

Summary

- Pandemic influenza activity is variable across the UK, the main burden of disease remains in school-aged children and young adults.
- In week 40 (week ending 04 October), the weekly influenza/ILI consultation rates increased in England (though remained below the baseline) and Wales (over the baseline) and decreased slightly in Scotland (below baseline) and Northern Ireland (remaining above the newly defined provisional threshold levels). In England the highest rates continue to be in the northern regions.
- 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 continued to increase gradually over the past week.
- At least 58 schools throughout England have reported outbreaks of ILI, since the beginning of the autumn term, with virological confirmation of pandemic influenza in at least one case in 37 of the schools. School outbreaks have also been reported from Scotland, Wales and Northern Ireland.
- Interpretation of data to produce estimates on the number of new cases continues to be subject to a considerable amount of uncertainty with the move to the National Pandemic Flu Service (NPFS). HPA modelling gives an estimate of 18,000 (range 9000 – 38,000) new cases in England in week 40. The estimated number of new cases has increased in all regions and age groups.
- 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 of 1359 pandemic viruses tested have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir; both have been shown phenotypically to be 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 89. There was a total of 520 new patients hospitalised in England with suspected pandemic influenza in the week from 01-07 October, a slight increase from 498 in the previous week. The highest hospitalisation rates have consistently been in the under 5-year age group, though rates were fairly stable in all age groups.
- According to the European Centre for Disease Prevention and Control (ECDC), by 07 October, 4524 deaths due to pandemic influenza had been reported globally. In week 39, Ireland reported high intensity and widespread influenza activity and Belgium, Spain and Northern Ireland reported medium activity. Nine countries reported increasing activity.

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 considered by NPFS and will always be referred to the health service. NPFS is currently not operational in Northern Ireland, Scotland and Wales.

In week 40, the weekly influenza/ILI consultation rates increased in England and Wales but decreased in Scotland and Northern Ireland (table 1, figures 1 and 2).

The overall RCGP (England and Wales) ILI consultation rate has increased to 26.3 per 100,000 which is below the winter baseline activity threshold of 30 per 100,000. The rates have increased in all three RCGP regions, with the greatest increase in the northern region (20.9 to 29.1 per 100,000). The combined influenza/ILI rate in Northern Ireland has decreased though remains above the newly defined provisional threshold of 70 per 100,000. The ILI rate in Scotland has also decreased slightly to below the winter baseline threshold of 50 per 100,000. The influenza rate has doubled in Wales from 22.8 to 54.8 per 100,000, which is well above the winter baseline threshold of 25 per 100,000. The weekly ILI QSurveillance rate also increased slightly; thresholds have not yet been set.

The consultation rates in the RCGP scheme have decreased in children aged under 5 and adults aged over 65. The highest rate was in the 5-14 year-olds (increased from 33.4 to 42.9 per 100,000). Rates increased slightly in all age groups in the QSurveillance scheme, the highest rate was in the 5-14 year-olds (increased from 42.8 to 45.7 per 100,000). In Wales the GP consultation rates increased in all age groups, with the highest increase in the 0-4 year group (increased from 14.6 to 295.2 per 100,000), though this large increase was mainly due to data from a newly recruited GP practice to the sentinel scheme. In Northern Ireland the rates have decreased in most age groups, with the largest decrease observed in the 5-14 year-olds (365.9 to 274.4 per 100,000). In Scotland, the highest rate was in the 1-4 year-olds though this had decreased from 176.9 per 100,000 to 167.8 per 100,000; slight increases were seen in other age groups.

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

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

Scheme / Country	Baseline Threshold (per 100,000)	Clinical rate per 100,000				
		Week 36	Week 37	Week 38	Week 39	Week 40
RCGP (England & Wales)	30	8.6	12.9	16.2	22.2	26.3
RCGP North	30	3.7	13.4	8.8	20.9	29.1
RCGP Central	30	9.6	15.0	20.7	25.1	27.7
RCGP South	30	9.6	11.1	16.0	20.7	24.1
Northern Ireland	70*	61.9	111.4	142.5	208.3	166.3
Scotland	50	31.9	36.9	48.6	51.8	46.1
Wales	25	9.7	7.2	13.9	22.8	54.8
QSurveillance® (UK**)	N/A	10.9	14.5	17.3	25.0	29.6

* Provisional threshold, defined in September 2009; ** based on data from 43% of England's populations, 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, 2008/09.

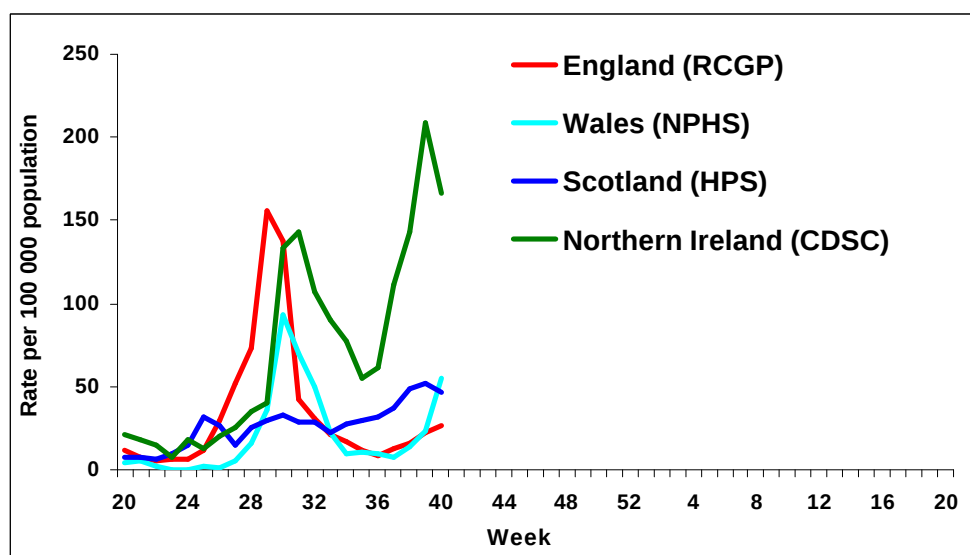
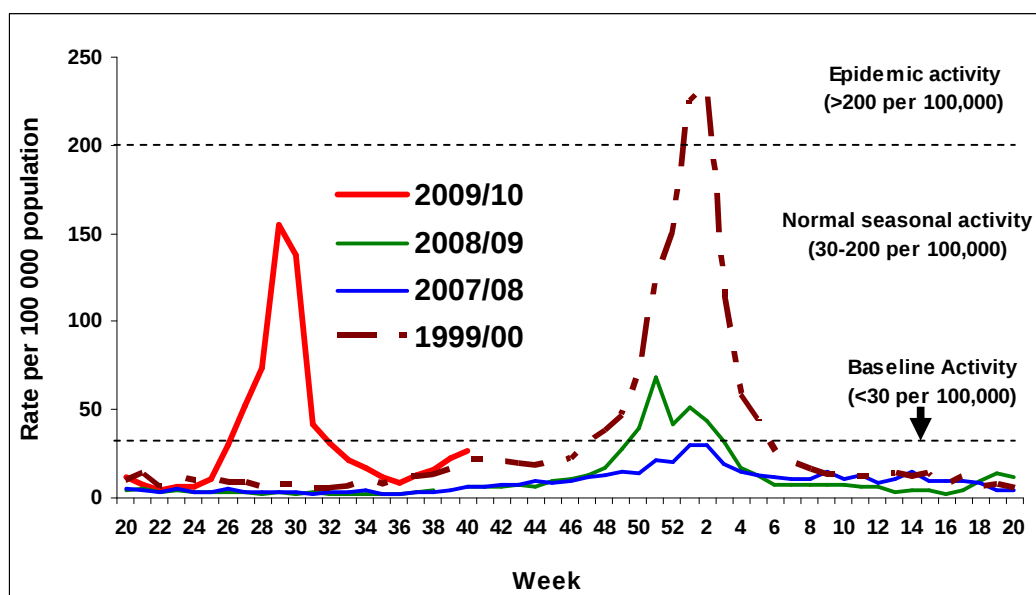


