

## Summary

- Pandemic influenza activity is generally decreasing across the UK.
- In week 02 (ending 17 January), the weekly influenza/influenza-like illness (ILI) consultation rate decreased in all schemes across the UK
- 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.
- A decrease in respiratory syncytial virus detections has been observed recently.
- 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. Thirty-six of 4,949 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 388.
- 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](#).
- An outbreak of pandemic (H1N1) 2009 influenza has occurred in pigs in Suffolk. As this virus has been circulating widely in the human population, no public health impacts are expected.
- According to the European Centre for Disease Prevention and Control, by 19 January, 14,378 deaths due to pandemic influenza had been reported globally. According to the World Health Organisation (15 January), the most intense areas of pandemic influenza virus transmission are currently in parts of North Africa, south Asia, and east and south-eastern Europe. Pandemic (H1N1) 2009 viruses accounted for 82% of all influenza detections worldwide; other viruses included influenza A H3 (1.4%), seasonal A H1 (0.1%), A not subtyped (5.7%) and B (10.9%).

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

In week 02 (ending 17 January), the weekly influenza/influenza-like illness (ILI) consultation rate decreased in all schemes across the UK (table 1, figures 1 and 2).

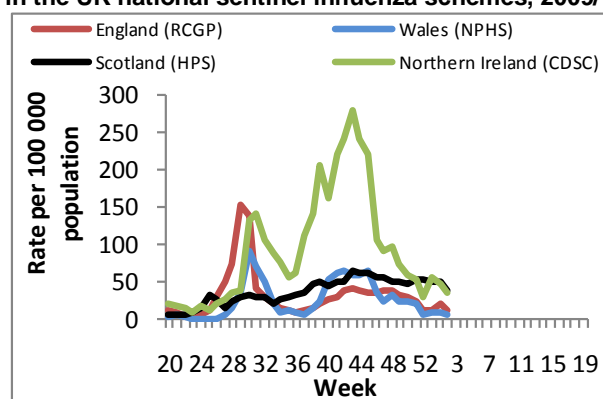
The overall RCGP (England and Wales) ILI consultation rate decreased to 12.1 per 100,000, which is below the winter baseline activity threshold of 30 per 100,000. The rate increased slightly in the northern region but decreased in the central and southern regions.

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

Week Number	Week-ending date	Clinical rate per 100,000				
		Baseline	52 27-Dec	53 03-Jan	1 10-Jan	2 17-Jan
RCGP (E & W)		30	12.7	11.2	19.9	12.1
RCGP North		30	5.0	9.1	10.2	11.9
RCGP Central		30	9.1	15.1	27.5	14.3
RCGP South		30	17.6	9.5	18.6	10.9
Northern Ireland		70*	30.6	57.2	48.8	36.1
Scotland		50	52.3	51.4	51.8	39.5
Wales		25	7.5	9.9	9.8	6.7
QSurveillance® (UK**)		N/A	16.4	13.3	19.7	14.7

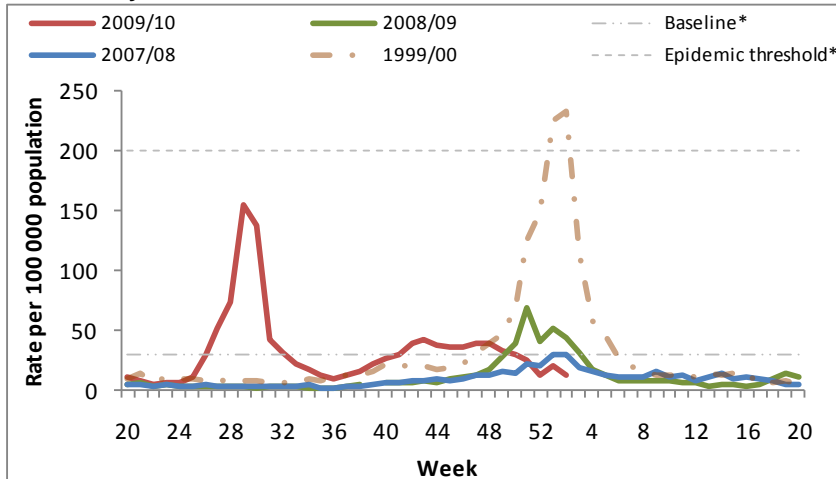
\*Provisional threshold defined in September 2009; \*\* based on data from 43% of England's population, 10% of the population in Wales, 17% in Northern Ireland and 0% in Scotland.

**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 threshold of 70 per 100,000. The ILI rate in Scotland also decreased to below the baseline threshold of 50 per 100,000. The Welsh influenza rate also decreased, and stays below the baseline threshold of 25 per 100,000. The weekly ILI QSurveillance rate decreased.

