

Summary

- Pandemic influenza activity is decreasing across the UK.
- In week 52 (ending 27 December), the weekly influenza/influenza-like illness (ILI) consultation rate decreased in England, Wales and Northern Ireland and remained below baseline levels. In Scotland, remained ILI rate was stable and just above the baseline level
- The [National Pandemic Flu Service](#) (NPFS) continues to issue antiviral drugs to people in England with an influenza-like illness who call or log onto the internet site. The number of assessments and antiviral collections through this service have decreased over the past week.
- The increase in respiratory syncytial virus detections observed in recent weeks has continued and may be reaching its peak.
- The main influenza virus circulating in the UK continues to be the pandemic (H1N1) 2009 strain, with few influenza H1 (non-pandemic), H3 and B viruses detected. Two seasonal influenza A (H3) viruses have been detected since week 49. Thirty-one of 4,563 pandemic viruses tested have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir; three are phenotypically resistant to the drug but retain sensitivity to zanamivir.
- The majority of pandemic influenza cases continue to be mild. The cumulative number of deaths reported due to pandemic (H1N1) 2009 in the UK is 305. There were a total of 608 new patients hospitalised in England with suspected pandemic influenza in the week from 24 to 30 December. The weekly hospitalisation rates have decreased in all age groups.
- The UK pandemic influenza vaccination programme continues for people at high risk for severe disease, health-care workers and healthy children aged between 6 months and 5 years. For further information see the [Department of Health website](#).
- According to the European Centre for Disease Prevention and Control, by 30 December, 12,866 deaths due to pandemic influenza had been reported globally. According to the World Health Organisation (23 December), pandemic influenza activity has recently peaked in much of the temperate zone of the northern hemisphere but activity continues to increase in the affected areas of central and south-eastern Europe. Transmission is still occurring in parts of Asia and is declining or remains unchanged in tropical regions.

Weekly consultation rates in national sentinel influenza schemes

The National Pandemic Flu Service (NPFS) became operational in England on Thursday 23 July at 15.00. The service issues antiviral drugs to people with an influenza-like illness who do not fall into a specified risk group (e.g. aged less than 1 year, pregnant or with a high-risk underlying medical condition). According to [FluSurvey](#), an internet-based monitoring system for influenza surveillance which relies on members of the public reporting their health status weekly, the proportion of participants with influenza-like illness who reported that they contacted their GP fell after NPFS was launched. This will have affected GP consultation rates from week 30 onwards. The under 1 year olds are the only age group that are not assessed by NPFS and will always be referred to the health service. NPFS is currently not operational in Northern Ireland, Scotland and Wales.

In week 52 (ending 27 December), the weekly influenza/influenza-like illness (ILI) consultation rate decreased in all schemes across the UK (table 1, figures 1 and 2).

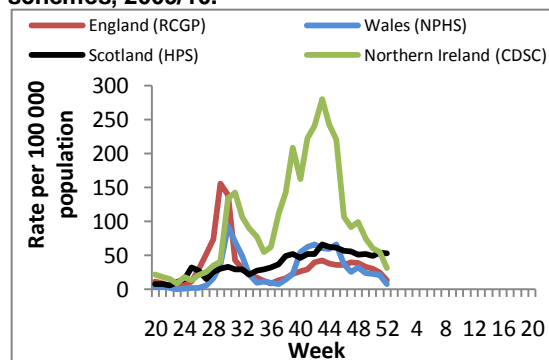
The overall RCGP (England and Wales) ILI consultation rate decreased to 12.7 per 100,000, which is below the winter baseline activity threshold of 30 per 100,000. The rate has decreased in the north, central and south regions.

