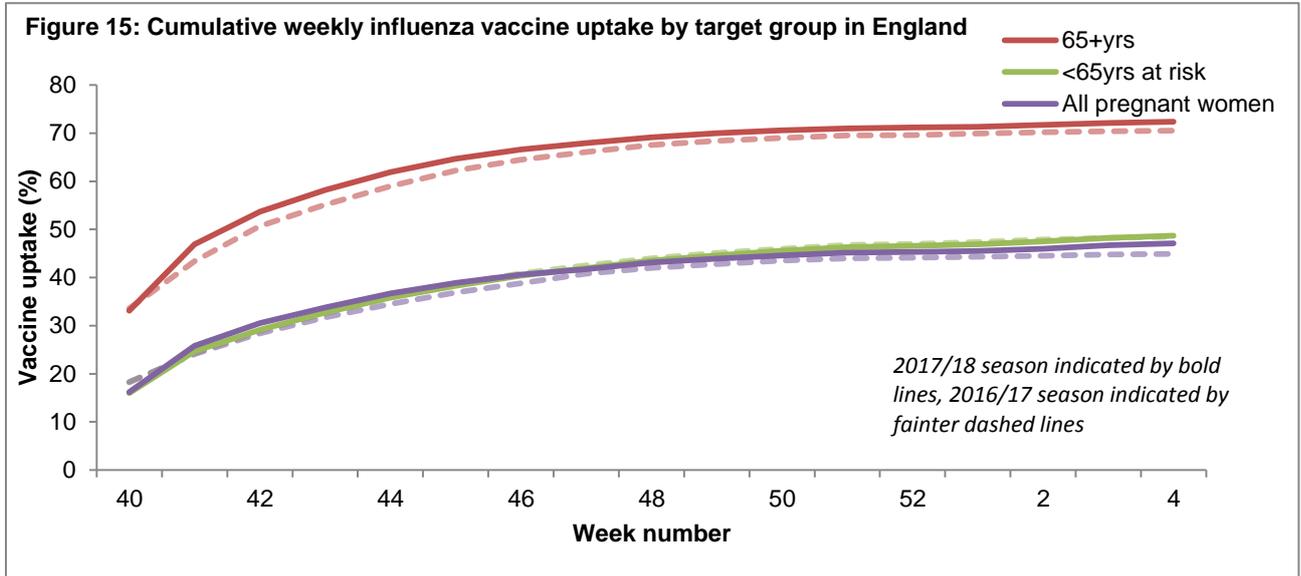
-Table 4 shows in the 12 weeks up to 8 April 2018, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired pneumonia (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 8 April 2018, E&W

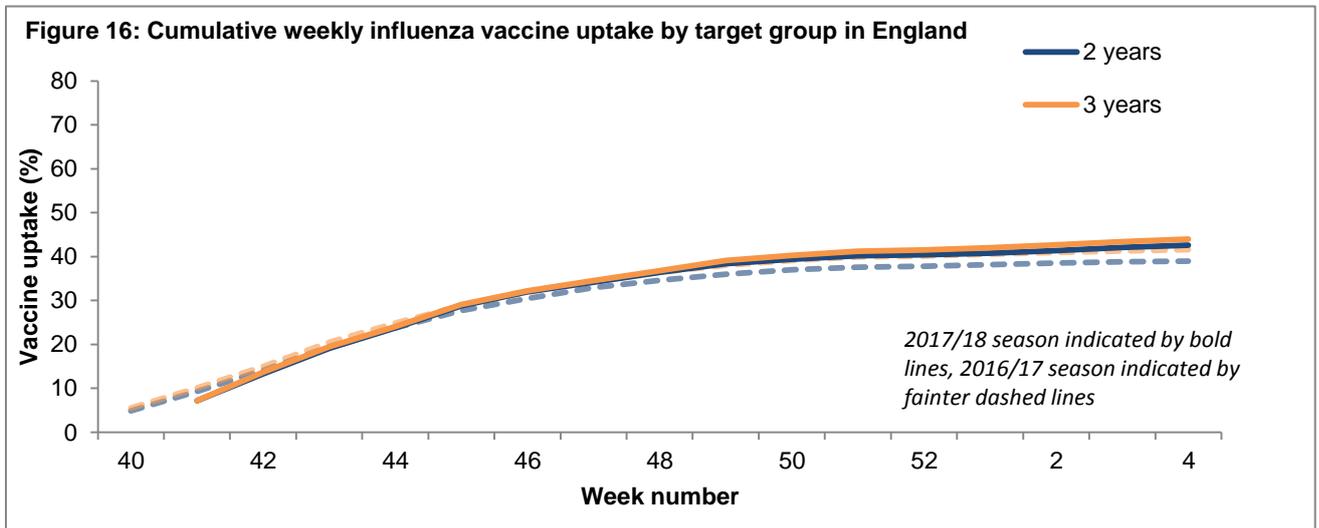
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4482	89
	Macrolides	4948	83
	Tetracycline	4866	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	20494	68
	Co-amoxiclav	22133	85
	Macrolides	7084	3
	Tetracycline	22061	99
<i>S. aureus</i>	Methicillin	7978	91
	Macrolides	8680	67
MRSA	Clindamycin	491	42
	Tetracycline	658	80
MSSA	Clindamycin	4750	77
	Tetracycline	6714	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 appeared to decrease in most of the countries in the temperate zone of the northern hemisphere, with exception of Eastern Europe where activity continued to increase. In the temperate zone of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

- [Europe](#) updated on 06 April 2018 (Joint ECDC-WHO Europe Influenza weekly update)

In week 13/2018, overall influenza viruses continue to circulate widely in the Region, with 35% of the individuals sampled from primary healthcare settings testing positive for influenza viruses. Both influenza virus types A and B were co-circulating with the majority being type B viruses and the B/Yamagata lineage continuing to dominate.