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



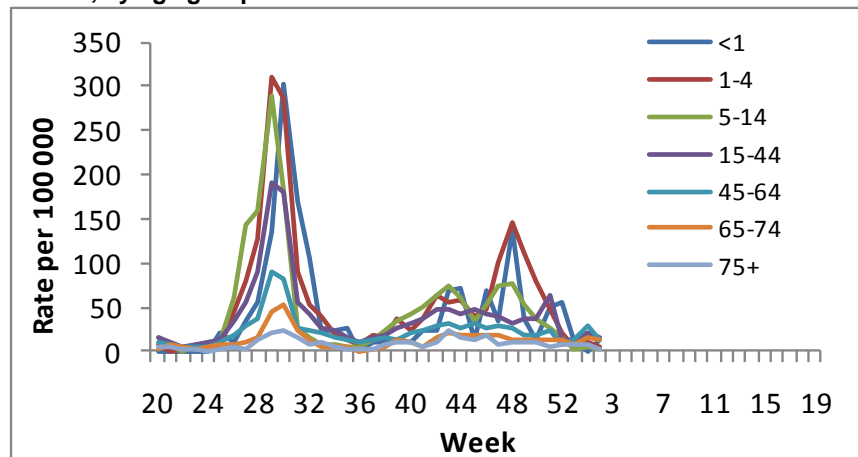
\* Baseline threshold: under 30 per 100,000; epidemic threshold: over 200 per 100,000. NB. As week 53 appears in 2009 but not in previous years the figure for week 52 in this graph is an average of week 52 and week 53 data.

In Wales, the rates decreased or remained stable in all age groups. The highest rates were in adults aged 25-34 years (10 per 100,000) and 15-24 years (9.4 per 100,000).

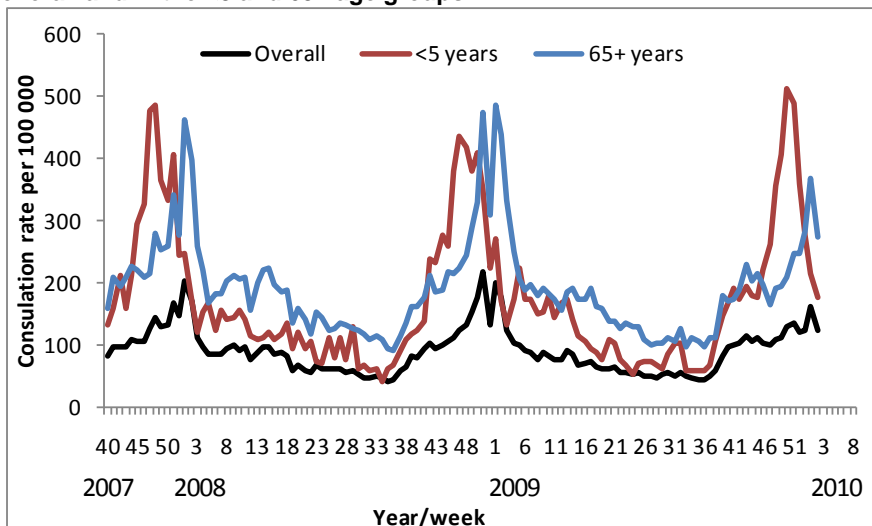
In Northern Ireland, the rates decreased in all age groups except the 5-14 year-olds which increased from 21.2 to 41.1 per 100,000. The highest rate was in the 45-64 year-olds though this had decreased from 60.2 to 45.7 per 100,000).

In Scotland, the rates decreased in most age groups. Rates remained high in children aged under one year (176.7 per 100,000) and 1-4 year olds (165 per 100,000).

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



**Figure 4: RCGP weekly consultation rate for acute bronchitis 2007 – 2010, overall and in the <5 and 65+ age groups**



The consultation rates in the RCGP scheme have decreased in most age groups; the highest rate was in the 15-44 year age group (decreased from 22 to 16.6 per 100,000). The largest decrease was in the 45-64 year group (decreased from 29.9 to 13.1 per 100,000).

Rates decreased or remained stable in all age groups in the QSurveillance® scheme. The highest rates remained in the <1 year group (decreased from 29 to 23.8 per 100,000) and 1-4 year group (decreased from 24 to 21.3 per 100,000).

The overall weekly consultation rate for acute bronchitis in England and Wales through the RCGP scheme decreased in week 02 from 159.7 to 121.3 per 100,000. The rates decreased in all age groups with the greatest decrease in those aged 65 or over years (decreased from 367.8 to 273 per 100,000). The rate in the 65+ groups remains the highest, followed by the <5 years group (decreased from 214.5 to 175.5 per 100,000) (figure 4).