Table 1: UK GP weekly consultation rates for influenza/ILI

Week Number	Week-ending date	Clinical rate per 100,000				
		Baseline	06-Dec	13-Dec	20-Dec	27-Dec
RCGP (E & W)		30	33.1	29.7	24.7	12.7
RCGP North		30	13.5	19.8	16.8	5.0
RCGP Central		30	42.9	33.1	33.3	9.1
RCGP South		30	34.4	31.0	22.6	17.6
Northern Ireland		70*	74.9	60.3	54.2	30.6
Scotland		50	51.8	48.7	53.9	52.3
Wales		25	23.6	22.7	20.3	7.5
QSurveillance® (UK**)		N/A	38.6	33.8	29.3	16.4

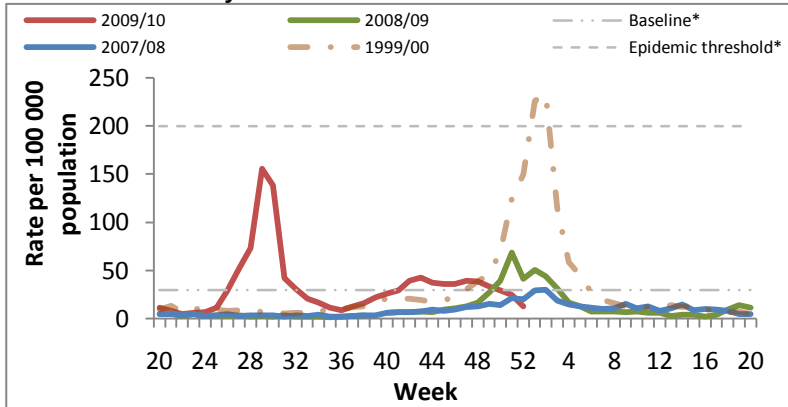
*Provisional threshold defined in September 2009; ** based on data from 43% of England's population, 10% of the population in Wales, 17% in Northern Ireland and 0% in Scotland.

Figure 1: GP weekly consultation rates for influenza/ILI in the UK national sentinel influenza schemes, 2009/10.



The combined influenza/ILI rate in Northern Ireland has decreased and remains below the newly defined provisional threshold of 70 per 100,000. The ILI rate in Scotland has decreased but remains just above the baseline threshold of 50 per 100,000. The Welsh influenza rate has decreased and stays below the baseline threshold of 25 per 100,000. The weekly ILI QSurveillance rate also decreased.

Figure 2: RCGP weekly consultation rate for influenza-like illness 2009/10 and recent years

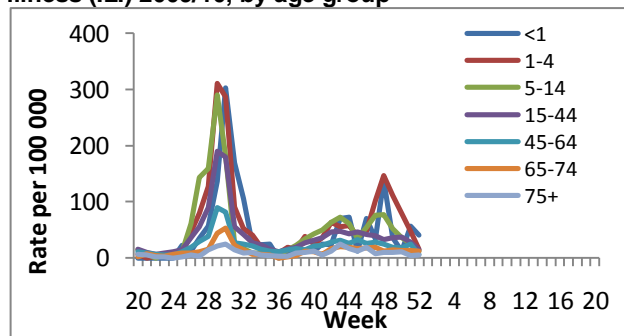


* Baseline threshold: under 30 per 100,000; epidemic threshold: over 200 per 100,000.

The consultation rates in the RCGP scheme have decreased in all age groups except the 75+ which has increased slightly; the highest rates were in children aged under 5 years; the 1-4 year age group decreased from 47 to 16 per 100,000 (figure 3). Rates decreased in all age groups in the QSurveillance® scheme with the highest rate remaining in the 1-4 year age group (decreased from 73.9 to 45.6 per 100,000), followed by the <1 year age group (decreased from 65.6 to 40.1 per 100,000). In Wales, the rates decreased in all age groups.

The highest rate remains in the 0-4 year-olds (decreased from 53.2 to 30.9 per 100,000). In Northern Ireland, the highest rate is in the 45-64 year-olds (decreased from 51.4 to 41.5 per 100,000), but the largest decrease this week is observed in the 1-4 year olds (decreased from 148 to 32.5 per 100,000). In Scotland, the rates decreased in most age groups. A small increase is seen in the <1 year-olds (increased from 235.2 to 241.8 per 100,000). The highest rate is in the 1-4 year-olds (decreased from 317.5 to 271.1 per 100,000).

Figure 3: RCGP weekly consultation rate for influenza-like illness (ILI) 2009/10, by age group



For further information on the different schemes, including why differences are seen between the four countries, please see [Interpreting the HPA National Weekly report](#).

