

# HPS Monthly National Influenza Report

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

Week ending 8 May 2016 – week 18

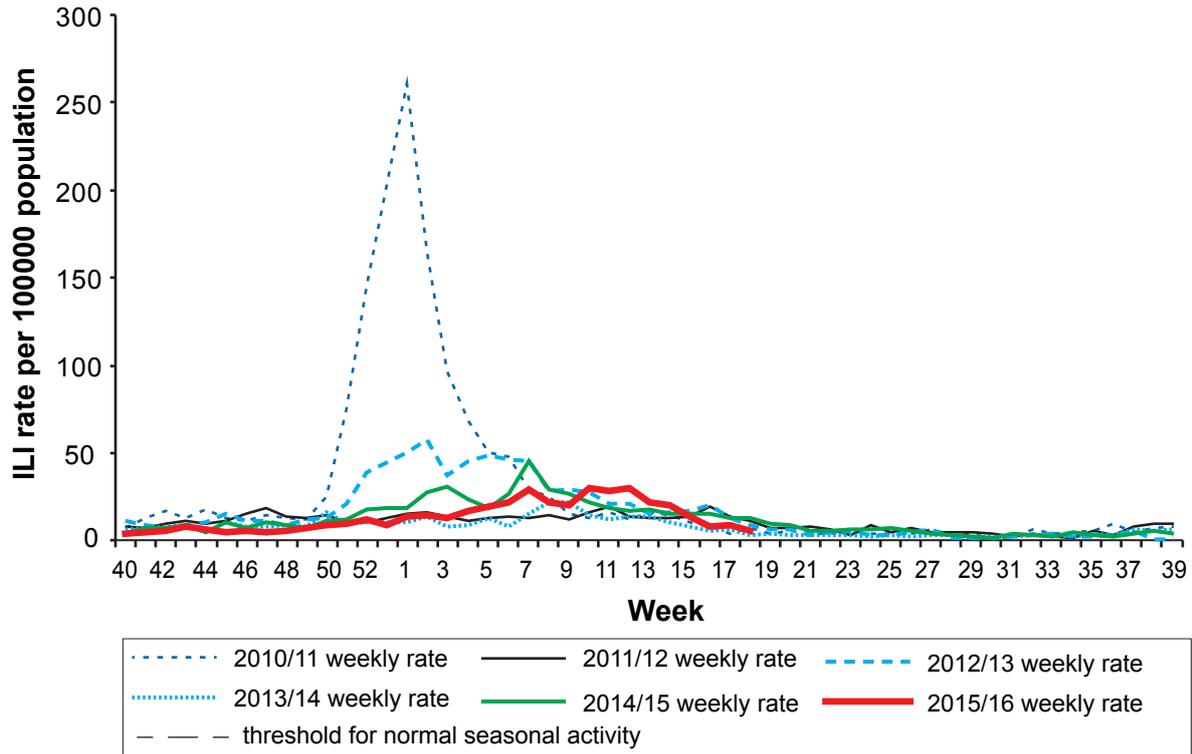
### 1 Summary

- This report provides an update on seasonal respiratory pathogen activity for the 2015/16 season up to the week ending 8 May 2016 (week 18). For this season, we will provide detailed influenza update reports on a monthly basis with bulletin style weekly updates in the weeks in between.
- This report contains summary epidemiological information on influenza-like illness (ILI) and acute respiratory illness (ARI) activity, its severity and impact in the community and secondary care settings, and vaccine uptake estimates.
- In Scotland, clinical influenza activity as measured by community presentations is declining. New cases of severe influenza requiring intensive care management are still being reported but are decreasing suggesting the burden on hospital services may be reducing. Continuing community circulation of influenza is evidenced by virology reports of influenza but these have decreased compared to the previous four week period. In those viruses characterised, influenza A (H1N1) pdm2009 is the main virus identified thus far this season. Influenza B detections appear to have peaked in week 13 but still account for the highest number of flu detections in the last four weeks.
- Over the past four weeks, the levels of all seasonal non-influenza respiratory pathogens reported through sentinel sources were stable within expected seasonal levels. The levels of *Mycoplasma pneumoniae* (MPN) and coronavirus reported through non-sentinel sources were high and above seasonal expectations for the last four weeks. The levels of adenovirus exceeded expected seasonal levels in week 15. All other seasonal non-influenza respiratory pathogens reported through non-sentinel sources were stable and within expected seasonal levels for the last four weeks.

### 2a Community Surveillance – GP consultation rates

- The GP consultation rate for influenza-like illness (ILI) decreased over the last four weeks, from 13.5 per 100000 population in week 15 to 5.4 per 100000 population in week 18. The GP consultation rate for ILI remained below the threshold for normal seasonal activity (36.5 per 100000 population) throughout this period (Figure 1). Please note the change to a lower threshold value for the current season compared with that of last season, refer to the [technical document](#) for further information.