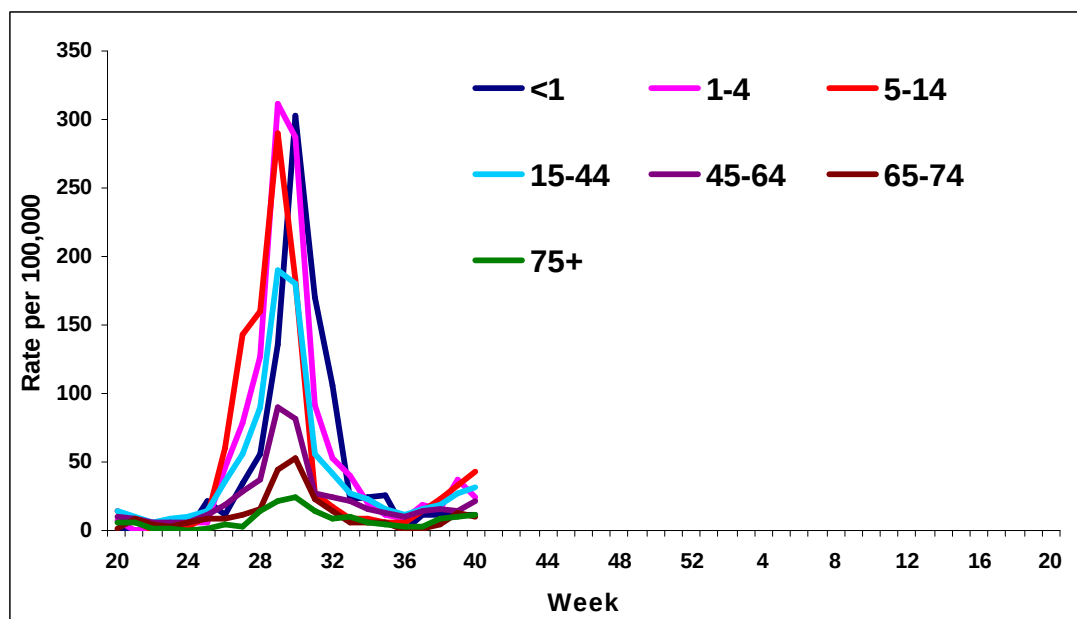
Figure 2: RCGP weekly consultation rate for influenza like illness 2008/09 and recent years.



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Figure 3: RCGP weekly consultation rate for influenza like illness 2008/09, by age group.



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

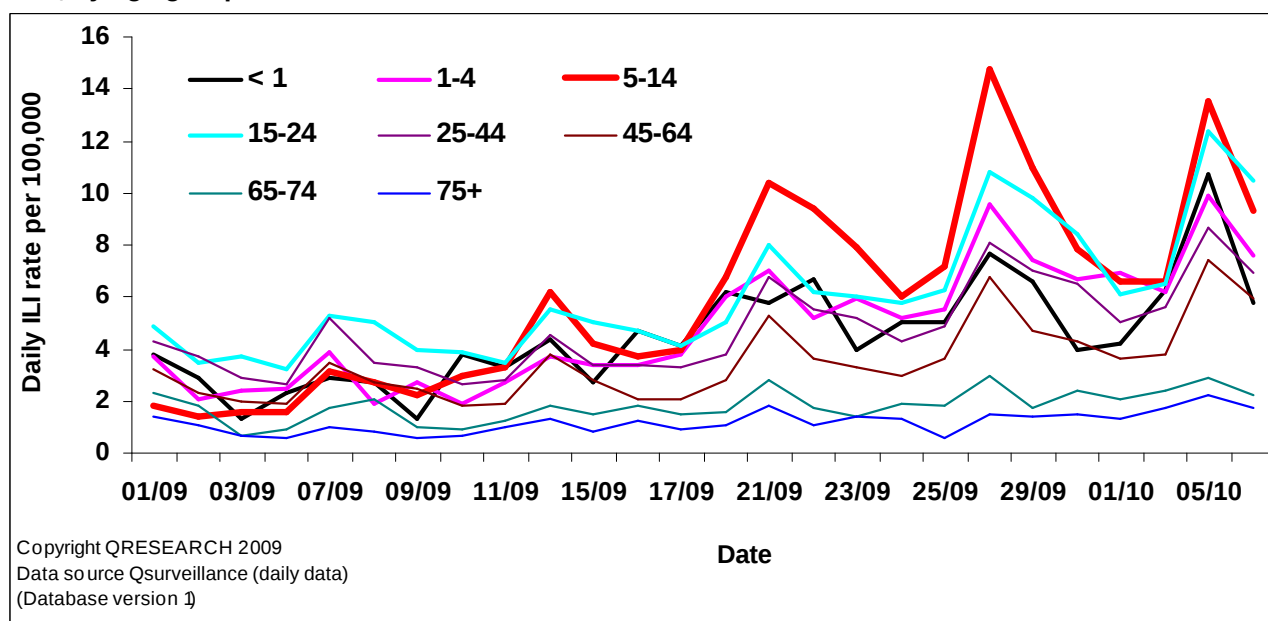
QSurveillance®

The daily 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 06 October was 6.6 per 100,000 compared to 6.3 per 100,000 seven days previously on 29 September. The highest rates are in the 15-24 year-olds (10.5 per 100,000) and the 5-14 year-olds (9.3 per 100,000) (figure 4). Rates in English SHAs are at levels equivalent to estimated rates when 'normal seasonal influenza' is circulating during the winter, except in the South East Coast SHA where rates are equivalent to baseline winter activity. The northern regions, the West Midlands and the South Central SHA have the highest daily rates (figure 5).