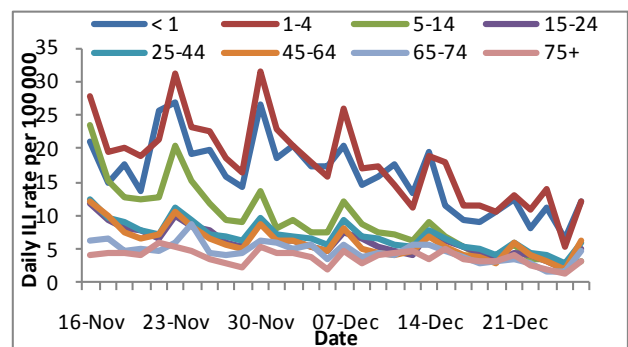
Enhanced Daily & Weekly Syndromic Surveillance (<http://www.hpa.org.uk/hpr/infections/primarycare.htm>)

QSurveillance®

The GP consultation rates are likely to have been affected by the introduction of the National Pandemic Flu Service on 23 July.

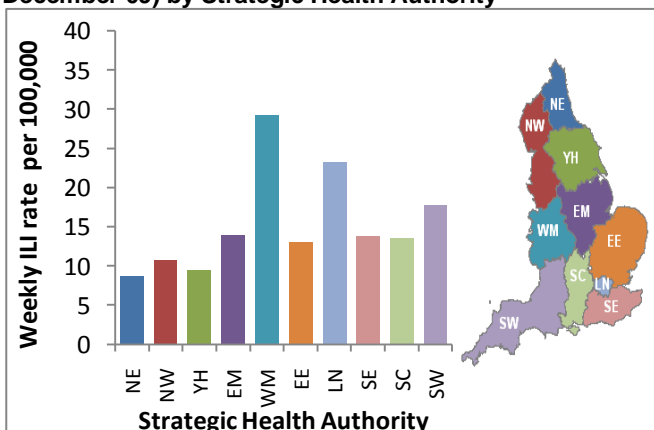
The daily GP ILI consultation rate on Tuesday 29 December was 5.6 per 100,000, an increase from 4.1 per 100,000 on 22 December. The highest rates are still in children; <1 year-olds (12.1 per 100,000) and 1-4 year-olds (12 per 100,000) (figure 4).

Figure 4: Daily consultation rates for influenza-like illness from QSurveillance®, November – December 2009, by age group



*Based on data from 43% of England's population, 10% if the population in Wales, 17% in Northern Ireland and 0% in Scotland.

Figure 5: Weekly consultation rates for influenza-like illness (ILI) from QSurveillance®, Week 52 (ending 27 December 09) by Strategic Health Authority



Daily rates increased across all English SHAs and most SHAs are at levels equivalent to estimated rates corresponding to 'normal influenza activity' during winter months. West Midlands and London SHAs had significantly higher weekly rates for ILI than other SHAs (figure 5).

National Pandemic Flu Service (NPFS)

[The National Pandemic Flu Service \(NPFS\)](#) became operational in England at 15.00 on 23 July 2009. In the last week, the number of collections of antivirals have decreased; a 37% decrease was observed from week 51 to 52, compared to a 13% decrease the previous week (figure 6).

A decrease was observed in all regions (figure 7) and age groups, with children and young adults continuing to have the highest rates of collection (figure 8).

Figure 6: Weekly number of assessments and antivirals issued and collected, through NPFS (England)