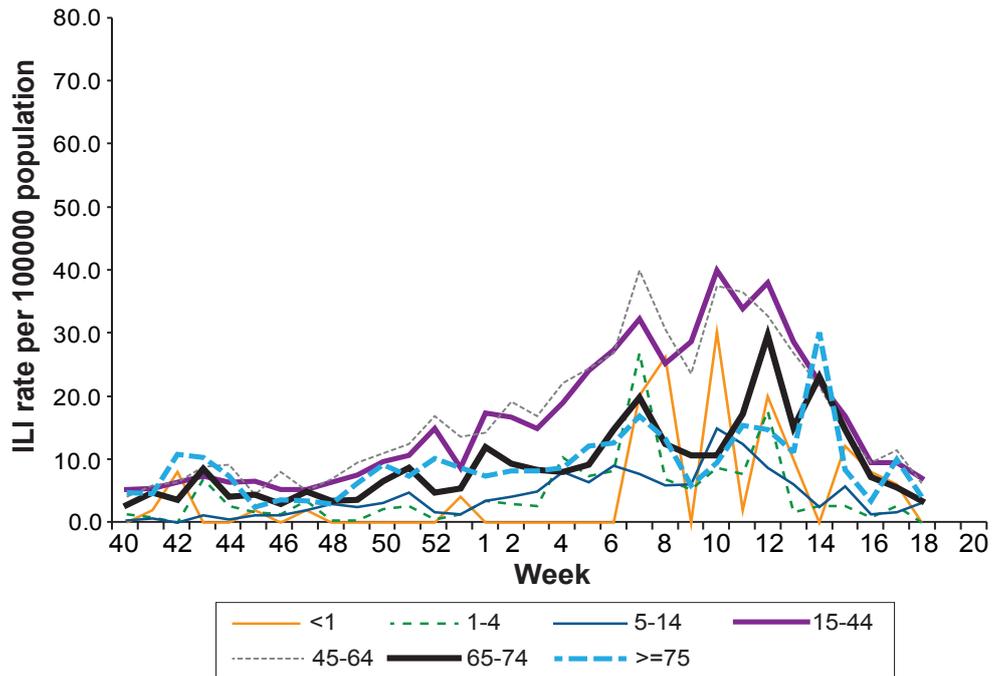
Figure 1: GP consultation rates for ILI in Scotland; weekly rates per 100000 population, week 40 2015 to week 20 2016, compared to last 5 seasons



NB: 2015 is a 53 week year therefore figures for week 52 and week 1 were averaged to provide an estimated figure for that week in previous years

- The trend in GP consultation rates for ILI by age group since the beginning of the 2015/16 season (week 40) is shown in Figure 2.
- Over the last four weeks, the highest GP consultation rates for ILI were observed in those 15-44 years old (16.8 per 100000 population, in week 15) and 65-74 year olds (14.7 per 100000 population, in weeks 15). This was followed by the 45-64 year olds (14.4 per 100000 population, in week 15). The lowest GP consultation rate for ILI was observed in the under 1 year olds and 1-4 year olds (0.0 per 100000 population for week 18 for both). The GP consultation rates for ILI fluctuated for most age groups throughout the month but decreased week on week for under 1 year olds and 65-74 year olds.
- GP consultation rates for ILI are estimated based on weekly data submissions by 99% of all Scottish GPs.

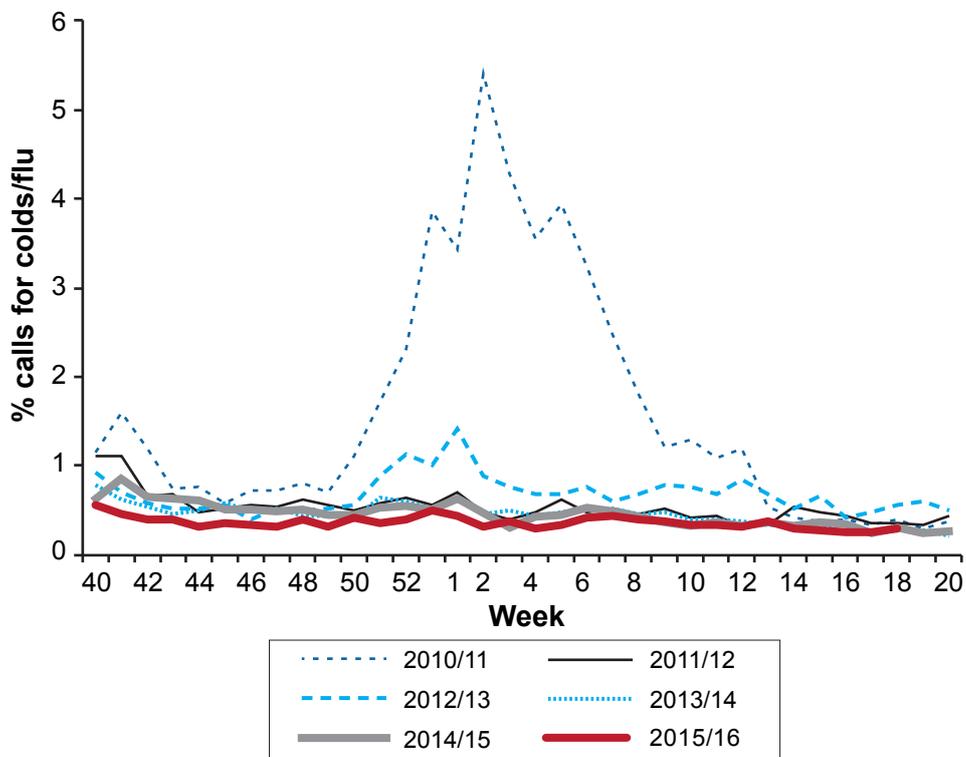
Figure 2: GP consultation rates for ILI in Scotland by age group, weekly rates per 100000 population, week 40 2015 to week 20 2016 (2015/16 season only)