Daily consultation rates for pneumonia from QSurveillance® have increased slightly compared to previous weeks.

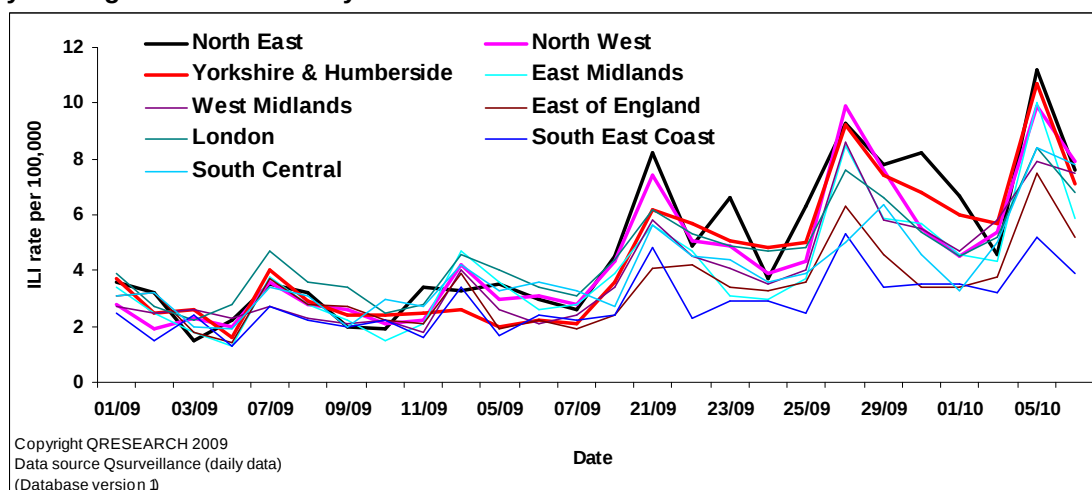
Figure 4: Daily consultation rates for influenza-like illness from QSurveillance®, September-October 2009, by age group



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Figure 5: Daily consultation rates for influenza-like illness from QSurveillance®, August-September 2009, by Strategic Health Authority.



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

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 numbers have continued to increase, though at a reduced rate to the previous two weeks (a 39% increase overall was observed from week 38 to 39, whereas from week 39 to 40, the increase was only 12%) (figure 6). The largest numbers of antiviral collections are still in the North West and Yorkshire and Humber (figure 7) and in children and young adults (figure 8). The largest increase in the number of antiviral collections was in the 15-24 year group (7935 in week 39 to 9675 in week 40).

Figure 6: Daily number of assessments and antivirals collected, through NPFS (England).

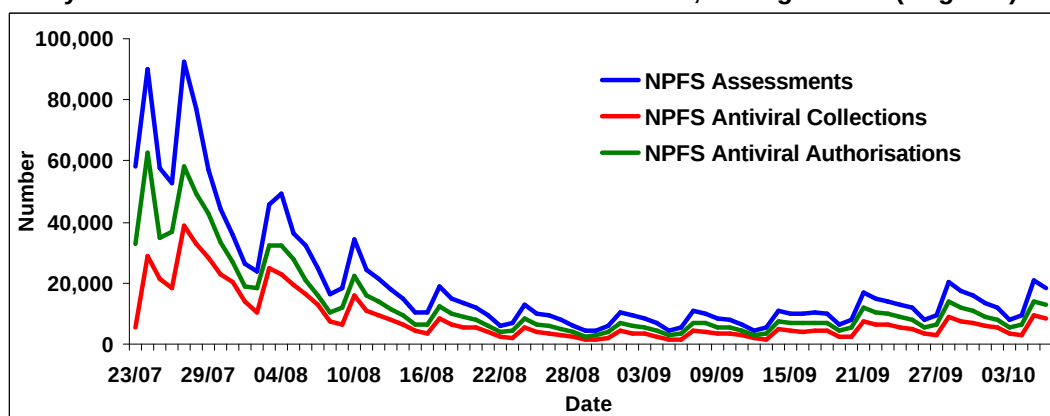
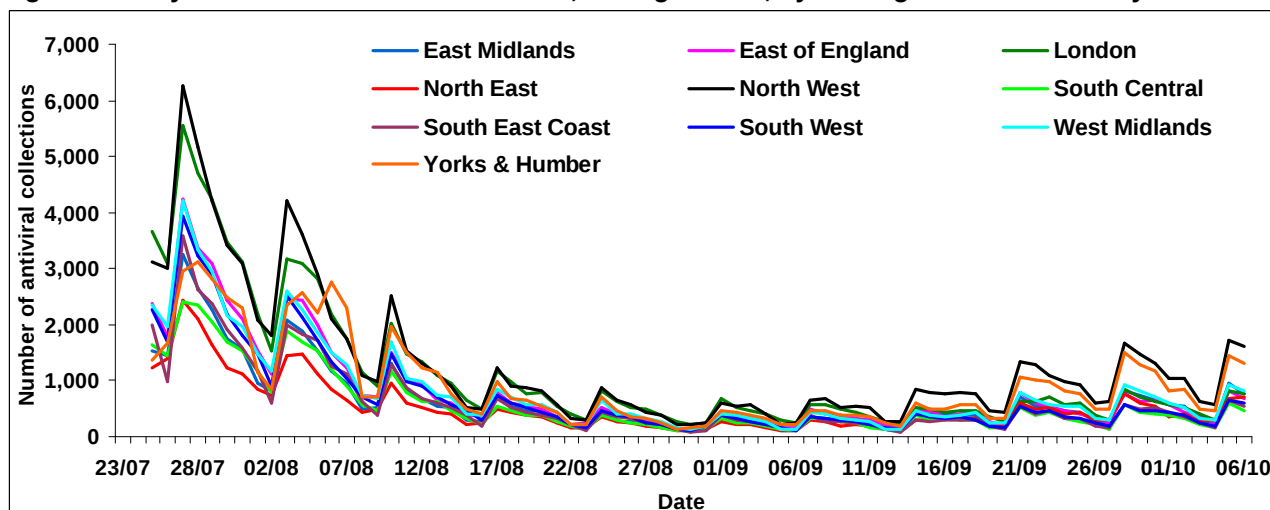