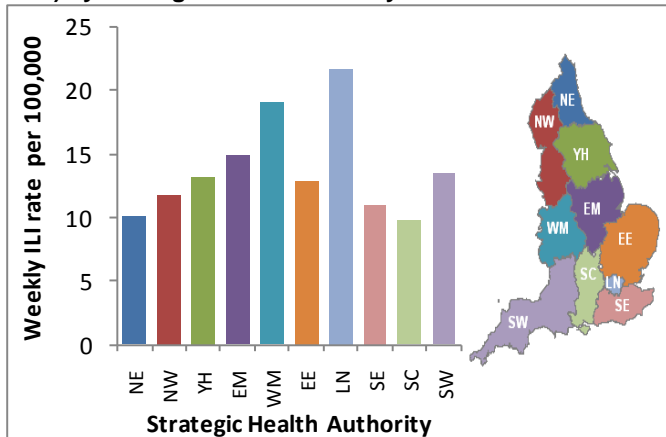
## Enhanced Daily & Weekly Syndromic Surveillance (<http://www.hpa.org.uk/hpr/infections/primarycare.htm>)

### QSurveillance®

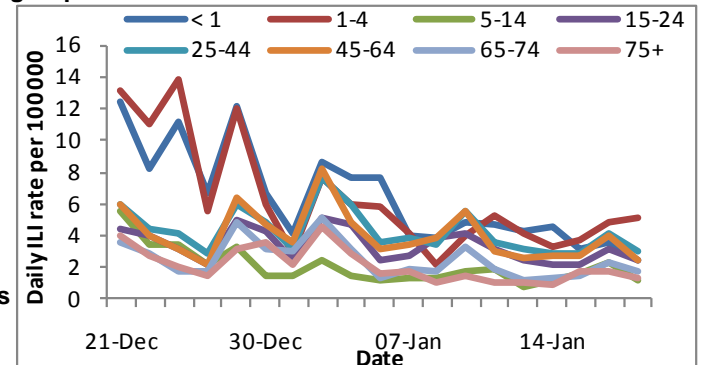
The GP consultation rates are likely to have been affected by the introduction of the National Pandemic Flu Service on 23 July.

The daily GP ILI consultation rate on Tuesday 19 January was 2.4 per 100,000, a decrease from 2.9 per 100,000 on Tuesday 12 January. The highest rates were in children aged 1-4 year-olds which have increased in recent days (5.1 per 100,000 on 19 January) (figure 5).

**Figure 6: Weekly consultation rates for influenza-like illness (ILI) from QSurveillance®, Week 02 (ending 17 January 2010) by Strategic Health Authority**



**Figure 5: Daily consultation rates for influenza-like illness from QSurveillance®, December 2009 – January 2010, 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.

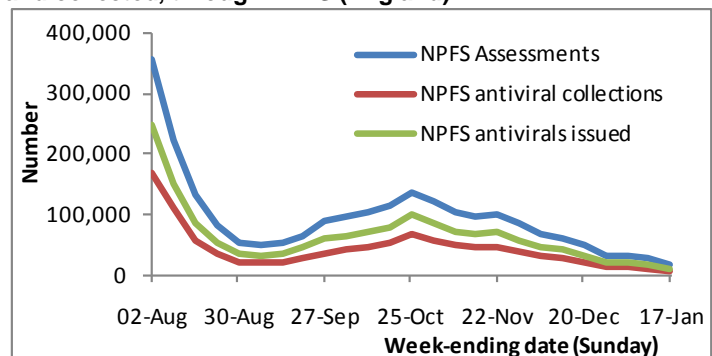
Daily rates in all English SHAs are at levels equivalent to estimated rates corresponding to 'baseline activity'. The highest weekly rates remain in the West Midlands and London SHAs (figure 6).

Daily consultation rates for pneumonia from QSurveillance® are at slightly lower levels compared to recent weeks and are within expected levels for this time of year.

## 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 overall number of collections of antivirals has decreased by 38% (figure 7), and is at low levels in all regions and age groups.

**Figure 7: Weekly number of assessments and antivirals issued and collected, through NPFS (England)**



## Microbiological surveillance

The predominant influenza strain circulating is still the pandemic H1N1 2009. Detection of respiratory syncytial virus (RSV) through sentinel and non-sentinel surveillance has decreased recently, though trends should be interpreted cautiously due to the holiday period (table 2 and figure 8). In the last two weeks, eight other (non-influenza) viruses have been detected through the HPA/RMN GP-based sentinel surveillance scheme; three RSV, one parainfluenza, one rhinovirus, two adenovirus and one human metapneumovirus.