## 2 b Community Surveillance – NHS 24 calls

- The proportion of cold/flu calls to NHS 24 remained well within expected levels for this time of the year (Figure 3).

Figure 3: NHS 24 calls; weekly percentage of call for colds/flu, week 40 2015 to week 20 2016, compared to last 5 seasons

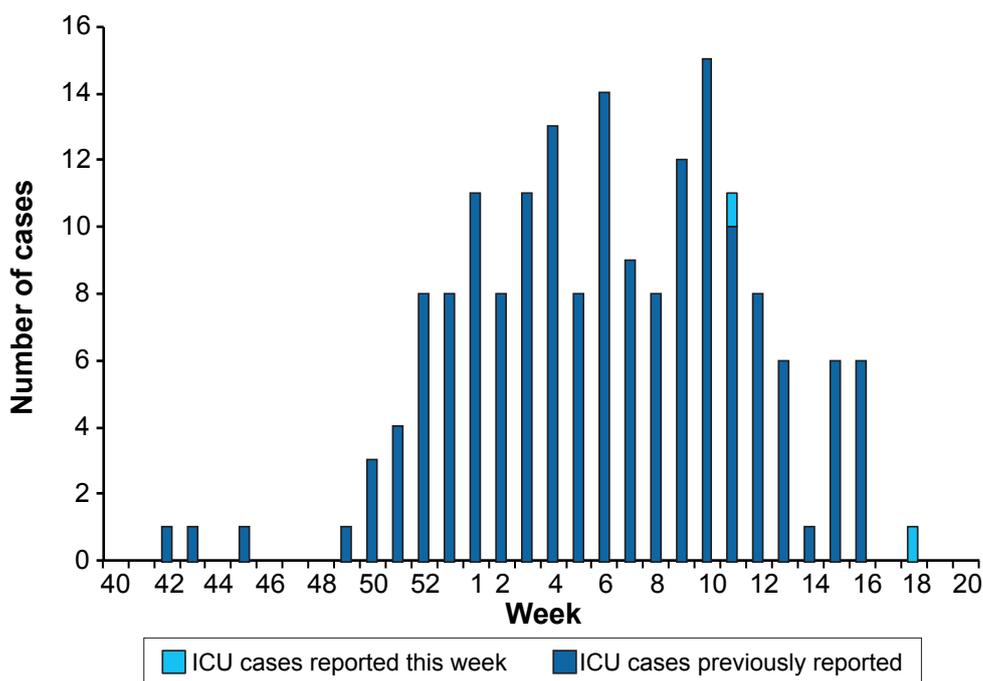


NB: 2015 is a 53 week year therefore figures for week 52 and week 1 were averaged to provide an estimated figure for that week in previous years