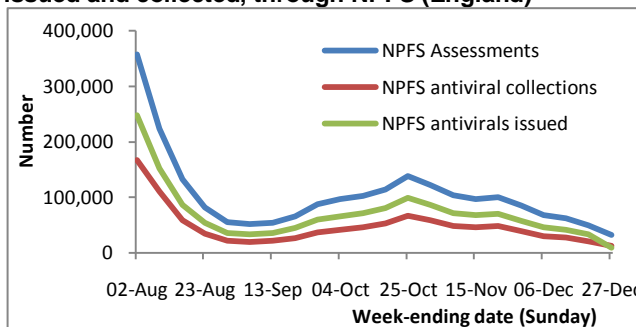


Figure 7: Weekly rate (per 100,000) of antivirals collected through NPFS, by SHA

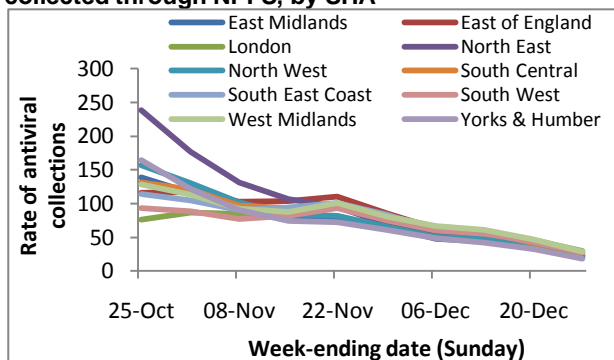
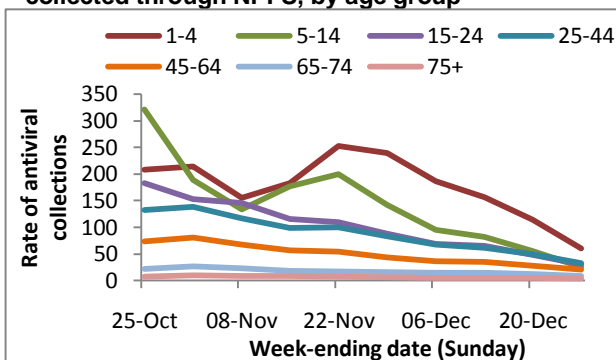


Figure 8: Weekly rate (per 100,000) of antivirals collected through NPFS, by age group



Microbiological surveillance

The predominant influenza strain circulating is still pandemic H1N1 2009. Detection of respiratory syncytial virus (RSV), through sentinel and non-sentinel surveillance, has increased in the last week (table 2 and figure 10). In the last two weeks, six other (non-influenza) viruses have been detected through the RCGP and the HPA/RMN GP-based sentinel surveillance schemes: one RSV, two rhinoviruses, one adenovirus and two hMPV.

Eight seasonal influenza A (H3) viruses received between 01 September and 11 October have been characterised at the Respiratory Virus Unit (RVU), as A/Perth/16/2009-like, which is not one of the northern hemisphere 2009/10 seasonal influenza vaccination strains (it is a component of the 2010 southern hemisphere influenza vaccine). Two seasonal influenza A (H3) viruses have been detected since week 49.

Table 2: Number of other respiratory viruses reported from HPA and NHS laboratories in England and Wales by week of report

	Week 49	Week 50	Week 51	Week 52
Week-ending	06-Dec	13-Dec	20-Dec	27-Dec
Influenza B	3	0	0	2
Adenovirus	87	51	36	74
Parainfluenza	57	37	24	28
Rhinovirus	213	173	116	159
RSV	678	807	761	1004

Table 3: Number of laboratory confirmed cases of pandemic influenza A (H1N1) 2009 in the UK

Country	Number of lab-confirmed cases
England	19,713
Northern Ireland	1,349
Scotland	6,424
Wales	649
Total UK	28,135

There have now been 28,135 laboratory confirmed cases of pandemic (H1N1) 2009 in the UK since the beginning of the pandemic (table 3). There has been a decrease in the number of laboratory confirmed cases since the UK went to treatment only phase on 02 July.

In addition, there have been 713 cumulative confirmed cases reported from the UK Overseas Territories and Crown Dependencies: Anguilla (14), Bermuda (10), British Virgin Islands (19), Cayman Islands (118 including one death), The Falklands (7 including one death), Gibraltar (62), Guernsey (17), Isle of Man (75), Jersey (234), Montserrat (21), Sovereign Base Area Cyprus (92), Turks and Caicos Islands (44).