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

Week	52	53	1	2
Week-ending	27-Dec	03-Jan	10-Jan	17-Jan
Influenza B	2	2	2	1
Adenovirus	74	34	73	43
Parainfluenza	28	19	24	22
Rhinovirus	159	153	154	126
RSV	1004	744	1128	793

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

Country	Number of lab-confirmed cases
England	20,272
Scotland	6,535
Northern Ireland	1,359
Wales	657
<b>Total UK</b>	<b>28,823</b>

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). Three further H3 viruses, and one seasonal influenza A (H1) virus, were detected in December 2009. There have now been 28,823 laboratory confirmed cases of pandemic (H1N1) 2009 in the UK since the beginning of the pandemic (table 3).

## 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'](#).

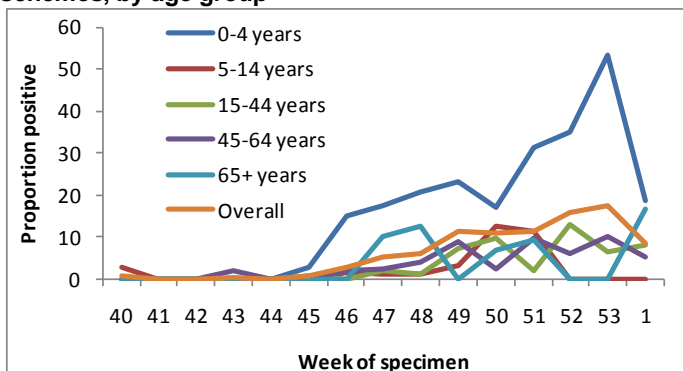
Positivity rates from the two English sentinel schemes decreased and were at low levels in week 02 in all schemes. Very few specimens have been received in recent weeks in Wales, Scotland and Northern Ireland (table 4, figure 10). The highest rates continue to be in children and young adults (table 5).

**Table 4: 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	%
46	359	131	36.5	729	212	29.1	14	4	28.6	513	197	38.4	62	27	43.5
47	394	131	33.2	793	183	23.1	12	3	25.0	520	210	40.4	42	12	28.6
48	333	93	27.9	754	112	14.9	10	1	10.0	394	113	28.7	41	11	26.8
49	343	83	24.2	701	77	11.0	14	2	14.3	315	72	22.9	11	2	18.2
50	285	67	23.5	682	62	9.1	3	0	0.0	242	51	21.1	51	3	5.9
51	227	41	18.1	427	28	6.6	17	1	5.9	178	22	12.4	25	1	4.0
52	135	34	25.2	15	0	—	4	1	25.0	73	17	23.3	8	1	12.5
53	64	20	31.3	3	0	—	0	0	—	67	11	16.4	13	1	7.7
1	130	15	11.5	428	21	4.9	0	0	—	64	5	7.8	5	0	—
2	42	3	7.1	419	13	3.1	0	0	—	2	2	—	4	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.

**Figure 8: Proportion of samples testing positive for RSV through the two GP-based England sentinel virological schemes, by age group**



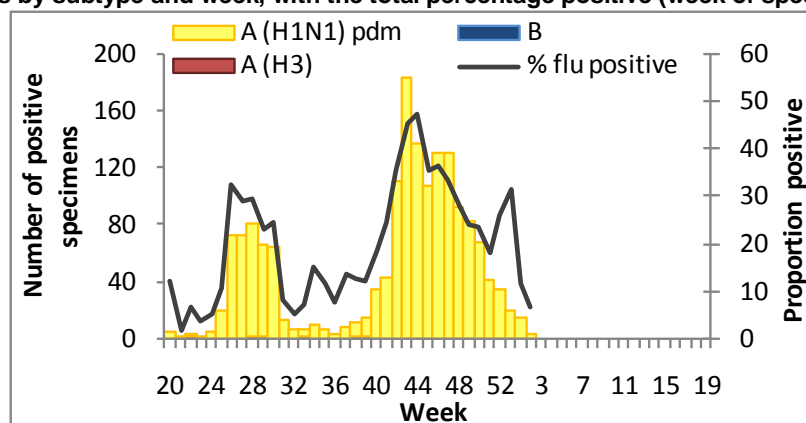
NB. Data for most recent week omitted due to reporting lag

**Table 5: Total number of samples tested and positive for pandemic influenza A (H1N1) 2009 from 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	71	9	12.7	not tested		
5-14	34	15	44.1	134	8	6.0
15-24	59	14	23.7	103	4	3.9
25-44	111	22	19.8	278	17	6.1
45-64	77	12	15.6	306	5	1.6
65+	22	0	0.0	44	0	0.0

NB. Children aged under 5 are not sampled through the NPFS scheme.