### 3 Severe Illness Surveillance

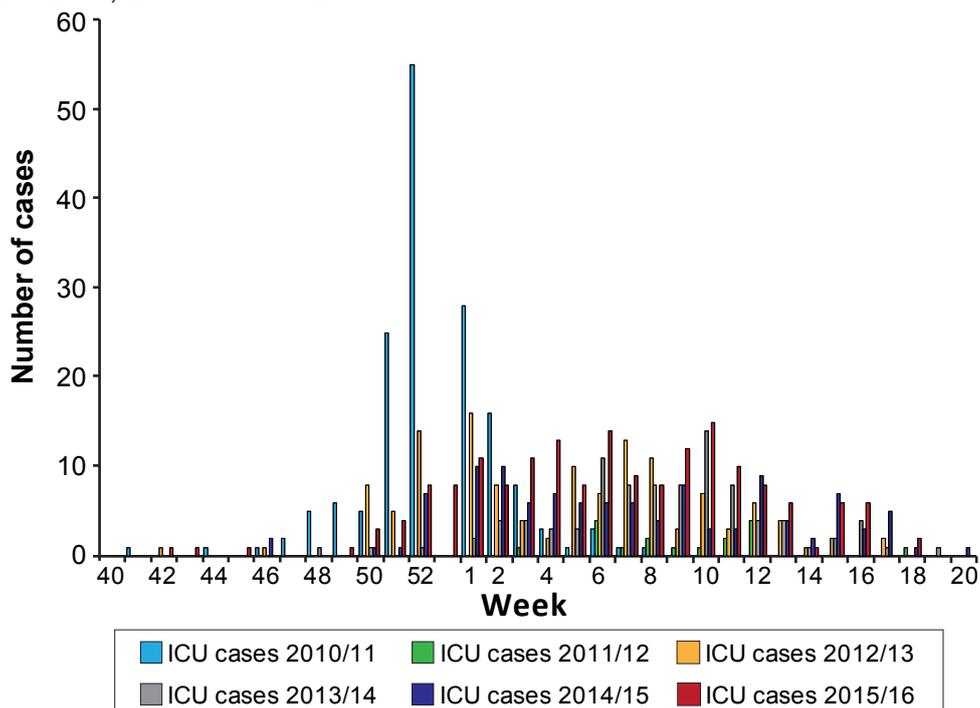
- Two new laboratory confirmed influenza cases (1 influenza A(H1N1)pdm09 and 1 influenza A(not subtyped)) with severe infection requiring intensive care management (ICU cases) were reported to HPS within the last week. Both cases were retrospective reports (Figure 4).
- Since week 40 2015, a total of 175 ICU cases have been reported to HPS (2 influenza A(H3), 77 influenza A (H1N1)pdm09, 78 influenza A(not subtyped) and 18 influenza B) (Figure 5).
- Of these 175 cases, the mean age of those presenting was 46 years (compared to 52 years in 2014/15 and 50 years in 2013/14, for data up to week 18); 25 were under 15 years of age (14.3%), 118 were in the age group 15-64 years (67.4%) and 32 were 65 years or older (18.3%).
- 33 cases were reported by NHS boards in the North of Scotland, 84 from the West of Scotland and 58 from the East of Scotland.<sup>1</sup> As seen in previous seasons, the majority of the cases had underlying medical conditions (71.4%) that predisposed them to severe influenza infection. The clinical presentation and younger age groups affected are consistent with previous seasons in which influenza A(H1N1)pdm09 has been the dominant virus detected.
- The case fatality rate (i.e. proportion of cases which have died) of 26.9% (47/175) is in keeping with the previous three seasons (ranging from 24.2% to 35.6%).

Figure 4: Number of influenza cases with severe infection requiring intensive care management by week of hospital admission, week 40 2015 to week 20 2015.



1 North: Western Isles, Shetland, Orkney, Highland, Grampian, Tayside. East: Fife, Lothian, Borders, Forth Valley. West: Greater Glasgow & Clyde, Lanarkshire, Ayrshire & Arran, Dumfries & Galloway.

Figure 5: Number of influenza cases with severe infection requiring intensive care management by week of hospital admission, week 40 2015 to week 20 2016, compared to seasons 2010/11, 2011/12, 2012/13, 2013/14 and 2014/15



NB: 2015 is a 53 week year therefore comparison with previous years is not available.

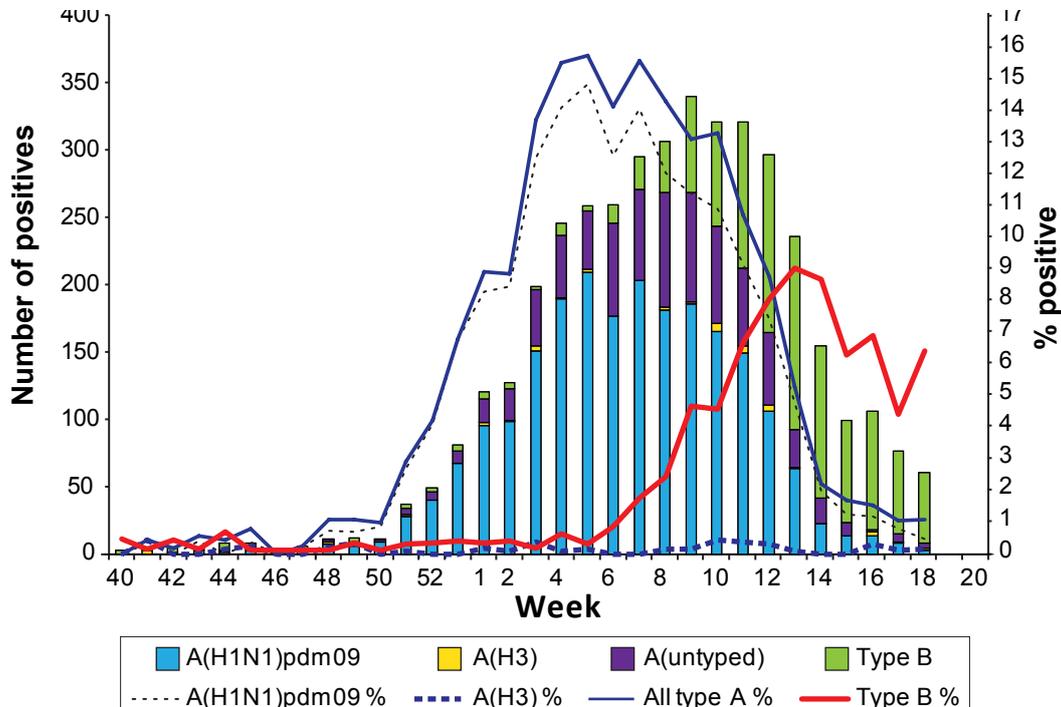
## 4 Virological Surveillance (sentinel and non-sentinel)

