

Summary

- Pandemic influenza activity continues to increase across the UK, particularly in school-aged children.
- In week 39 (week ending 27 September), the weekly influenza/ILI consultation rates increased in all UK countries. Rates remain below the normal winter seasonal baseline thresholds in England and Wales. The threshold has been breached in Scotland, and rates are well above newly defined provisional threshold levels in N. Ireland. In England the highest rates are 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 increased over the past week.
- At least 53 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 28 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 14,000 (range 7000 – 30,000) new cases in England in week 39. 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 1023 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 84. There was a total of 467 new patients hospitalised in England with suspected pandemic influenza in week 39; an increase from the previous week. The highest hospitalisation rates have consistently been in the under 5-year age group and the recent increases have been seen particularly in children under 15.
- According to the European Centre for Disease Prevention and Control (ECDC), by 22 September, 4334 deaths due to pandemic influenza had been reported globally. In week 38 Ireland reported high intensity and widespread influenza activity and Northern Ireland reported medium activity, while other European countries reported low levels.

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 39, the weekly influenza/ILI consultation rates increased in England, Scotland, Northern Ireland and Wales (table 1, figures 1 and 2).

The overall RCGP (England and Wales) ILI consultation rate has increased to 22.2 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 (8.8 to 20.9 per 100,000). The combined influenza/ILI rate in Northern Ireland has continued to increase sharply and remains above the newly defined provisional threshold of 70 per 100,000. The gradual increasing trend observed in the ILI rate in Scotland in recent weeks continues, and the rate of 51.8 per 100,000 is just above the winter baseline threshold of 50 per 100,000. The influenza rate has increased in Wales from 13.9 to 22.8 per 100,000, which is nearing the winter baseline threshold of 25 per 100,000. The weekly ILI QSurveillance rate also increased; thresholds have not yet been set.

The consultation rates in the RCGP scheme have increased in most age groups (figure 3), with the greatest increases in the 1-4 year-olds (15.7 to 37.8 per 100,000) and 5-14 year-olds (22.6 to 22.4 per 100,000). The rate in the <1 year group has remained stable: this group are not assessed by NPFS. Rates increased in all age groups in the QSurveillance scheme, including the under one-year-olds (23 to 29 per 100,000); the largest increase was in the 5-14 year-olds (25.7 to 42.8 per 100,000). In Wales the highest GP consultation rate is still in the 15-24 year group (increased from 31.6 to 50.8 per 100,000), followed by the 5-14 year olds (37.8 per 100,000) though the greatest increase was in the 35-44 year olds (10.4 to 30.4 per 100,000). In Northern Ireland the rates have increased sharply in most age groups, with the steepest increase observed in the 1-4 year-olds (43.8 to 209.2 per 100,000).

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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 35	Week 36	Week 37	Week 38	Week 39
RCGP (England & Wales)	30	11.8	8.6	12.9	16.2	22.2
RCGP North	30	10.6	3.7	13.4	8.8	20.9
RCGP Central	30	14.7	9.6	15.0	20.7	25.1
RCGP South	30	10.2	9.6	11.1	16.0	20.7
Northern Ireland	70*	55.1	61.9	111.4	142.5	208.3
Scotland	50	29.2	31.9	36.9	48.6	51.8
Wales	25	10.9	9.7	7.2	13.9	22.8
QSurveillance® (UK**)	N/A	14.4	10.9	14.5	17.3	25.0

* 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.