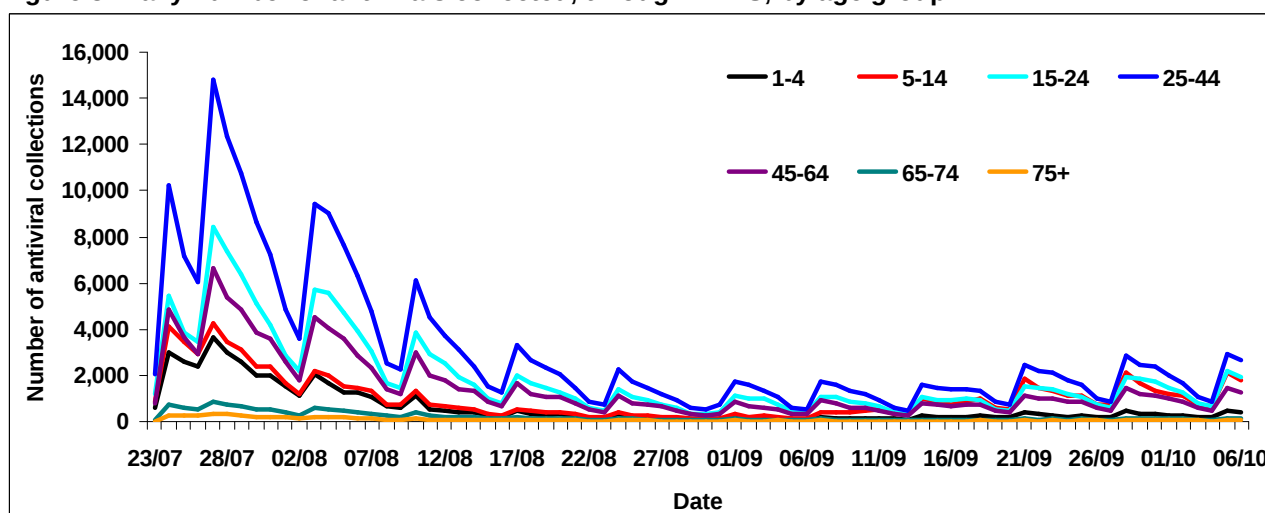
Figure 7: Daily number of antivirals collected, through NPFS, by Strategic Health Authority.



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Figure 8: Daily number of antivirals collected, through NPFS, by age group.



Modelling by the Health Protection Agency

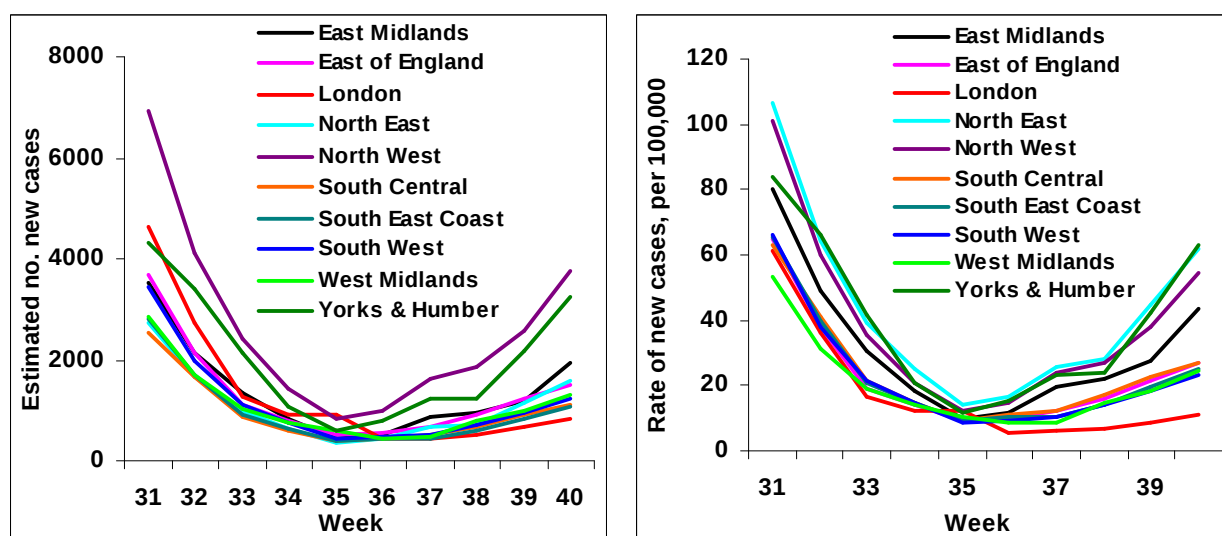
The number of pandemic influenza (H1N1) 2009 cases is estimated using a statistical model. The model relies on data from various surveillance systems and studies. The key surveillance systems that are used consist of the primary care based Q Surveillance® scheme, the RCGP and HPA Regional Microbiology Network sentinel surveillance scheme and latterly data from the NPFS. To provide an estimate of the number of pandemic cases that present to their GP the estimated number of primary care attendances with influenza like illness is multiplied by the positivity rates from testing within sentinel GP schemes. To estimate the number of pandemic (H1N1) 2009 that present to NPFS, the number of NPFS antiviral collections are multiplied by positivity rates from testing from people contacting NPFS. To provide an overall estimate of number of cases in the population, these two estimates are combined and scaled up to allow for a range of 30% to 70% of pandemic (H1N1) 2009 cases contacting either NPFS or a GP.

Further details on the methodology used can be found on the [HPA website](#).

In week 40, 18,000 new cases are estimated to have occurred (range 9000 – 38,000), an increase from 14,000 (7000 – 30,000) in week 39. The estimated number of new cases has increased in all regions, with the highest rates in the north of England. The rates in London, which saw the highest rates over the summer, remain low. The estimated number of cases has also increased in all age groups, particularly in the 5-14 year olds, which had the highest rates over the summer (figures 9 and 10).

It should be noted that these estimates are subject to a considerable amount of uncertainty.

Figure 9: Estimated number and rate per 100,000* of new cases of pandemic influenza in England, by week and SHA.