- Over the last four weeks, the virological influenza activity reported through non-sentinel sources (ECOSS) (Figure 6) and sentinel sources (Figure 7) has decreased. Data for week 18 is still incomplete.
- The ECOSS surveillance system is a laboratory scheme which reports all positive laboratory results from all laboratories in Scotland. Samples submitted to laboratories originate principally from secondary care. From week 15 to week 18, 341 influenza infections (37 A(H1N1), 5 influenza A(H3), 22 A(not subtyped), 277 influenza type B) were reported through ECOSS (Figure 6). The proportion of influenza B detections has decreased in the last four weeks compared to the previous four week period but has fluctuated week to week (the number of positive samples ranged 52 to 88 within the last four weeks, week 18 data is still provisional). The ECOSS swab positivity<sup>2</sup> for any type of influenza for the four week period was highest in week 16 at 8.4% and lowest in week 17 (5.4%). The swab positivity for weeks 15 and 18 was 7.9% and 7.5% respectively.
- The GP Sentinel Swabbing Scheme is a primary care surveillance programme with around 40 practices participating from across Scotland. Every week practices are asked to swab patients who present with respiratory illness. From week 15 to week 18, 24 influenza infections (2 influenza A(H1N1), 1 influenza A(H3), 1 influenza A(not subtyped) and 20 influenza type B) were reported through this scheme (Figure 7). The sentinel swab positivity for any type of influenza for the four week period was highest in week 15 at 24.4% (10/41); and lowest in week 16 at 15% (6/40). The swab positivity for weeks 17 and 18 was 15.6% (5/32) and 21.4% (3/14) respectively.

2 Percentage positive is derived from data from the Glasgow, Edinburgh, Inverness and Aberdeen laboratories, for which denominator data is available.

- Over the past four weeks, the levels of all seasonal non-influenza respiratory pathogens (respiratory syncytial virus (RSV), rhinovirus,<sup>3</sup> *Mycoplasma pneumoniae* (MPN), coronavirus, parainfluenza, adenovirus and human metapneumovirus (hMPV)) reported through sentinel sources were within expected seasonal levels.
- From week 15 to week 18 2016, the levels of seasonal non-influenza respiratory pathogens (RSV, rhinovirus, parainfluenza and hMPV) reported through ECOSS were stable whereas the levels of MPN and coronavirus were high and above seasonal expectations for the last four weeks. Levels of adenovirus exceeded seasonal levels in week 15.
- Laboratory detections of MPN go through four to five year cycles. Numbers of laboratory positives for MPN are a small proportion of all respiratory pathogen positives: up to week 18, MPN accounted for 5.5% of all positives in 2015/16; 3.3% in 2014/15; and 1.2% in 2013/14. However, the numbers of MPN positives in 2015/16 are higher than those observed in the last peak season 2011/12. The cumulative number of MPN laboratory confirmed cases to week 18 reported through ECOSS in season 2015/16 (668) is higher than reported in 2014/15 (340), 2013/14 (112), 2012/13 (122) and now exceed those observed in 2011/12 (541).
- A CMO letter, recommending that antiviral drugs can be prescribed for the prevention or treatment of influenza in the community where clinically indicated was issued on the 28 of January 2016 and can be accessed [here](#).
- An updated [guidance document](#) has been issued by HPS with recommendations for the antiviral treatment and prophylaxis of influenza for the season 2015-16. Guidance on the use of neuramidase inhibitors in immunosuppressed individuals where influenza A H1N1 is the dominant circulating flu strain has also been published on the HPS Seasonal [Influenza Webpage](#).