**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; proportion positive omitted if fewer than 10 specimens tested in one week.

## Antiviral susceptibility

Testing for antiviral susceptibility is carried out at the Respiratory Virus Unit, Centre for Infections, Colindale. Since the beginning of the pandemic a total of 4,949 pandemic influenza viruses have been analysed for the marker commonly associated with resistance to oseltamivir in seasonal influenza (H275Y); a total of 36 samples have been found to carry this mutation in the UK.

Of these 4,949 viruses, 293 have been fully tested for susceptibility; 3 of the 36 viruses carrying the H275Y mutation have been confirmed to be phenotypically resistant to oseltamivir whilst retaining sensitivity to zanamivir. Information on medical history was available for 26 cases, 24 of whom had an underlying medical condition: 18 were immunosuppressed and six had another underlying illness. Probable person to person transmission occurred in an outbreak in a hospital ward in November 2009. Pandemic influenza samples have been tested for resistance from all regions and age groups in the UK (tables 6 and 7).

**Table 6: Pandemic influenza tested for antiviral susceptibility at RVU, by test method, source and age group**

Age Group	Samples tested for Resistance				Proportion resistant
	Screened for H275Y mutation		Fully tested		
	Hospital	Community	Hospital	Community	
<1	221	10	8	1	0%
1-4	386	47	11	1	0.92%
5-14	958	306	62	27	0%
15-44	816	168	60	9	0.30%
45-64	929	213	58	7	0.53%
65-74	594	75	26	4	1.94%
75+	123	4	5	0	4%
Unknown	97	2	13	1	1%
Total	4124	825	243	50	0.73%

NB. Figures may fluctuate due to de-duplication and correction of database.

**Table 7: Pandemic influenza samples tested for antiviral susceptibility at RVU, by test method, source and region**

Region	Samples tested for Resistance				Proportion resistant
	Screened for H275Y mutation		Fully tested		
	Hospital	Community	Hospital	Community	
East of England	96	71	21	3	1%
East Midlands	523	59	11	4	0.86%
London	376	294	47	19	0.60%
North East	101	22	7	1	1%
North West	511	38	17	1	0.73%
South East	161	107	54	10	0%
South West	535	62	6	1	1%
West Midlands	136	117	42	7	0.40%
Yorkshire and Humber	624	32	15	1	0%
Ireland	8	0	7	0	0%
Northern Ireland	61	0	0	0	0%
Scotland	834	18	14	1	0.94%
Wales	45	0	0	0	18%
Unknown Region	113	5	2	2	0%
Total	4124	825	243	50	0.73%

NB. Figures may fluctuate due to de-duplication and correction of the database.



## Antimicrobial susceptibility

Bacterial susceptibility to antimicrobial agents is monitored by the HPA for lower respiratory tract isolates of *Staphylococcus aureus*, *Streptococcus pneumoniae* and *Haemophilus influenzae*. Guidelines for clinical management of patients with an influenza-like illness during an influenza pandemic (W S Lim, Thorax 2007;62;1-46, section 8.1.3) recommend co-amoxiclav or a tetracycline for treating bacterial pneumonia in a primary care setting. There have been no significant changes to susceptibility trends for these two antibiotics in recent years and no appreciable changes in resistant patterns in the twelve weeks before 10 January 2009. Over 89% of all isolates of the three organisms are susceptible to tetracyclines (table 8).

**Table 8: Bacterial specimens tested for susceptibility to tetracyclines and co-amoxiclav in HPA/NHS labs in England, Wales and Northern Ireland for 12 weeks up to 10 January 2009**

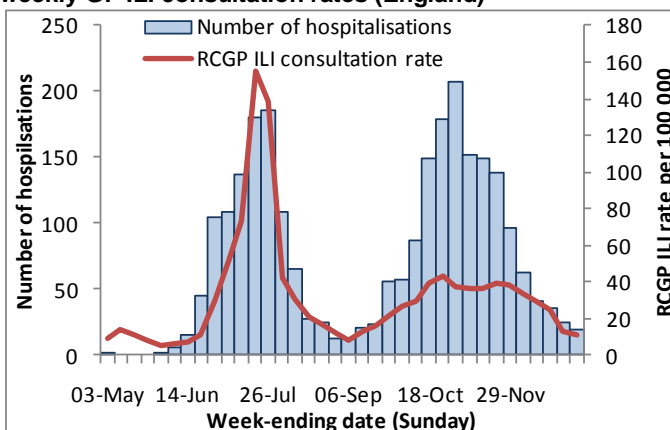
Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
<i>S. aureus</i>	2,120	93	348	82
<i>S. pneumoniae</i>	1,800	89	1657*	94*
<i>H. influenzae</i>	5,681	99	5,330	93

\* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other  $\beta$ -lactams such as co-amoxiclav.