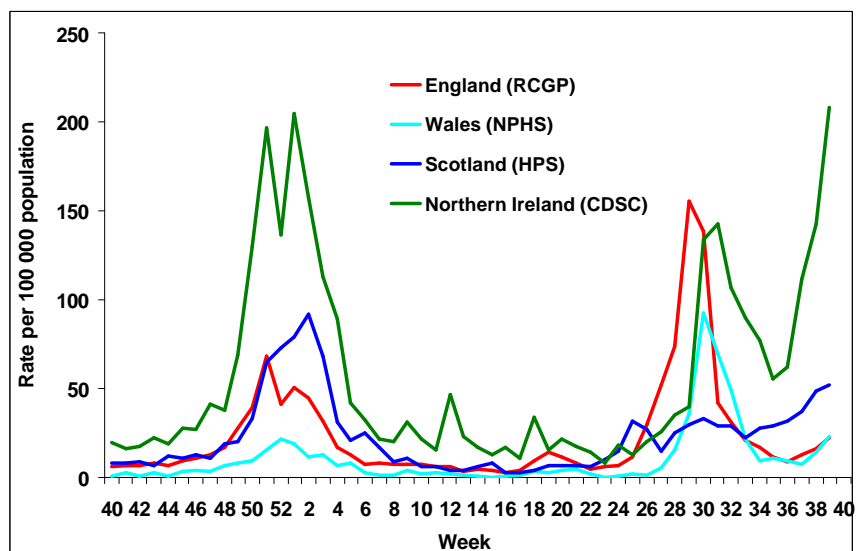
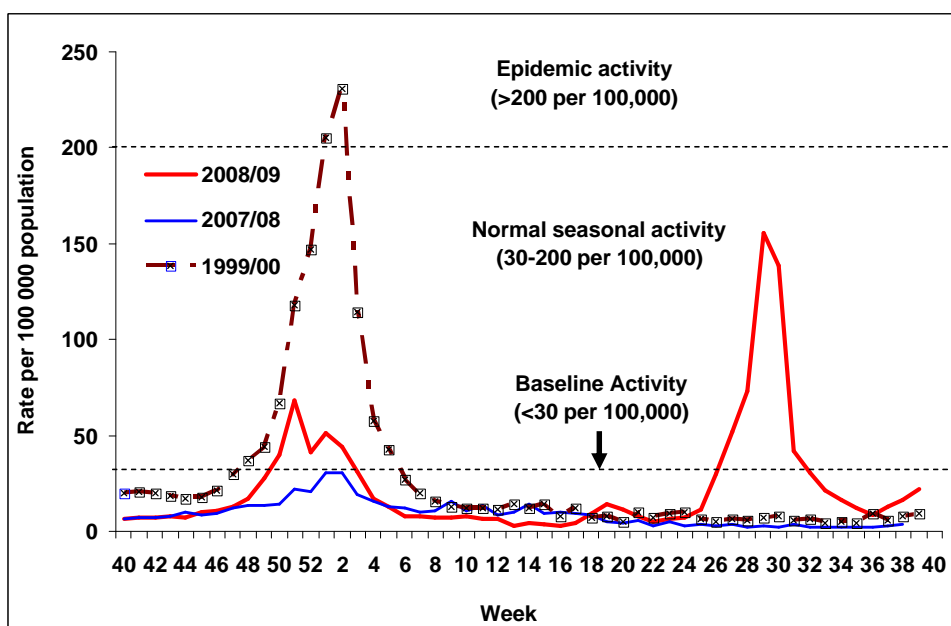


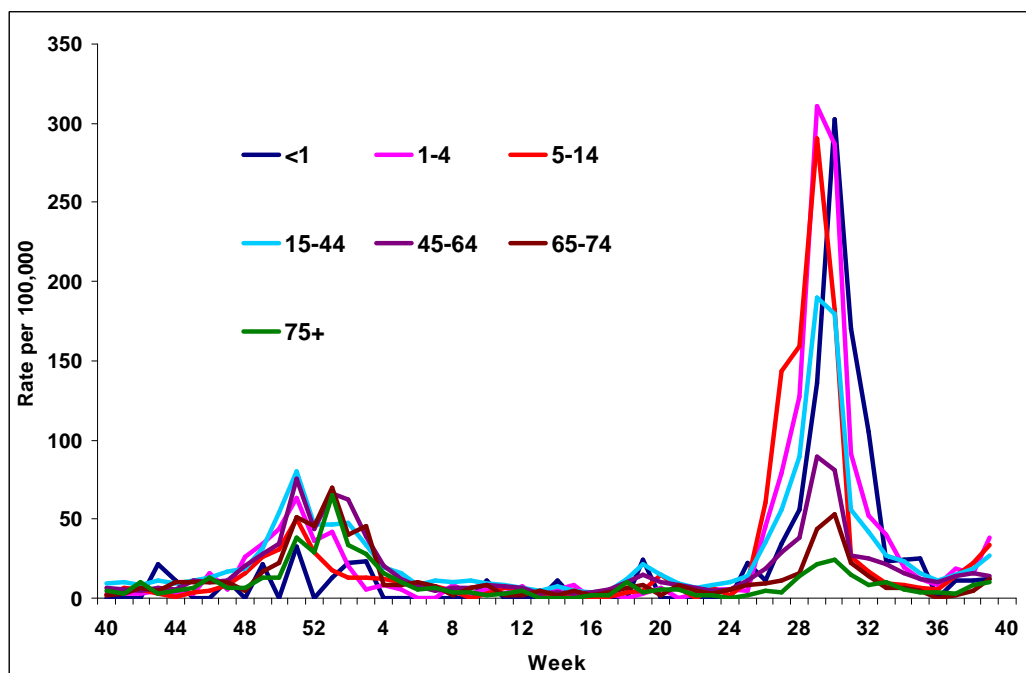
Figure 2: RCGP weekly consultation rate for influenza like illness 2008/09 and recent years.