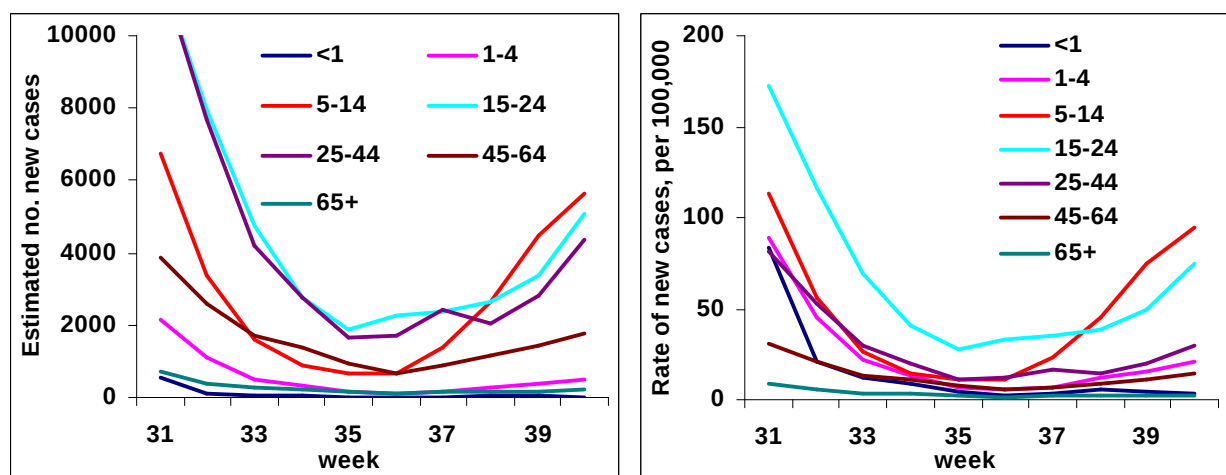


* Based on mid-2007 estimates of England population from ONS.

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Figure 10: Estimated number and rate per 100,000* of new cases of pandemic influenza in England by week and age group.



* Based on mid-2007 estimates of England population from ONS.

Outbreaks

In England, since the beginning of the autumn term, there have been 37 schools with virologically confirmed pandemic influenza in the following regions; North East (3); North West (4); Yorkshire and Humber (10); West Midlands (11); East Midlands (4); South East (2); London (2); East of England (1). A further 15 schools are currently under investigation because of increased absenteeism due to influenza-like illness and six schools investigated have not been confirmed as pandemic influenza. Of the schools with confirmed outbreaks, 30 were day schools (18 secondary, six primary, one middle and five special schools) and seven were boarding schools (six secondary and one special school). In week 40, seven school outbreaks were reported in Northern Ireland.

Microbiological surveillance

The predominant influenza strain circulating is still the pandemic H1N1 2009. Very few other influenza viruses have been detected recently at the Respiratory Virus Unit, Centre for Infections, Colindale (RVU) and there is no evidence, currently, to suggest co-circulation of other influenza A sub-types. Other circulating respiratory pathogens such as RSV are at levels expected for the time of year, though reports of rhinovirus have increased recently (table 2). In the last three weeks, twelve other (non-influenza) viruses have been detected through the HPA/RMN GP-based sentinel surveillance scheme (see below).

Table 2: Comparative number of influenza and other respiratory viruses reported from HPA and NHS laboratories in England and Wales between weeks 36 and 39, by week of report.

Week	37	38	39	40
Week-ending	13/09/2009	20/09/2009	27/09/2009	04/10/2009
Influenza A	32	25	60	63
Influenza B	0	0	0	1
Adenovirus	16	17	11	22
Coronavirus	0	0	1	0
Parainfluenza	24	10	25	24
Rhinovirus	40	20	87	111
RSV	9	6	11	18

There have now been 14,569 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.

Table 3: Cumulative number of laboratory confirmed cases, as of 06 October

Region / Country	Cumulative number of laboratory confirmed cases
England	11,699
Northern Ireland	433
Scotland	2282
Wales	155
Total UK	14,569

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In addition, there have been 379 cumulative confirmed cases reported from the UK Overseas Territories and Crown Dependencies: Anguilla (1), Bermuda (1), British Virgin Islands (12), Cayman Islands (103 – and one death), The Falklands (7), Gibraltar (16), Guernsey (17), Isle of Man (33), Jersey (102), Sovereign Base Area Cyprus (51), Turks and Caicos Islands (36).

Enhanced Virological Community and Primary Care Surveillance

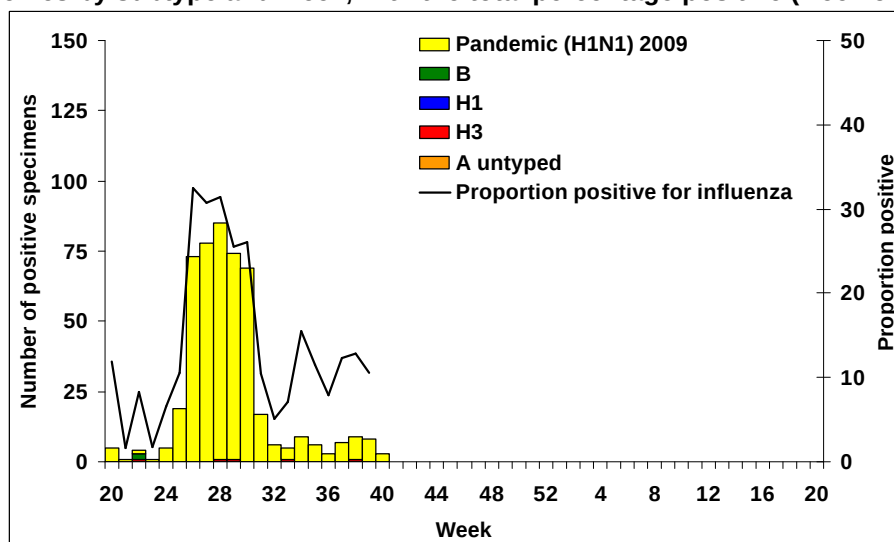
In England three schemes for virological surveillance of influenza are being used: two GP-based (RCGP/HPA and HPA/RMN) and one through NPFS (previous through NHS Direct). The proportions positive for pandemic influenza through these schemes increased in week 40 (table 4, figure 11). Schemes through primary care are also used in Wales, Scotland and Northern Ireland, decreases were seen in all scheme (no data were available from Scotland) (table 4). 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'](#).

Table 4: Total number of samples tested and positive for pandemic influenza A (H1N1) 2009 from virological sentinel schemes in England (GP and NHS Direct/NPFS), Wales, Scotland and Northern Ireland by week*.

Week	England (GP)			England (NHSD/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	%
18-31	2052	427	20.8	2534	200	7.9	59	3	5.1	537	29	5.4	113	14	12.4
32	117	6	5.1	527	44	8.3	10	1	10.0	98	8	8.2	42	4	9.5
33	70	4	5.7	322	22	6.8	5	0	0.0	63	8	12.7	25	4	16.0
34	58	9	15.5	246	12	4.9	3	0	0.0	76	8	10.5	40	13	32.5
35	52	6	11.5	238	13	5.5	0	0	0.0	60	6	10.0	17	4	23.5
36	38	3	7.9	292	31	10.6	1	1	—	90	19	21.1	14	3	21.4
37	57	7	12.3	616	68	11.0	0	0	0.0	94	14	14.9	21	3	14.3
38	70	8	11.4	649	62	9.6	4	1	25.0	163	38	23.3	31	12	38.7
39	76	8	10.5	367	27	7.4	7	2	28.6	154	32	20.8	53	18	34.0
40	22	3	13.6	63	8	12.7	12	2	16.7	0	0	0.0	29	8	27.6

* All data are based on week of specimen, except for Northern Ireland which is by week of report; ** Sampling from NHS Direct stopped after week 30 and started from NPFS in week 32, hence there is no data for week 31. *** Until week 28 it was not possible to differentiate between sentinel and non-sentinel pandemic (H1N1) 2009 positive specimens in Northern Ireland.