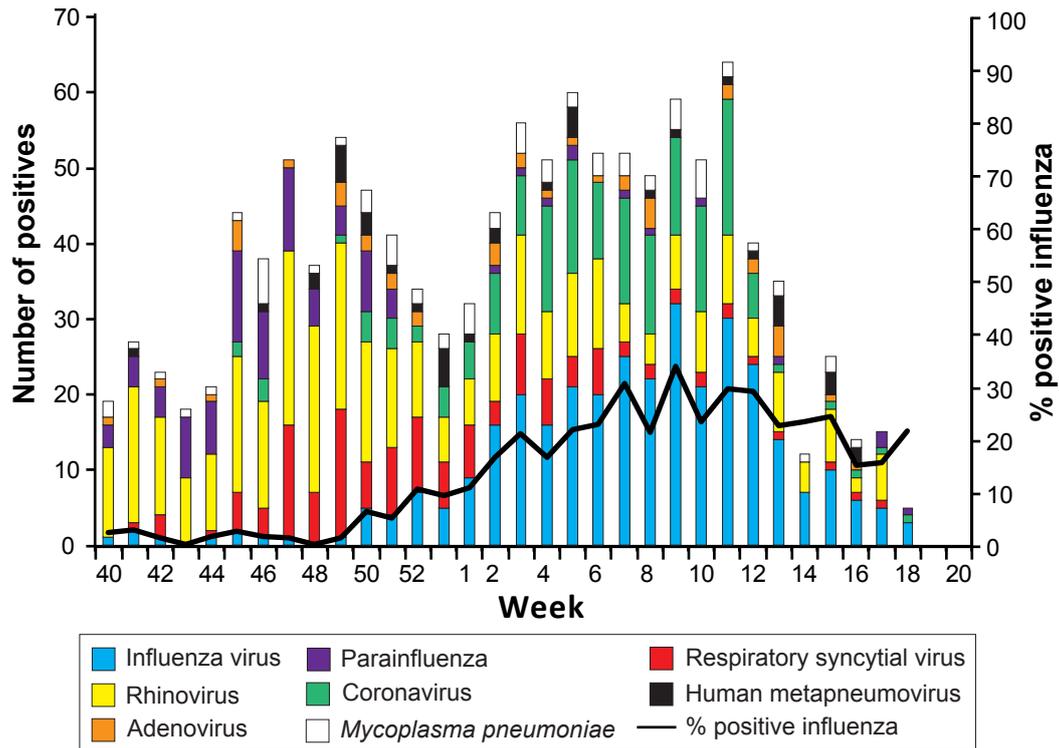
Figure 6: Weekly summary of ECOSS influenza swab positivity (number and percentage positive) by influenza subtype, week 40 2015 to week 20 2016



NB: The figures are dynamic as there is a time delay between sample collection and the results becoming available through ECOSS.

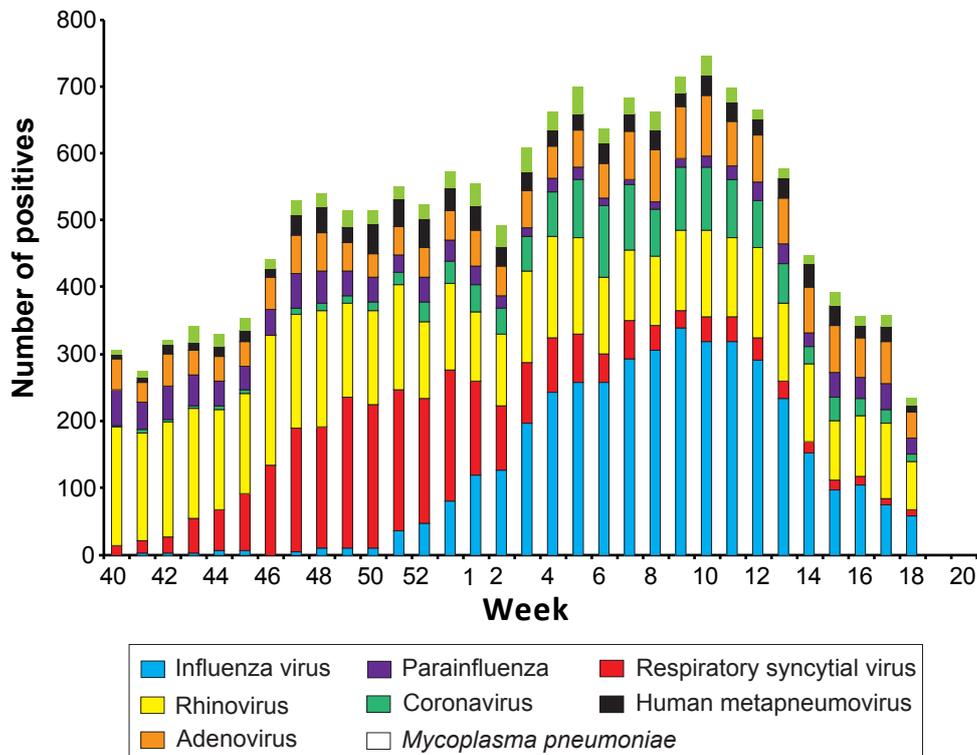
3 The rhinovirus PCR used by the majority Scottish labs also detects enterovirus. However, only a very small proportion of respiratory samples detected to be positive by this PCR are likely to be attributable to enterovirus.