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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>)

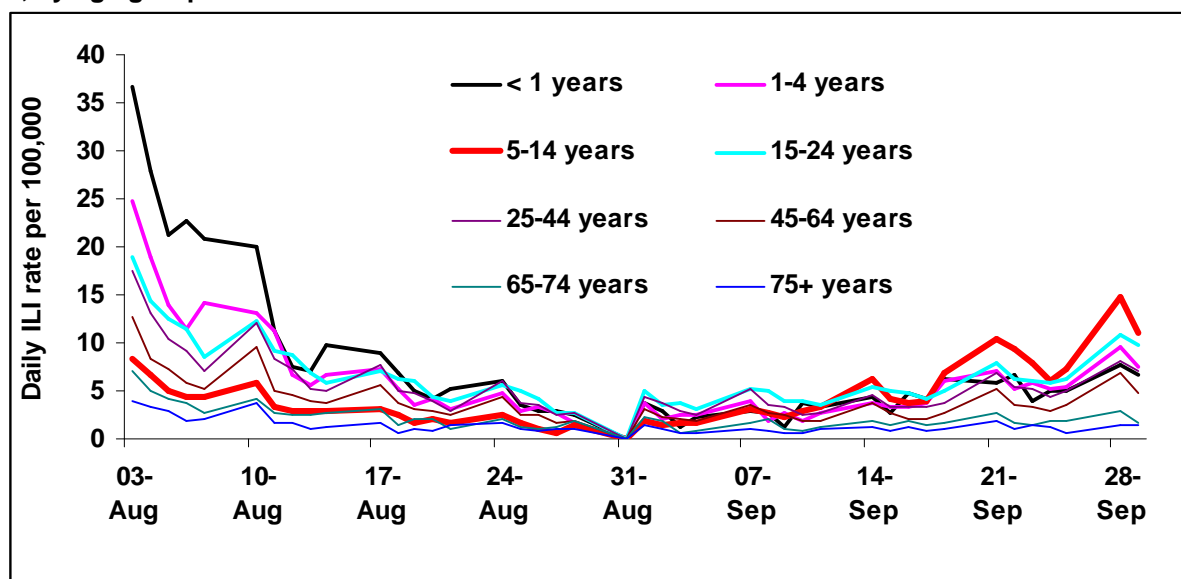
QSurveillance®

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 29 September was 6.3 per 100,000 compared to 4.9 per 100,000 seven days previously on 22 September. The highest rates are in the 5-14 year-olds (11 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 (North West, North East and Yorkshire and Humber SHAs) have the highest daily rates (figure 5).

Daily consultation rates for pneumonia from QSurveillance® have remained stable.

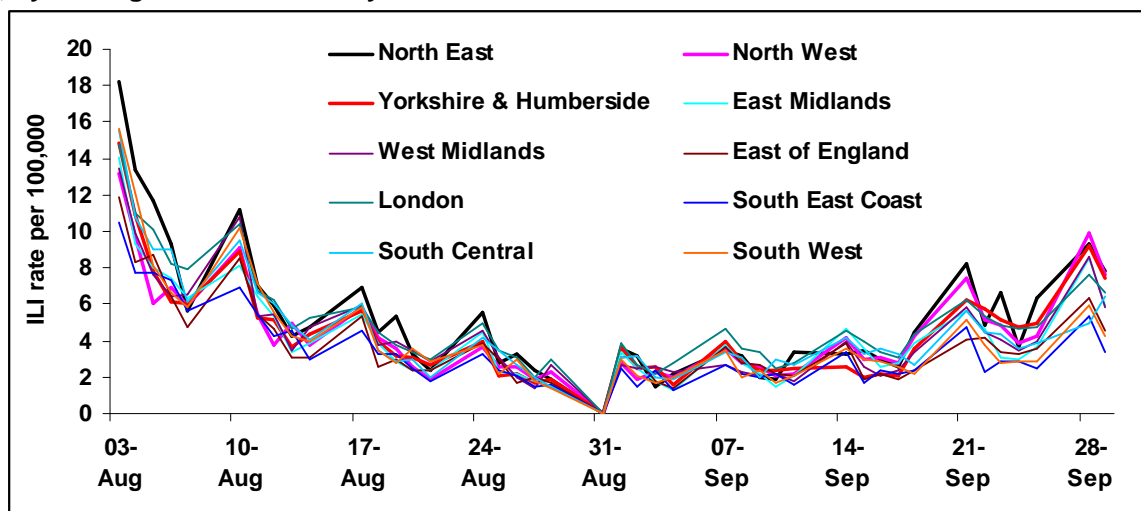
Figure 4: Daily consultation rates for influenza-like illness from QSurveillance®, August-September 2009, by age group