Figure 11: 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. Proportion positive omitted when fewer than 10 specimens reported; data for the most recent weeks are subject to change due to reporting lag.

Antiviral susceptibility

Testing for antiviral susceptibility is carried out at the Respiratory Virus Unit (RVU), Centre for Infections, Colindale. A total of 1359 pandemic influenza viruses have been analysed for the marker commonly associated with resistance to oseltamivir in seasonal influenza (H275Y); two samples were found to carry this mutation. Of these 1359 viruses, 285 have been fully tested for susceptibility; both of the two viruses

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carrying the H275Y mutation have been confirmed to be phenotypically resistant to oseltamivir whilst retaining sensitivity to zanamivir. Samples have been tested for resistance from all regions and age groups in the UK (tables 5 and 6).

Table 5: Samples tested for antiviral susceptibility at RVU, by test method, source and region.

Samples tested for Resistance					
Region	Screened for H275Y mutation		Fully tested		Proportion resistant
	Hospital	Community	Hospital	Community	
East of England	31	18	20	3	0%
East Midlands	46	16	11	4	0%
London	138	193	45	19	0%
North East	67	12	7	1	0%
North West	190	14	16	1	0.98%
South East	130	34	52	10	0%
South West	80	13	6	1	0%
West Midlands	115	67	40	7	0%
Yorkshire and Humber	51	11	15	1	0%
Ireland	8	0	7	0	0%
Northern Ireland	1	0	0	0	0%
Scotland	99	2	14	1	0%
Wales	5	0	0	0	0%
Unknown Region	13	5	2	2	0%
Total	974	385	235	50	0.15%

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

Table 6: Samples tested for antiviral susceptibility at RVU, by test method, source and age group.

Samples tested for Resistance					
Age Group	Screened for H275Y mutation		Fully tested		Proportion resistant
	Hospital	Community	Hospital	Community	
<1	29	3	8	1	0%
1-4	59	10	11	1	0%
5-14	242	125	61	27	0%
15-44	477	207	114	16	0%
45-64	118	32	23	4	0.67%
65-74	8	0	3	0	12.50%
75+	3	1	2	0	0%
Unknown	38	7	13	1	0%
Total	974	385	235	50	0.15%

NB: figures may fluctuate due to de-duplication and correction of 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 27 September 2009. Over 88% of all isolates of the three organisms are susceptible to tetracyclines (table 7).

Table 7: 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 27 September 09.

Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
<i>S. aureus</i>	1949	94	344	78
<i>S. pneumoniae</i>	1134	88	1123*	93*
<i>H. influenzae</i>	4644	99	4245	91

* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzylpenicillin are extrapolated to determine sensitivity to other β -lactams such as co-amoxiclav.

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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.

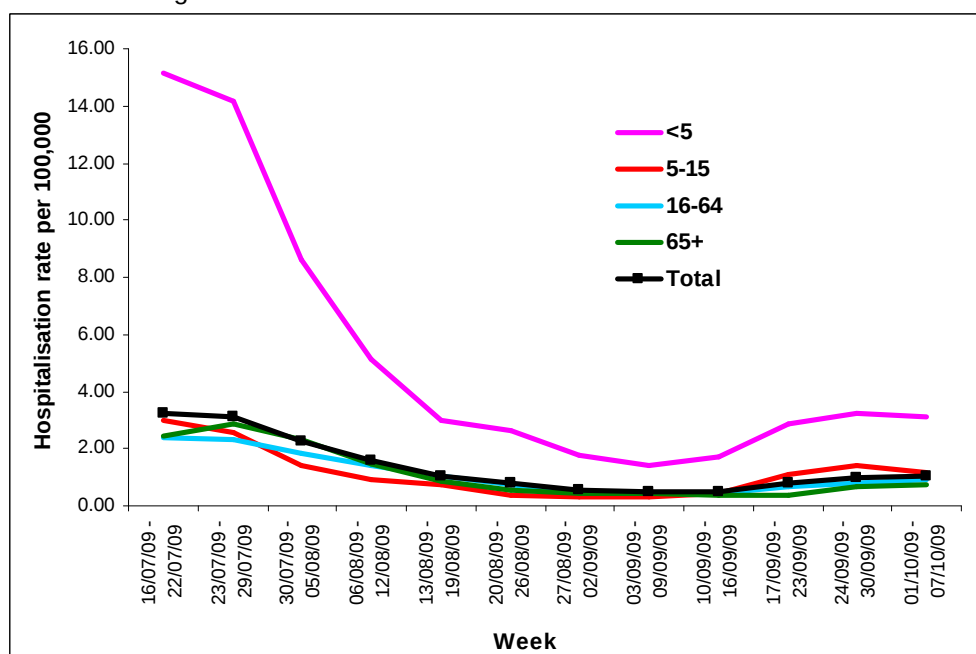
In England, on 07 October there were 290 hospitalised patients with suspected pandemic influenza, which is similar to 286 seven days previously. Of the 290, 47 (16.2%) were in intensive care and 97 were newly hospitalised in the 24 hours up to 8am. In the week from Thursday 01 October to Wednesday 07 October, 520 new patients were hospitalised with suspected pandemic influenza corresponding to a rate of 1.0 per 100,000 population, which is no change from the previous week's rate of 1.0 per 100,000 (table 8). The highest hospitalisation rate has consistently been in those aged under 5 years; the weekly rates in all age groups have remained fairly stable in the past week (figure 12). 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 208 cumulative hospitalisations of patients with confirmed pandemic influenza, 71 in Wales and 216 in Northern Ireland.

Table 8: Current inpatients with suspected pandemic influenza in England, up to 07 October 2009.

	Number (rate per 100,000* population)				
	<5	5-15	16-64	65+	Total
Patients currently hospitalised (as of 8am 07 Oct)	38 (1.3)	45 (0.7)	175 (0.5)	32 (0.4)	290 (0.6)
Patients currently in ICU (as of 8am 07 Oct)	4 (0.6)	7 (0.3)	31 (0.3)	5 (0.2)	47 (0.1)
New patients hospitalised up to 9am 07 Oct	17 (0.2)	22 (0.2)	50 (0.1)	8 (0.1)	97 (0.2)
New patients hospitalised 17 Sept - 23 Sept	85 (2.9)	75 (1.1)	212 (0.6)	29 (0.4)	401 (0.8)
New patients hospitalised 24 Sept - 30 Sept	95 (3.2)	93 (1.4)	254 (0.8)	56 (0.7)	498 (1.0)
New patients hospitalised 01 Oct - 07 Oct	92 (3.1)	78 (1.2)	293 (0.9)	57 (0.7)	520 (1.0)

Figure 12: Weekly (up to 8am Monday) rates (per 100,000) of new admissions to hospital with suspected pandemic influenza in all English NHS trusts.