Figure 7: Number of laboratory confirmed seasonal respiratory pathogens submitted through Sentinel sources, week 40 2015 to week 20 2016



NB: The figures are dynamic as there is a time delay between sample collection and the results becoming available.

Figure 8: Number of laboratory confirmed reports of seasonal respiratory pathogens submitted through non-sentinel sources (ECOSS), week 40 2015 to week 20 2016



NB: The figures are dynamic as there is a time delay between sample collection and the results becoming available through ECOSS.

## 5 Outbreaks

- No new closed setting outbreaks of acute respiratory infection were reported to HPS within the last four weeks.
- Since week 40 2015, 18 closed setting outbreaks of acute respiratory infections have been reported to HPS, 8 within a care home setting, 8 within a hospital setting, 1 in a nursing home and one within a secure environment.
- Of these 18 outbreaks, 3 were of unknown pathogen, 4 RSV, 1 rhinovirus, 1 parainfluenza, 4 influenza A(not subtyped), 2 influenza A(H1N1), 1 co-infection of coronavirus and Mycoplasma pneumoniae, and one co-infection of influenza A(not subtyped) and RSV and 1 combination of influenza A, Influenza B, coronavirus and rhinovirus.

## 6 Vaccine uptake

- Week 13 2015 was the last weekly update in which new data on estimated vaccine uptake was provided, as figures are only compiled to the end of March each season. Over the summer, NSS Practitioner Services Division will provide HPS with validated vaccine uptake information based on claims for payment by General Practitioners for the year 2014/2015.
- To week 13, provisional data suggested that vaccine uptake overall for Scotland, for those aged 65 years and above was lower than the uptake at the same time last year (74.5% in 2015-16 compared with 76.3% in 2014-15 and 76.9% in 2013-14).
- For those under 65 years old in an at-risk group, provisional vaccine uptake data was also lower in week 13 than uptake in previous seasons at the same time (48.0% in 2015-16, compared with 54.0% in 2014-15 and 57.5% in 2013-14).
- Vaccine uptake in pregnant women without risk factors was similar to that achieved at the same time in the previous seasons - uptake to week 13 in the 2015-16 season was 49.9%, compared with 49.5% in 2014-15 and 47.9% in 2013-14. Vaccine uptake for pregnant women with other risk factors was lower this season compared with each of the last two seasons; uptake was 61.4% in week 13 in the 2015-16 season compared with 65% in the same week in 2014-15 and 2013-14.
- The estimated uptake in preschool children (2 to under 5 year olds, not yet in school) vaccinated in the GP setting was 57.1% to week 13 in the 2015-16 season, compared with 56.4% in 2014-15.
- Please note that these vaccine uptake estimates are based on automated extracts from 97.5% of Scottish GP practices. Estimates may change retrospectively as data from more practices are received, and as such, vaccine uptake reported here should be regarded as provisional. The 2015-16 season includes week 53 which was not present in recent previous years - to estimate uptake figures for week 53 in previous years, uptake for week 52 and week 1 of the following year have been averaged.
- The influenza vaccination in primary schools for season 2015/16 has now been completed. To week 13, preliminary data on influenza vaccination in primary schools showed a cumulative uptake of 71.5%. These figures are likely to be an underestimate since the estimated uptake from many NHS boards does not include data from school-aged children vaccinated in general practice.

## 7 Mortality

- Information on mortality from all causes is available from the General Registrar's Office for Scotland (now part of National Records of Scotland). Excess deaths relating to all causes of death during the winter months are often attributed in part to influenza.
- The number of deaths for all ages was within expected levels for the past four weeks. This should be interpreted with caution as data, especially for the last two weeks, are still provisional.
- Please note, that information on laboratory confirmed influenza cases with severe infection requiring intensive care management (including deaths), are reported in section 3.