## Disease severity and mortality data

A web-based surveillance system for confirmed cases of pandemic (H1N1) 2009 influenza in England was established by HPA/DH after the end of the first wave in August 2009 to collect data prospectively on all cases hospitalised with confirmed pandemic influenza. All cases reported during the first wave were also retrospectively added to the database. As this is a voluntary scheme, ascertainment of cases may not be complete. Data are also provided by the relevant bodies in Scotland, Wales and Northern Ireland.

**Figure 10: Hospitalised cases with confirmed pandemic (H1N1) 2009 influenza infection by week of admission\* and weekly GP ILI consultation rates (England)**



\* Most recent weeks omitted due to reporting lag

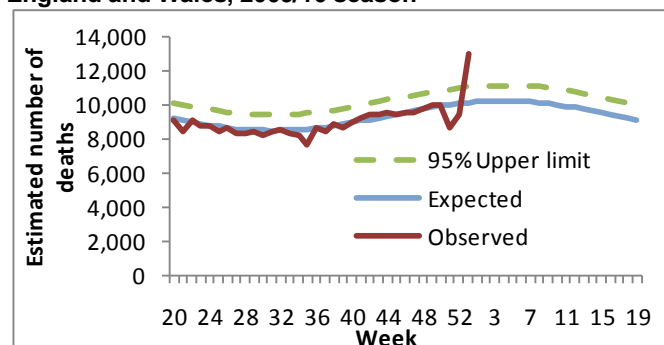
HPA receives weekly death registrations from the Office for National Statistics. In week 01, an estimated 12,968 all-cause deaths were registered, which has increased from 9455 in week 53 and is above the expected range for this time of year (figure 11). These deaths are due to all causes, and influenza infections are unlikely to have played a role in this excess as indicators have been showing decreasing and low influenza activity recently. The recent decrease in death registrations, followed by a sharp increase is likely to be due to closures of registry offices over the bank holidays along with the unusually cold weather and/or other winter-related disease or events. HPA is further investigating this observed excess.

A total of 2,546 laboratory confirmed cases have been reported as hospitalised in England to 20 January 2010 (figure 10). The majority (60%) of cases were aged 5 to 44 years and 52% of cases were female.

In Scotland there have been 1,525 cumulative hospitalisations of patients with confirmed pandemic influenza, 446 in Wales and 577 in Northern Ireland.

Three hundred and eighty-eight deaths (279 in England, 64 in Scotland, 17 in Northern Ireland and 28 in Wales) have been reported in the UK in people with pandemic (H1N1) 2009 infection.

**Figure 11: Estimated weekly all-cause death registrations in England and Wales, 2009/10 season**



## International Situation

### WHO reported on 15 January:

The most intense areas of pandemic influenza virus transmission are currently in parts of North Africa, South Asia, and east and south-eastern Europe.

- **North Africa:** limited data suggest pandemic influenza transmission remains active throughout the region, particularly in Morocco, Algeria and Egypt.

- **South Asia:** northern and western parts continue to experience active transmission. Nepal reported increasing Acute Respiratory Infections (ARI) activity and geographically regional to widespread influenza activity during December and January. In India, overall activity may have peaked during December but varies regionally. An increasing trend of respiratory diseases was reported in Sri Lanka but may have recently plateaued.

- **West Asia:** limited data suggest that the pandemic virus continues to circulate widely, with activity in a number of countries probably having peaked before December.

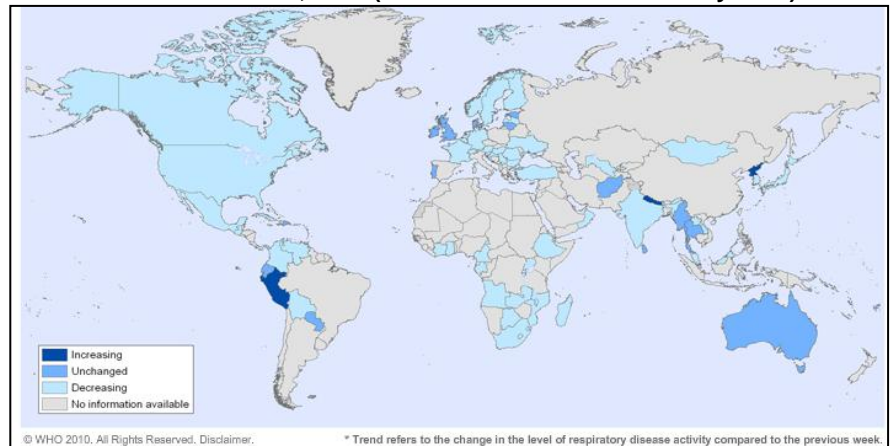
- **East Asia:** although widespread, influenza activity continues to decline overall. In Japan, influenza activity remains elevated but has declined since a peak in November 2009. Overall activity has declined substantially in China, having peaked in mid November 2009 in northern and southern China, although transmission remains active and regionally variable. In Hong Kong SAR (China), activity remained elevated but substantially lower than during late September and early October 2009. In Mongolia, rates of ILI declined substantially following a peak in November 2009, although remain elevated. Geographically regional influenza activity with a trend of increasing respiratory diseases was reported by DPR Korea.