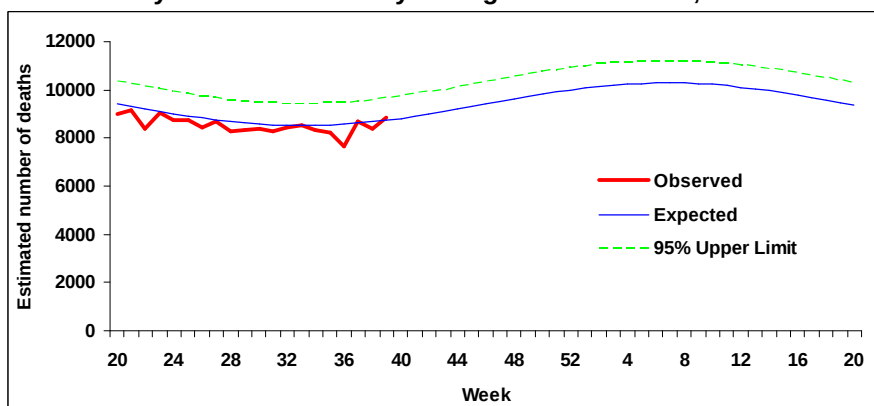
Eighty-nine deaths (76 in England, ten in Scotland, two in Northern Ireland and one in Wales) have been reported across the UK in people with pandemic H1N1 infection.

HPA receives weekly death registrations from the Office for National Statistics. In week 39/09, an estimated 8828 all-cause deaths were registered, which is a decrease compared to 8384 in week 38/09. It should be noted that these deaths are due to all causes and cannot be attributed to influenza. The weekly number is in the expected range for this time of year and no excess deaths have been observed.

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Figure 13: Estimated weekly all-cause mortality in England and Wales, 2009/10 season.



International Situation

Confirmed global deaths reported by ECDC (Update 09:00 CEST 07 October 2009)

Globally, 4,524 deaths have been reported. In the last seven days, the number of deaths reported globally has increased by 4%, compared to a 5% increase reported last week. [Note that confirmed case numbers are no longer reported for most countries as they do not give a representative view of the situation, and so global case totals are not reported here.]

WHO global summary

This update summarises information published by the World Health Organization (WHO) about the latest global situation and is also published on the HPA website at

<http://www.hpa.org.uk/HPA/Topics/InfectiousDiseases/InfectionsAZ/1251473469008/>

WHO reported on 2 October that for:

- **Tropical regions:** influenza activity remains variable. Regional to widespread activity has been reported throughout the Americas; however, many countries have reported a declining trend (Bolivia, Brazil, Costa Rica, El Salvador, Panama, Paraguay, Venezuela), while others recently reported an increasing trend (Columbia and Cuba). There continues to be an increasing trend in respiratory diseases in parts of India and in Cambodia, while other countries in the Southeast Asia have recently reported declining transmission.
- **Temperate southern hemisphere regions:** influenza transmission has largely returned to baseline (Chile, Argentina, and New Zealand) or has declined substantially (Australia and South Africa).
- **Temperate northern hemisphere regions:** In the United States, influenza activity has continued to increase and remains above the seasonal baseline in most regions. In Mexico, a high intensity of respiratory diseases has been reported for two consecutive weeks (week 37 - 38), with large increases in cases being reported in the north and northwest of the country. Overall, influenza activity remains low in Europe and central and western Asia; however rates of influenza-like illness (ILI) remain above baseline levels in Ireland, Israel, and France and more than 10 countries in the region have reported geographically localised spread of influenza. In Japan, influenza activity has continued to increase above the seasonal epidemic threshold since week 33. These increases in ILI have been accompanied by increases in laboratory isolations of pandemic influenza H1N1 2009 in most of these areas.

Pandemic (H1N1) influenza virus continues to be the predominant circulating influenza virus, accounting for 65% of all influenza detections worldwide (an increase from 57% reported in week 37). This rise was due to increases in the northern hemisphere, where the proportion of all influenza detections that were pandemic (H1N1) increased to 65% from 56%. The southern hemisphere saw an increase to 100% of detections from 87% in week 36 (only two of the total 21 countries that reported on this were in the southern hemisphere). Other influenza viruses detected worldwide included: influenza A H3 (15%), seasonal A H1 (2%), A not subtyped (20%), and B (2%). All pandemic H1N1 2009 influenza viruses analysed to date have been antigenically and genetically similar to A/California/7/2009-like pandemic H1N1 2009 virus.

Worldwide, over 10,000 isolates of the pandemic (H1N1) 2009 virus have been tested for antiviral resistance and found to be sensitive to oseltamivir. Twenty-eight isolates of oseltamivir resistant influenza virus have so far been reported to the WHO from around the world, all of which carry the same H275Y mutation that confers resistance to the antiviral oseltamivir but not to the antiviral zanamivir. Twelve of these cases have been associated with the use of oseltamivir as post-exposure prophylaxis. Six were associated with

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oseltamivir treatment in patients with severe immunosuppression, and four were isolated from samples from patients receiving oseltamivir treatment. A further two were isolated from patients who were not taking oseltamivir for either treatment or prophylaxis. No new resistant pandemic H1N1 influenza viruses have been officially reported to the WHO during the past week.

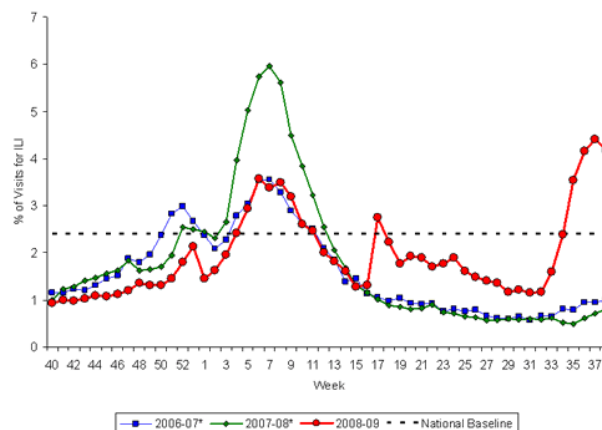
Source: WHO: 2 October 2009, http://www.who.int/csr/don/2009_10_02/en/index.html

Country updates

USA

During week 38 (20 – 26 Sep 2009) the proportion of visits to doctors for influenza like illness was 4.2% in the US as a whole, a slight decrease compared to week 37 but remaining above the national baseline (2.4%) (figure 14). The north-eastern region of the US (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont) was an exception with visits below the regional baseline.