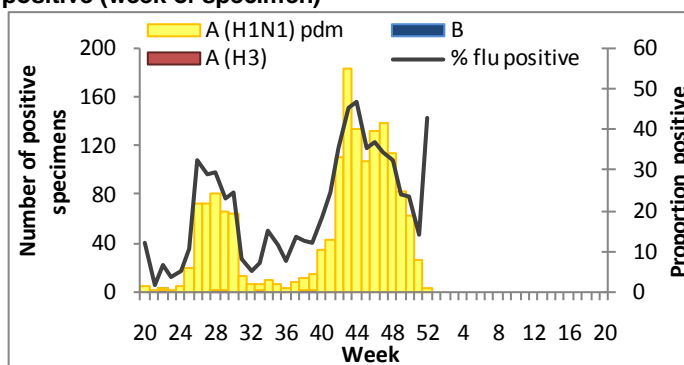
Enhanced Virological Community and Primary Care Surveillance

In England three schemes for virological surveillance of influenza are being used: two GP-based (RCGP/HPA and HPA/RMN) and one through NPFS (previous through NHS Direct). Schemes through primary care are also used in Wales, Scotland and Northern Ireland. It is important to note that samples taken in recent weeks may still be awaiting processing so these data should be treated with caution. More details on these schemes can be read at '[Interpreting the HPA National Weekly Influenza Report](#)'.

In week 52, the proportion positive for pandemic influenza through the English GP-based schemes have increased. Due to the small numbers of samples being tested (n=7) during this Christmas-New Year holiday period this result should be interpreted cautiously (table 5, figure 9). The highest rates continue to be in children (table 4).

The positivity rates increased in Wales, Scotland and Northern Ireland but due to the small numbers of samples being tested during the holiday period, these results should be interpreted cautiously (table 5).

Figure 9: The number of samples testing positive for influenza in the two GP-based English sentinel virological schemes by subtype and week, with the total percentage positive (week of specimen)



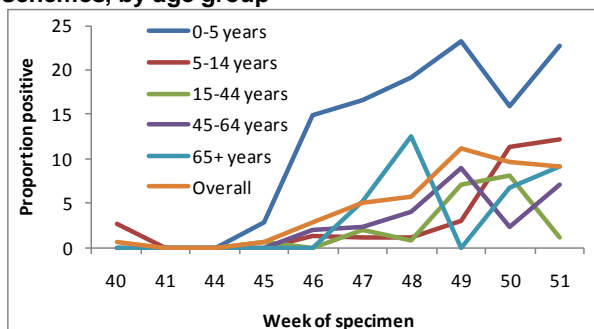
NB. Data for the most recent weeks are subject to change due to reporting lag.

Table 4: Total number of samples tested and positive for pandemic influenza A (H1N1) 2009 from England sentinel virological schemes for the latest four weeks by age group

Age Group	England (GP)		England (NPFS)*	
	Total tested	Pandemic n %	Total tested	Pandemic n %
<5	219	33 15.1	not tested	
5-14	155	52 33.5	1044	195 18.7
15-24	87	25 28.7	243	14 5.8
25-44	199	46 23.1	570	36 6.3
45-56	101	16 15.8	341	15 4.4
65+	37	1 2.7	44	0 0.0

* NPFS data are for weeks 48-51 as data for week 52 are not available.
NB. Children aged under 5 are not sampled through the NPFS scheme; sampling of 5-15 year olds started through this scheme in week 46.

Figure 10: Proportion of samples testing positive for RSV through the two GP-based England sentinel virological schemes, by age group



NB. Data for most recent week omitted due to reporting lag

Table 5: Total number of samples tested and positive for pandemic influenza A (H1N1) 2009 from sentinel virological schemes in England (GP and NPFS), Wales, Scotland and Northern Ireland by week*

Week	England (GP)			England (NPFS)			Wales (GP)			Scotland (GP)			N. Ireland (GP)		
	Total tested	Pandemic n	%	Total tested	Pandemic n	%	Total tested	Pandemic n	%	Total tested	Pandemic n	%	Total tested	Pandemic n	%
43	407	184	45.2	604	170	28.1	25	14	56.0	437	154	35.2	52	42	80.8
44	287	134	46.7	520	169	32.5	25	10	40.0	446	192	43.0	41	34	82.9
45	306	108	35.3	692	185	26.7	8	2	25.0	508	236	46.5	59	27	45.8
46	358	132	36.9	726	213	29.3	14	4	28.6	513	197	38.4	62	27	43.5
47	401	138	34.4	782	179	22.9	12	3	25.0	520	210	40.4	42	12	28.6
48	354	114	32.2	746	108	14.5	10	1	10.0	393	112	28.5	41	11	26.8
49	341	82	24.0	690	61	8.8	14	2	14.3	307	72	23.5	11	2	18.2
50	268	63	23.5	472	31	6.6	3	0	0.0	240	50	20.8	51	3	5.9
51	187	26	13.9	334	16	4.8	17	1	5.9	164	20	12.2	25	1	4.0
52	7	3	---	---	---	---	4	1	---	16	6	---	8	1	---