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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 increased (figure 6). The largest numbers of antiviral collections have been 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 25-44 year group (8796 in week 38 to 12,055 in week 39).

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

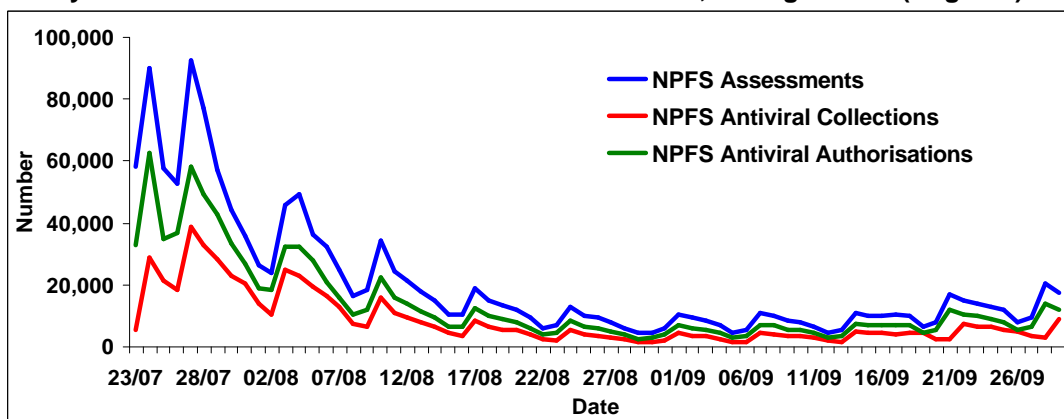
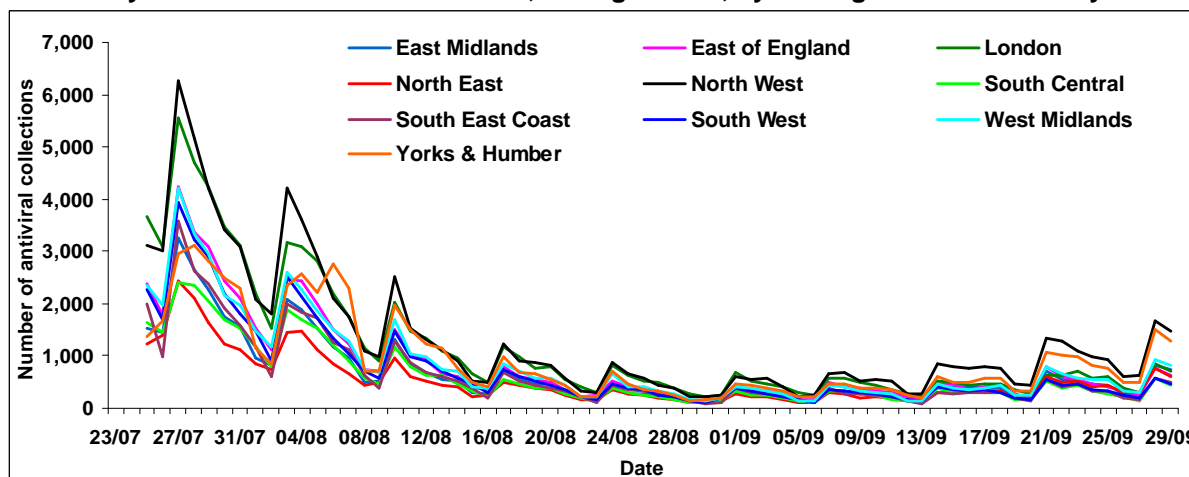