## 8 International Situation

- For the most up to date information on respiratory viral activity across the UK please see the most recent [PHE report](#) (05 May 2016).
  - In week 17 2016 (ending 01 May 2016), influenza activity continues to decrease and has reached or nearing the expected baseline levels across surveillance schemes. Updated guidance on antiviral prescribing in secondary care when influenza A(H1N1)pdm09 is the dominant circulating strain has been published.
  - Six samples tested positive for influenza (5 influenza B and 1 influenza A(unknown subtype)) through GP sentinel schemes across the UK, with an overall positivity of 17.6%, compared to 21.4% in the previous week. One hundred and two influenza positive detections were recorded through the DataMart scheme (12 A(H1N1)pdm09, 1 A(H3), 6 A(not subtyped) and 83 influenza B). A positivity of 9.3% was seen in week 17, compared to 10.4% in week 16, with the highest positivity in 15-44 year olds (11.3%). This is above the all-age threshold for 2015/16 season of 7.4%.
  - Eight new acute respiratory outbreaks have been reported in the past 7 days. 2 outbreaks were from schools where no test results were available. 5 outbreaks were from care homes where 1 tested positive for influenza B. The remaining outbreak was from the other settings category (a nursery) where no test results were available.
  - Fifteen new admissions to ICU/HDU with confirmed influenza (2 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype) and 10 influenza B) were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (135 NHS Trusts in England) in week 17, a rate of 0.04 per 100,000, compared to 0.07 per 100,000 in week 16. Four new confirmed influenza deaths were also reported through this scheme.
  - Up to week 17 2016 in England, excess mortality by date of death was seen in 15-64 year olds from week 52 to 53, 02 to 03, 05 to 07, 09 to 10, in <5 year olds in week 05 and 5-14 year olds in week 51 with the EuroMoMo algorithm. In the devolved administrations, no significant excess was seen in week 17 2016.
- For the most recent update across Europe please see the [Joint ECDC-WHO/Europe Weekly Influenza Update](#) (week 17 / 2016):
  - Influenza activity continued to decrease in the WHO European Region. Most countries (92%) reported low intensity, with lower numbers of specimens being collected and fewer testing positive for influenza virus (14%) than in the previous week (22%).

- As is often seen late in the northern hemisphere's influenza season, a shift towards circulation of type B influenza virus has occurred. Type B accounted for 85% of detections in sentinel sources and 76% in non-sentinel sources.
- Fewer cases of severe disease were reported than in previous weeks, although numbers varied between countries. Most severe cases were associated with A(H1N1)pdm09 infection and were in people aged 15–64 years.
- Data from the 18 countries or regions reporting to the European monitoring of excess mortality for public health action (EuroMOMO) project suggested a pattern of excess all-cause mortality among those aged 15–64 years between the end of 2015 and week 14/2016. This may have been associated with influenza, as well as other factors. The level of excess all-cause mortality was similar to that of the 2012–2013 winter season and slightly lower than that of the 2014–2015 winter season.
- For the most recent global update please see the [WHO influenza update](#) (04 April 2016).
  - Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in parts of North America, in Northern Temperate Asia, South-East Asia and in parts of Europe. In a few countries in the Southern Hemisphere, slight increases in influenza-like illness (ILI) activity were reported.
  - In North America, influenza activity continued to decrease with influenza A(H1N1)pdm09 and influenza B viruses co-circulating.
  - Europe and Northern temperate Asia reported influenza activity decreased with a continued predominance of influenza B virus activity.
  - In North Africa and West Africa, influenza activity continued to decrease, with influenza A virus predominant, while influenza activity remained low in the other regions in Africa.
  - In Central America and the Caribbean countries, influenza activity in general was low. In Jamaica, severe acute respiratory infection (SARI) continued to decrease but remained elevated. In Guatemala and El Salvador, an increase in influenza activity was reported mainly due to influenza A(H1N1)pdm09 virus.
  - In parts of tropical South America, low but increasing influenza A(H1N1)pdm09 activity was reported. In Brazil, influenza activity was already above expected levels for this time of year with influenza A(H1N1)pdm09 virus predominating. Respiratory syncytial virus (RSV) activity remained elevated in Colombia.
  - In tropical countries of South Asia, influenza activity remained low.
  - In Temperate South America, an increase in ILI and SARI activities were reported in Argentina and Paraguay.
  - In the rest of the temperate countries of the Southern Hemisphere, influenza virus activity remained low.
  - National Influenza Centres (NICs) and other national influenza laboratories from 90 countries, areas or territories reported data to FluNet for the time period from 04 April 2016 to 17 April 2016 (data as of 2016-04-29 03:39:10 UTC). The WHO GISRS laboratories tested more than 105838 specimens during that time period. 20933 were positive for influenza viruses, of which 9821 (46.9%) were typed as influenza A and 11112 (53.1%) as influenza B. Of the sub-typed influenza A viruses, 3758 (84.8%) were influenza A(H1N1) pdm09 and 673 (15.2%) were influenza A(H3N2). Of the characterized B viruses, 481 (17.7%) belonged to the B-Yamagata lineage and 2231 (82.3%) to the B-Victoria lineage.
  - A WHO A(H1N1)pdm09 risk assessment was published and can be found [here](#).

- The recommended composition of influenza virus vaccines for use in the 2015/16 northern hemisphere influenza season can be found [here](#) .
- The vaccine recommendation for the 2016 southern hemisphere winter season was made and can be found [here](#).
- Recommendations on the seasonal influenza [vaccine composition](#) for the 2016-2017 season in the northern hemisphere, call for replacement of the A(H3N2) component with a more recent virus and inclusion of a B/Victoria-lineage virus in the trivalent vaccine.
- The influenza at the human-animal interface monthly risk assessment has been published and can be found [here](#)

## **HPS Monthly National Influenza Report**

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