* All data are based on week of specimen, except for Northern Ireland which is by week of report sampling of 5-15 year-olds through NPFS started in week 46. No sample collecting kits have been sent out for NPFS in the last week due to the Christmas-New Year holiday season.

Disease severity and mortality data

Disease severity continues to be monitored. HPA receives data on hospitalisation and deaths due to pandemic influenza in England from the Department of Health, and from the relevant bodies in Scotland, Wales and Northern Ireland.

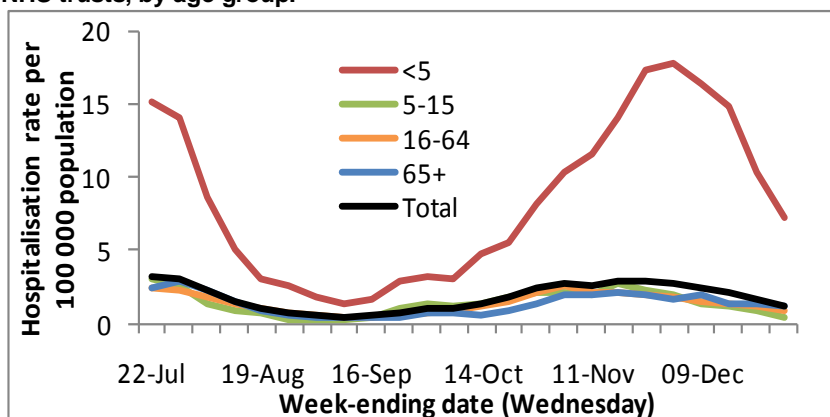
In England, on 30 December 2009 there were 496 hospitalised patients with suspected pandemic influenza,

which has increased from 454, seven days previously. Of the 496, 112 (23%) were in intensive care and 188 were newly hospitalised in the 24 hours up to 8am. In the week from Thursday 24 December to Wednesday 30 December, 608 new patients were hospitalised with suspected pandemic influenza corresponding to a rate of 1.2 per 100,000 population, which is a decrease from the previous week (table 6).

Table 6: Inpatients with suspected pandemic influenza in England, up to 30 December 2009.

Patients hospitalised	Number (rate per 100,000* population)				
	<5	5-15	16-64	65+	Total
Currently as at 8am 30 Dec	133 (4.5)	23 (0.3)	263 (0.8)	77 (1)	496 (1)
Currently in ICU (8am 30 Dec)	16 (0.5)	5 (0.1)	75 (0.2)	16 (0.2)	112 (0.2)
New in 24 hrs up to 8am 30 Dec	62 (2.1)	8 (0.1)	91 (0.3)	27 (0.3)	188 (0.4)
New in week 10 Dec - 16 Dec	437 (14.8)	83 (1.2)	453 (1.4)	109 (1.3)	1082 (2.1)
New in week 17 Dec - 23 Dec	304 (10.3)	62 (0.9)	371 (1.1)	115 (1.4)	852 (1.7)
New in week 24 Dec - 30 Dec	213 (7.2)	29 (0.4)	275 (0.8)	91 (1.1)	608 (1.2)

Figure 11: Weekly (up to 8am Wednesday) rates (per 100,000) of new admissions to hospital with suspected pandemic influenza in all English NHS trusts, by age group.