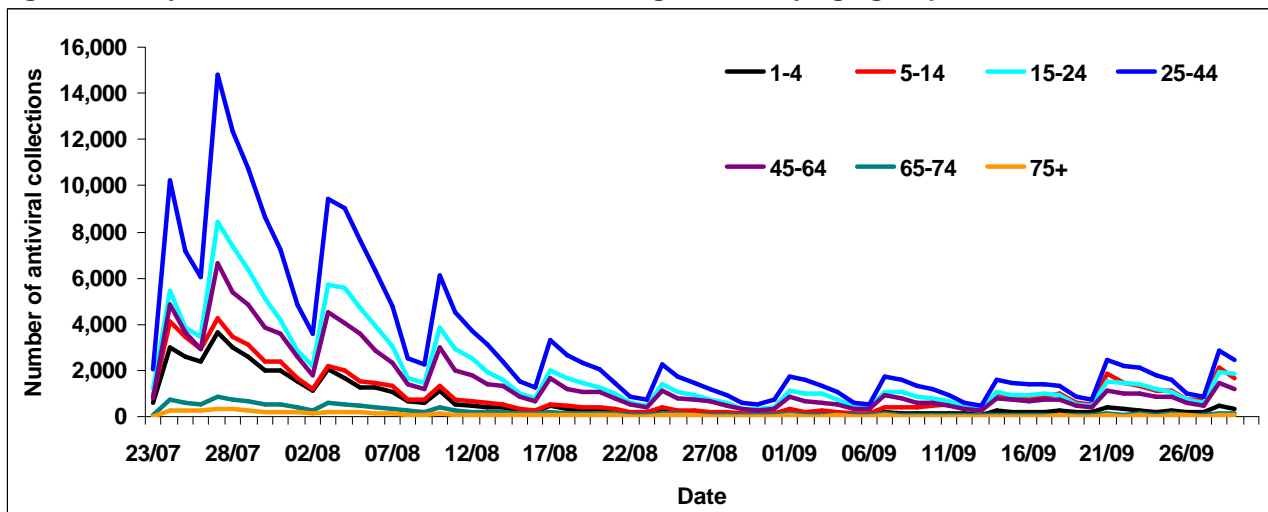
Figure 7: Daily number of antivirals collected, through NPFS, by Strategic Health Authority.



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



Modelling by the Health Protection Agency

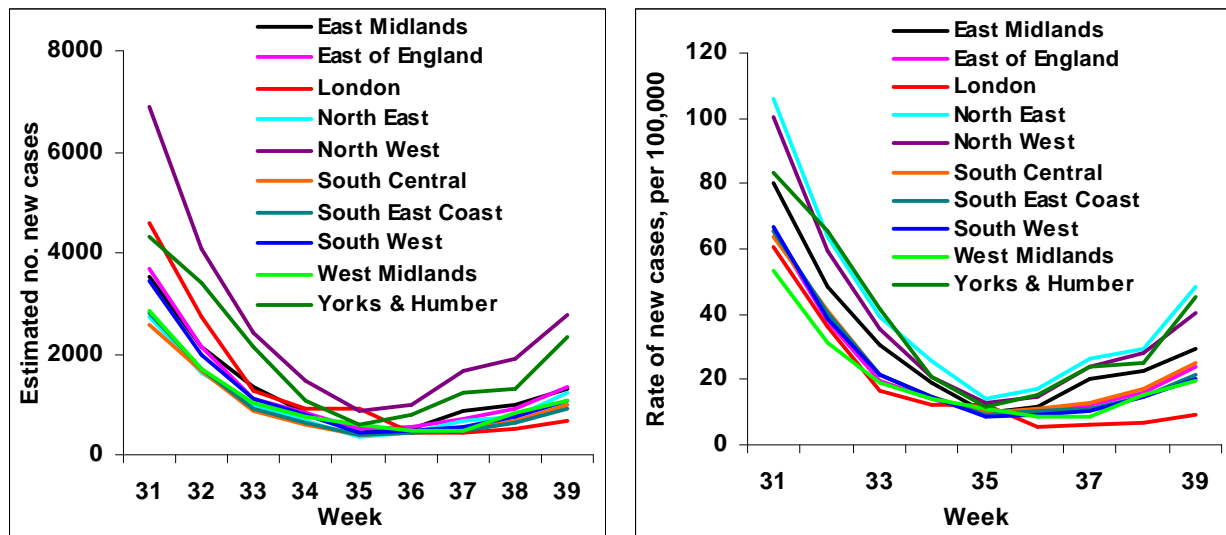
The number of pandemic influenza (H1N1) 2009 cases is estimated using a statistical model. The model relies on data from various surveillance systems and studies. The key surveillance systems that are used consist of the primary care based Q Surveillance® scheme, the RCGP and HPA Regional Microbiology 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 39, 14,000 new cases are estimated to have occurred (range 7000 – 30,000), an increase from 9000 (5000 – 20,000) in week 38. 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.