Figure 14. Percentage of visits for influenza-like illness (ILI) reported by the U.S. outpatient influenza-like illness surveillance network (ILINet), national summary 2008-2009 and previous two seasons



*There was no week 53 during the 2006-07 and 2007-08 seasons, therefore the week 53 data point for those seasons is an average of weeks 52 and 1.

Twenty-seven states have been reporting widespread influenza activity which is very unusual for September (Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, and Wyoming). The proportion of deaths attributed to pneumonia and influenza remains below the epidemic threshold. Eleven pandemic influenza-associated paediatric deaths were reported in week 38, all associated with pandemic H1N1 (2009) influenza virus. 99% of all subtyped influenza A viruses being reported to CDC have been 2009 influenza A (H1N1) viruses. The flu season officially started on 4 October in the US. Data from CDC

<http://www.cdc.gov/flu/weekly/>

Canada

During week 38 (20 - 26 Sep 2009), overall influenza activity increased for a second consecutive week but was still relatively low. The national ILI consultation rate was 31 consultations per 100,000, slightly above the expected range for the time of year. Five provinces (Ontario, Nova Scotia, Newfoundland and Labrador, Yukon, and Northwest Territories) had provincial ILI consultation rates higher than the national level this week. Data from the Public Health Agency of Canada http://www.phac-aspc.gc.ca/fluwatch/09-10/w38_09/index-eng.php

Mexico

Mexico reported a large increase in activity of the pandemic (H1N1) 2009 virus during the month of September based on the number of confirmed cases. The epidemic curve produced by the Mexican Ministry of Health now demonstrates three apparent peaks in confirmed and suspected cases; the first at the end of April, the second at the end of June and the third in the first/second week of September. The September peak in confirmed cases has so far been around 45% higher than the initial peak in June.

http://portal.salud.gob.mx/sites/salud/descargas/pdf/influenza/situacion_actual_epidemia_031009.pdf

France

As of the week 28 Sep – 4 Oct 2009, the incidence of consultations for clinical influenza estimated by the Sentinel network in metropolitan France remained stable at 217 cases per 100,000 inhabitants, but still above the epidemic threshold (102 cases for 100,000 inhabitants). The excess of influenza clinic consultations was estimated at 126,000. The number of serious cases related to influenza A (H1N) since August 2009 has remained stable. Data from l'Institut de Veille Sanitaire

http://www.invs.sante.fr/display/?doc=surveillance/grippe_dossier/points_h1n1/grippe_A_h1n1_061009/index.html

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Ireland

As of week 39 (21 -27 Sep 2009), the influenza-like illness (ILI) GP consultation was 76.3 per 100,000 population in week 39, an increase compared to the updated rate of 67.6/100,000 for week 37. The sentinel GP age-specific ILI consultation rates increased substantially in the 5-14 year age group, from 88.2 in week 38 to 148.9 in week 39 2009. These increases are accompanied by a concomitant increase in laboratory confirmed cases of pandemic influenza H1N1 (2009). The number of hospitalised cases remained stable, as did reports of outbreaks in schools. <http://www.hpsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/Surveillance%20Reports/File.3749.en.pdf>

Belgium

During week 29 (21 – 27 Sep 2009) The incidence of influenza like illness (ILI) recorded by the sentinel network of GPs continued to increase and is now above the epidemic threshold for the first time with a total of 170 ILI consultations per 100.000 inhabitants. The surveillance data show a low circulation of the Influenza virus and a moderate activity of flu syndromes. Data from Scientific Institute of Public Health in Belgium. <http://www.iph.fgov.be/flu/EN/Y2009-Influenza.pdf>.

Spain

Consultations for ILI in primary care during week ending 26 Sep 09, increased to 78 per 100,000 population compared to 53 in the previous week. Data from Spanish Ministry for Health <http://www.msps.es/va/servCiudadanos/alertas/informesGripeA/091001.htm>

Other intelligence:

1. Four pandemic influenza A (H1N1) 2009 vaccines are soon to be available on the European market. An additional vaccine, Celvapan, was recommended for authorisation on 2 October 2009 by the European Medicines Agency. A further pandemic vaccine produced by the Hungarian manufacturer, Omnivest has also been granted a national licence in Hungary. [http://ecdc.europa.eu/en/healthtopics/Documents/091005_Influenza_A\(H1N1\)_Weekly_Executive_Update.pdf](http://ecdc.europa.eu/en/healthtopics/Documents/091005_Influenza_A(H1N1)_Weekly_Executive_Update.pdf).
2. Sanofi have announced an interim analysis of data from clinical trials of the US licensed Influenza A (H1N1) 2009 Monovalent Vaccine in adults 18 to 64 years of age and over the age of 65 years. http://www.sanofipasteur.us/sanofi-pasteur2/sp-media/SP_US/EN/54/953/FINAL%20H1N1%20POST%20DOSE%201%20TRIAL.pdf?siteCode=SP_US
3. Two pandemic influenza articles in Eurosurveillance. The first describes residual immunity in older people against influenza A(H1N1) in northern Spain. The second gives early estimates of pandemic A (H1N1) activity in general practice in France: incidence of influenza-like illness and age distribution of reported cases. <http://www.eurosurveillance.org/Default.aspx>
4. CDC published: Bacterial Coinfections in Lung Tissue Specimens from Fatal Cases of 2009 Pandemic Influenza A (H1N1) - United States, May-August 2009. Of the 77 confirmed cases evaluated, 22 had histopathologic, immunohistochemical, and molecular evidence of coinfection with an identified bacteria, including 10 cases with *S.pneumoniae*, six with *S.pyogenes*, seven with *S.aureus*, two with *Streptococcus mitis*, and one with *H.influenzae*; four cases involved multiple pathogens. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5838a4.htm>
5. Article published: The First 100 Hospitalized Severe Complicated Influenza Cases Caused by 2009 Pandemic Influenza A (H1N1) in Taiwan. The paper concludes that most of the severe complicated influenza patients caused by 2009 pandemic influenza A (H1N1) were children and young to middle-aged adults; overweight and pregnancy posed higher risk to these patients. http://teb.cdc.gov.tw/main_e/news_list.aspx?id=2344
6. Results of a frequency-matched case-control study among patients of a specialty hospital in Mexico City have been published in the BMJ. The results, suggest that the 2008-09 trivalent seasonal influenza vaccine had some protective effect against pandemic influenza infection, particularly severe forms of the disease. The study design adjusted for confounding by age and underlying diseases. Available at http://www.bmj.com/cgi/content/abstract/339/oct06_2/b3928

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