- **Americas:** overall pandemic influenza activity continued to decline or remained low in tropical and northern temperate zones. In North America, peak influenza activity occurred during early, mid, and late October in Mexico, the United States, and Canada, respectively. Small areas of increased influenza activity may be occurring in central and northern Mexico.

- **Temperate southern hemisphere region:** sporadic cases of pandemic influenza continue to be reported without evidence of sustained community transmission. This suggests that population immunity in areas that experienced intense, high-level transmission during a winter season is high enough to prevent sustained transmission from recurring during the summer when the virus is less transmissible.

Source: WHO [http://www.who.int/csr/don/2010\\_01\\_15/en/index.html](http://www.who.int/csr/don/2010_01_15/en/index.html)

**Figure 12: Trend of respiratory diseases activity compared to the previous week: Status as of week 1, 2010 (28 December 2009 – 3 January 2010)**



## Europe

In week 1 (4 – 10 January 2010), clinical respiratory disease activity was reported to have declined over the past three weeks in 23 countries in the WHO European Region. Six countries testing 20 or more sentinel specimens reported influenza-positive rates over 20%, two with rates over 50% (Switzerland, 51% and Romania, 52%). Georgia, Kyrgyzstan and Romania reported a moderate impact of influenza on health care services. Reports from Croatia, Kyrgyzstan, the Russian Federation and Slovakia indicate that the incidence of severe cases peaked in weeks 47–50, 2009. Data from Romania and Ukraine show that hospitalizations due to severe acute respiratory infection (SARI) peaked in week 52, although sentinel surveillance suggests that influenza activity is continuing in Ukraine. SARI hospitalizations reported by Uzbekistan show that activity is higher than that observed in previous weeks.

Source: EuroFlu Weekly Electronic Bulletin, week 53 [http://www.euroflu.org/cgi-files/bulletin\\_v2.cgi](http://www.euroflu.org/cgi-files/bulletin_v2.cgi)