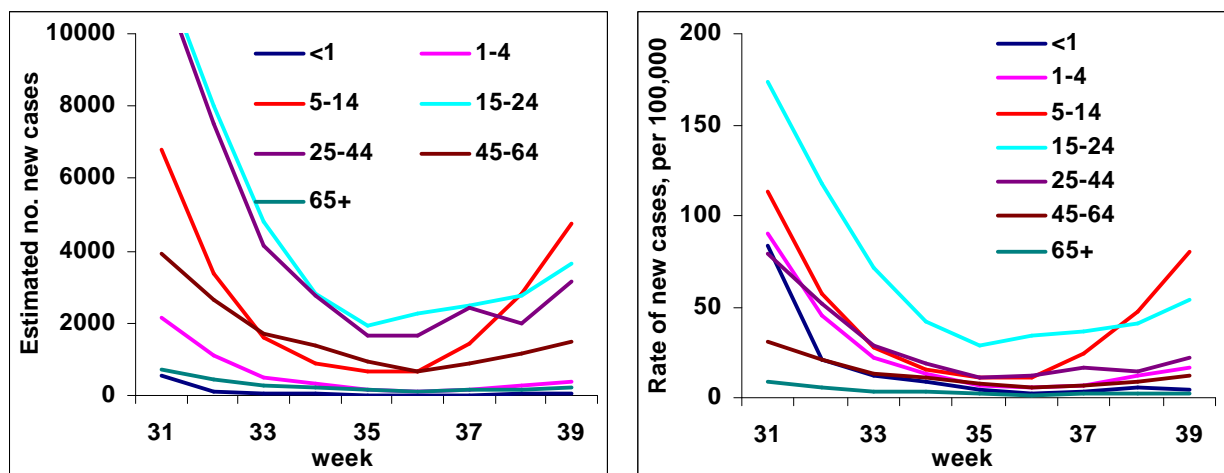


* Based on mid-2007 estimates of England population from ONS.

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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 28 schools with virologically confirmed pandemic influenza in the following regions; North West (3); North East (2); Yorkshire and Humber (8); London (2); South East (3); West Midlands (6); East Midlands (3); East of England (1). A further 25 schools are under investigation because of increased absenteeism due to influenza-like illness. Of the schools with confirmed outbreaks, 19 were day schools (12 secondary, five primary and two special schools) and nine were secondary boarding schools. In week 39, two school outbreaks were reported in Wales (one primary and one secondary) and one 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, three 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	36	37	38	39
Week-ending	06/09/2009	13/09/2009	20/09/2009	27/09/2009
Influenza A	43	32	25	60
Influenza B	0	0	0	0
Adenovirus	24	16	17	11
Coronavirus	0	0	0	1
Parainfluenza	27	24	10	25
Rhinovirus	38	40	20	87
RSV	11	9	6	11

There have now been 14,114 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 29 September

Region / Country	Cumulative number of laboratory confirmed cases
England	11,510
Northern Ireland	336
Scotland	2128
Wales	140
Total UK	14,114

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In addition, there have been 378 cumulative confirmed cases reported from the UK Overseas Territories and Crown Dependencies: Anguilla (1), Bermuda (1), British Virgin Islands (12), Cayman Islands (102 – 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