In week 13/2018, influenza activity was at variable levels across the region. Of 45 Member States and areas reporting on intensity, 12 Member States reported medium intensity and 33 Member States including the United Kingdom (England, Northern Ireland and Scotland) reported low intensity.

For week 13/2018, 257 (35%) of 725 sentinel specimens tested positive for influenza viruses; 52% were type A and 48% were type B. Of 117 subtyped A viruses, 68% were influenza A(H1N1)pdm09 and 32% A(H3N2). Of 65 type B viruses ascribed to a lineage, all were B/Yamagata.

In week 13, the overall numbers of reported laboratory confirmed ICU cases continued to decrease, 106 laboratory-confirmed influenza-infected cases were reported, with the majority reported by the United Kingdom (65%). A total of 129 cases were reported from other wards, with the majority reported from Ireland (64%).

Since week 40/2017, type A influenza viruses have been detected in 52% and type B in 48% of cases in ICUs. Of 1 644 subtyped influenza A viruses, 59% were A(H1N1)pdm09 and 41% A(H3N2). Of 5 204 cases with known age, 45% were 15–64 years old and 48% were 65 years and older.

For week 13/2018, data from 18 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, especially in the elderly. 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 06 April 2018 (Centre for Disease Control report)

During week 13, influenza activity decreased in the United States.

Overall, influenza A(H3) viruses have predominated this season. Since early March, influenza B viruses have been more frequently reported than influenza A viruses. The percentage of respiratory specimens testing positive for influenza in clinical laboratories remains elevated.

A cumulative rate of 99.9 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.

The proportion of outpatient visits for influenza-like illness (ILI) was 2.4%, which is above the national baseline of 2.2%.

- [Canada](#) updated on 06 April 2018 (Public Health Agency report)

Overall, during week 13, influenza activity remains elevated in many part of the country and laboratory detections of influenza are steadily decreasing.

In week 13, influenza B accounted for 53% of influenza detections in week 12.

In week 13, 1.8% of visits to healthcare professionals were due to influenza-like illness; an increase from the previous week.

To date this season, 4,500 influenza-associated hospitalizations were reported by participating provinces and territories. Among the hospitalizations, 3,116 (69%) were associated with influenza A, and 2,990 cases (66%) were in adults 65 years of age or older.

Additionally, 439 ICU admissions and 230 deaths have been reported to date. Adults aged 65 years of age or older accounted for the greatest proportion of ICU cases (44%), followed closely by adults aged 20-64 (40%). Adults aged 65 years of age or older accounted the majority of deaths (83%).

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 02 April 2018 (WHO website)

Influenza activity appeared to decrease in most of the countries in the temperate zone of the northern hemisphere, with exception of Eastern Europe where activity continued to increase. In the temperate zone of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections.

Overall, decreased influenza virus activity was reported in North America. In Canada, influenza indicators decreased or remained similar to previous week. Influenza B continued to be the most frequently detected virus. In the United States of America (USA), influenza activity and illness indicators continued to decrease. However, hospitalization rate due to influenza remained high, especially in adults aged 65 years and older, and was reported to be higher than the previous eight influenza seasons.

Overall, influenza viruses continued to circulate widely in 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 virus most frequently detected followed by influenza B virus. In particular, influenza activity was still increasing in the Russian Federation, with all seasonal influenza subtypes co-circulating. In Northern and South West Europe, influenza A and B virus detections continued to decrease in general with the exceptions of Denmark and Germany where influenza activity remained high.

In Northern Africa, influenza activity decreased in most of the countries, with the exception of Egypt where detections of influenza A(H1N1)pdm09 and B viruses remained high.

In Western Asia, influenza activity appeared to decrease across the region, with all seasonal influenza subtypes present in the region.

In Central Asia, influenza activity decreased across the region. In East Asia, influenza activity decreased across the region. In Northern and Southern China influenza detections continued to decrease, with influenza A(H1N1)pdm09 and influenza B viruses predominating.

In the Caribbean, influenza activity slightly decreased, with all seasonal influenza subtypes continuing to be detected in the region. In the tropical countries of South America, influenza activities varied by countries.

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

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

The WHO GISRS laboratories tested more than 206,175 specimens between 05 March 2018 to 18 March 2018. 50,579 were positive for influenza viruses, of which 23,651 (46.8%) were typed as influenza A and 26,928 (53.2%) as influenza B. Of the sub-typed influenza A viruses, 6,313 (64%) were influenza A(H1N1)pdm09 and 3,552 (36%) were influenza A(H3N2). Of the characterized B viruses, 3,184 (91%) belonged to the B-Yamagata lineage and 316 (9%) 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 11 April 2018

Up to 11 April 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 1,175 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[®] 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](#))
- 2017/18 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))