## VIROLOGY

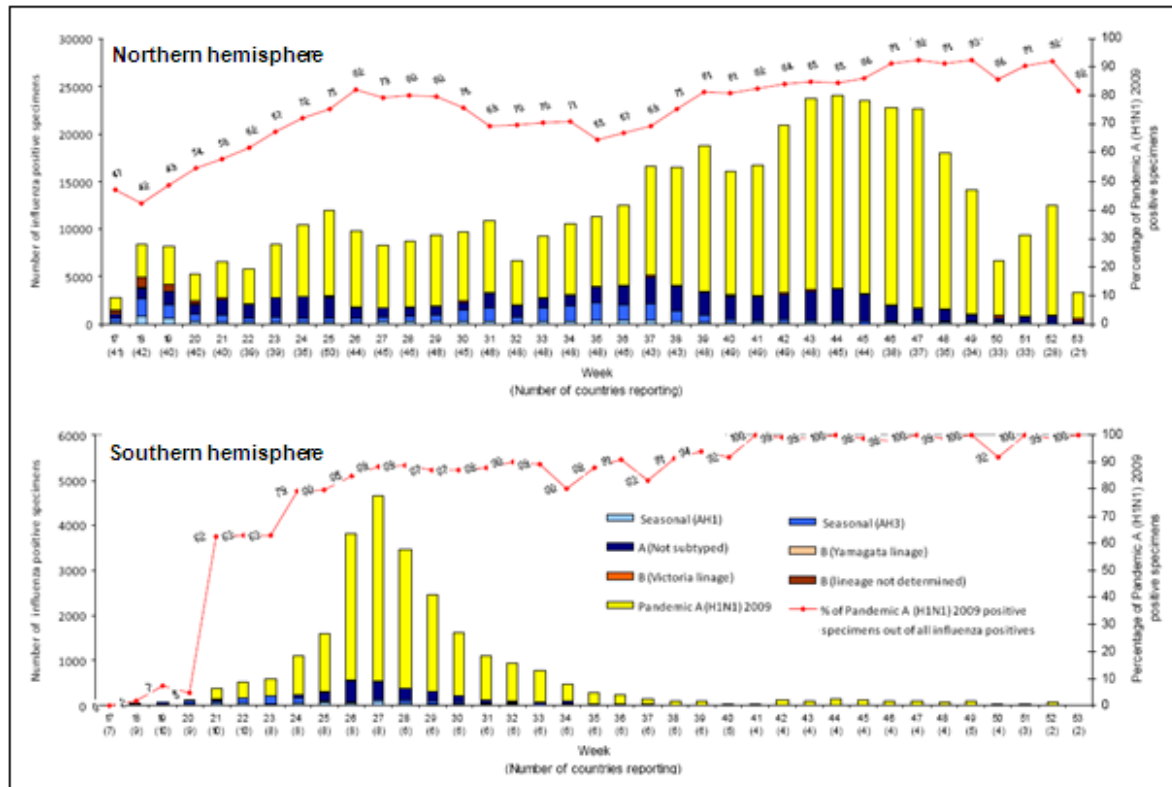
**Circulating strains:** Pandemic (H1N1) influenza virus accounted for 82% of all influenza detections worldwide in the week 27 December 2009 – 2 January 2010 (compared to 86% reported in the previous week). Other influenza viruses detected worldwide during this week included: influenza A H3 (1.4%), seasonal A H1 (0.1%), A not subtyped (5.7%) and B (10.9%). In East Asia, pandemic H1N1 remains the predominant circulating virus in the region but seasonal H3N2 viruses continue to circulate in very small numbers in northern China. Furthermore, in China, influenza B accounted for 12.6% among the specimens tested positive for influenza viruses. In Europe, pandemic (H1N1) influenza virus accounted for 98% of all influenza A detections in week 1 (4 – 10 January 2010), compared to 90% reported in the previous week. Sporadic detections of seasonal A(H1N1), A(H3N2) and influenza B viruses were reported from a few countries including some European countries.

# HPA Weekly National Influenza Report

21 January 2010 (Week 03)



**Figure 13: Circulation of influenza viruses in the northern and southern hemispheres: number of specimens positive for influenza by subtypes, weeks 17 – 53 (19 April to 2 January 2010).**



**Resistance:** 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 ninety nine 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. In Europe, 40 of the 1974 cases tested were resistant to oseltamivir. So far, antiviral susceptibility testing conducted by WHO Collaborating Centres (WHO CCs) and other Global Influenza Surveillance Network (GISN) laboratories on specimens and isolates from at least 87 countries indicates that oseltamivir resistant pandemic viruses are still detected sporadically and there is no wide community circulation, except for the recently reported transmission of resistant viruses in a few local settings ([http://www.who.int/csr/disease/swineflu/frequently\\_asked\\_questions/antivirals/resistance/en/index.html](http://www.who.int/csr/disease/swineflu/frequently_asked_questions/antivirals/resistance/en/index.html)).

**Viral characterisation:** All pandemic A(H1N1) 2009 influenza viruses analysed by WHO CCs to date appear to be antigenically and genetically closely related to the vaccine virus A/California/7/2009. Certain mutations including those leading to the D222G substitution in the haemagglutinin (HA) protein and the K340N substitution in the polymerase basic protein 2 (PB2) have been detected sporadically in viruses obtained from mild, severe and fatal illness cases. Based on currently available information, the D222G substitution does not appear to pose a major public health issue. A preliminary review has been published ([http://www.who.int/csr/resources/publications/swineflu/h1n1\\_d222g/en/index.html](http://www.who.int/csr/resources/publications/swineflu/h1n1_d222g/en/index.html)), and the WHO GISN and its partners continues to closely monitor pandemic viruses for the D222G and other amino acid substitutions and assess associated risks.

Source: WHO [http://www.who.int/csr/disease/swineflu/laboratory15\\_01\\_2010/en/index.html](http://www.who.int/csr/disease/swineflu/laboratory15_01_2010/en/index.html)

## Confirmed global deaths

The total number of deaths attributed to pandemic influenza continues to increase. As of 19 January 2010, 14,378 deaths have been reported globally, an increase of 3.2% compared to last week (13,938 reported on 12 January 2010). Source: ECDC update 19 January 2010:

[http://ecdc.europa.eu/en/healthtopics/Documents/100119\\_Influenza\\_AH1N1\\_Situation\\_Report\\_0900hrs.pdf](http://ecdc.europa.eu/en/healthtopics/Documents/100119_Influenza_AH1N1_Situation_Report_0900hrs.pdf)

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