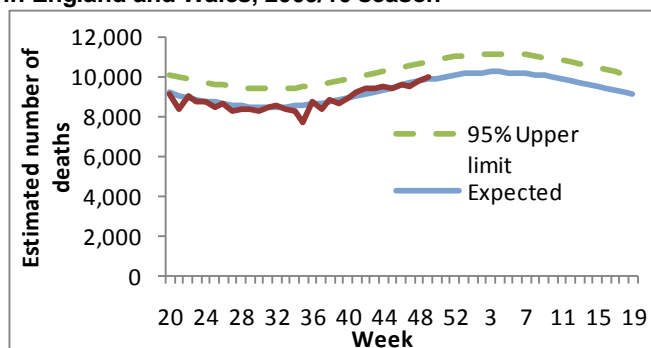
The highest hospitalisation rate has consistently been in those aged under 5 years; though the weekly rate has decreased in this age group in the last few weeks. The rate has also decreased in all other age groups in the last week (figure 11). It should be noted that the hospitalisations are current, not cumulative, and are for suspected pandemic influenza rather than virologically confirmed infection. Historical data for hospitalisation for influenza-like illness are not available for comparison.

In Scotland there have been 1,474 cumulative hospitalisations of patients with confirmed pandemic influenza, 438 in Wales and 574 in Northern Ireland.

Three hundred and five deaths (203 in England, 59 in Scotland, 15 in Northern Ireland and 28 in Wales) have been reported across the UK in people with pandemic (H1N1) 2009 infection.

HPA receives weekly death registrations from the Office for National Statistics. No new data were received in week 51 due to Christmas-New Year holiday period. Figure 12 shows the all-cause deaths registered up to week 50. The weekly number is in the expected range for the time of year and no excess all-cause death registrations have been observed since February 2009. It should be noted that these deaths are due to all causes, so any excess cannot necessarily be attributed to influenza.

Figure 12: Estimated weekly all-cause death registrations in England and Wales, 2009/10 season



International Situation

WHO reported on 23 December that for:

- **North America and Europe:** pandemic influenza activity has recently peaked in much of the temperate zone of the northern hemisphere, although activity continues to increase in the later affected areas of central and south-eastern Europe.
- **Central and western Asia:** limited data suggest influenza transmission remains active, although disease trends remain variable. Increasing activity continued to be reported in Kazakhstan and Egypt, while several other countries including Oman and Israel are reporting declining activity following a peak approximately one month ago.
- **Eastern and southern Asia:** In East Asia, influenza transmission remains active but appears to be declining overall. Influenza activity has recently peaked and continues to decline in Japan, in northern and southern China, Chinese Taipei and in Mongolia. In southern Asia, influenza activity continues to increase in the northern parts of India, Nepal and Sri Lanka.
- **Tropical regions:** In the tropical region of Central and South America and the Caribbean, influenza transmission remains geographically widespread but overall disease activity has been declining or remains unchanged, apart from Barbados and Ecuador where recent increases in respiratory diseases activity have been reported.
- **Temperate southern hemisphere region:** sporadic cases of pandemic influenza continue to be reported without evidence of sustained community transmission.

Clinical features

WHO did not report any new information about clinical features or at risk groups this week.

Virology

Pandemic (H1N1) influenza virus accounted for 91% of all influenza detections worldwide in the week 6 – 12 December 09 (compared to 92% reported in the previous week). Other influenza viruses detected worldwide during this week included: influenza A(H3) (1.1%), seasonal A(H1) (1%), A not subtyped (5.6%), and B (1.6%).

Worldwide, more than 15,000 clinical specimens (samples and isolates) of the pandemic H1N1 virus have been tested and found to be sensitive to oseltamivir. One hundred and sixty eight isolates of oseltamivir resistant influenza virus have been reported to the WHO, all of which carry the same H275Y mutation that confers resistance to the antiviral oseltamivir but not to the antiviral zanamivir.

WHO, through the Global Influenza Surveillance Network (GISN), continues to monitor the evolution and global circulation of influenza viruses, including pandemic, seasonal and other influenza viruses infecting, or with the potential to infect humans.

Source: WHO http://www.who.int/csr/don/2009_12_23/en/index.html

Confirmed global deaths

The total number of deaths attributed to pandemic influenza continues to increase. As of 30 December 2009, 12,866 deaths have been reported globally, an increase of 5% compared to last week (12,198 reported on 23 December 2009).

Source: ECDC update 30 December 2009:

http://ecdc.europa.eu/en/healthtopics/Documents/091230_Influenza_AH1N1_Situation_Report_0900hrs.pdf

Acknowledgements

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