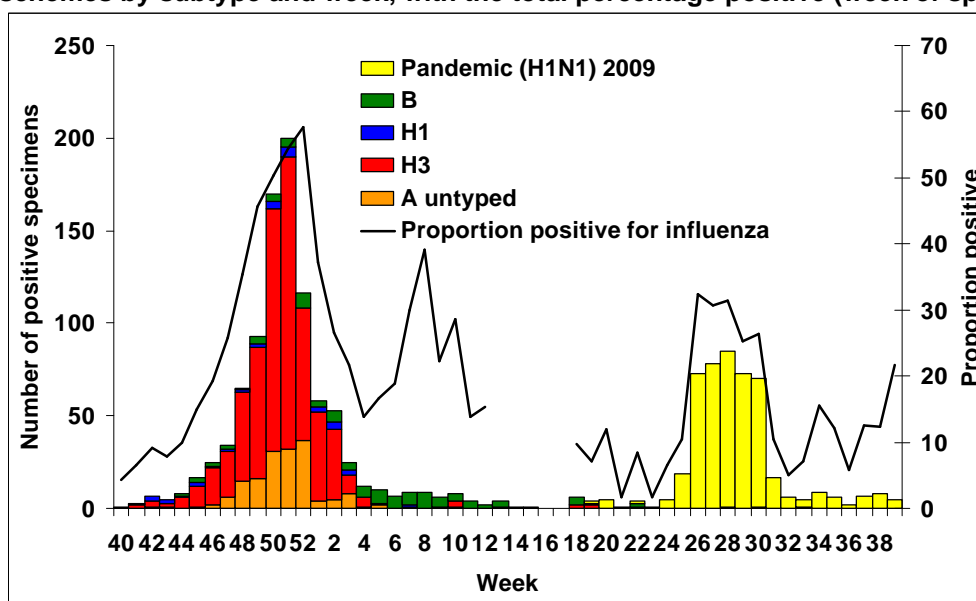
In England three schemes for virological surveillance of influenza are being used: two GP-based (RCGP/HPA and HPA/RMN) and one through NPFS (previous through NHS Direct). Schemes through primary care are also used in Wales, Scotland and Northern Ireland. The proportions positive for pandemic influenza from the GP-based schemes were all over 20% in week 39 and have remained stable in the NPFS scheme (table 3, figure 11). (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	%
18-30	1888	410	21.7	2534	200	7.9	46	2	4.3	344	8	2.3	50	2	4.0
31	163	17	10.4	no data			9	1	11.1	120	10	8.3	41	7	17.1
32	117	6	5.1	523	44	8.4	10	1	10.0	98	8	8.2	42	4	9.5
33	70	4	5.7	323	21	6.5	5	0	0.0	63	8	12.7	25	4	16.0
34	58	9	15.5	247	13	5.3	3	0	0.0	76	8	10.5	40	13	32.5
35	49	6	12.2	239	13	5.4	0	0	0.0	60	6	10.0	17	4	23.5
36	35	2	5.7	290	31	10.7	1	1	—	90	19	21.1	14	3	21.4
37	56	7	12.5	614	67	10.9	0	0	0.0	89	10	11.2	21	3	14.3
38	65	8	12.3	567	56	9.9	4	1	25.0	102	18	17.6	31	12	38.7
39	23	5	21.7	93	9	9.7	7	2	28.6	211	71	33.6	53	18	34.0

* 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 1023 viruses have been analysed for the marker commonly associated with resistance

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to oseltamivir in seasonal influenza (H275Y); two samples were found to carry this mutation. Of these 1023 viruses, 260 have been fully tested for susceptibility; both of the two viruses 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.

Region	Samples tested for Resistance				Proportion resistant
	Screened for H274Y mutation		Fully tested		
	Hospital	Community	Hospital	Community	
East of England	32	14	21	3	0%
East Midlands	15	7	8	3	0%
London	117	173	45	14	0%
North East	39	7	4	0	0%
North West	61	9	7	1	3.6%
South East	88	31	53	9	0%
South West	44	9	6	1	0%
West Midlands	117	60	41	5	0%
Yorkshire and Humber	16	9	8	1	0%
Ireland	8	0	7	0	0%
Northern Ireland	1	0	0	0	0%
Scotland	46	1	14	1	0%
Wales	2	0	0	0	0%
Unknown Region	115	2	7	1	0%
Total	701	322	221	39	0.2%

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.

Age Group	Samples tested for Resistance				Proportion resistant
	Screened for H274Y mutation		Fully tested		
	Hospital	Community	Hospital	Community	
<1	41	6	20	0	0%
1-4	35	9	8	0	0%
5-14	150	107	54	21	0%
15-44	292	173	110	14	0%
45-64	68	26	21	4	1.2%
65	5	1	2	0	16.7%
Unknown	110	0	6	0	0.0%
Total	701	322	221	39	0.2%

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 20 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 20 September 09.

Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
<i>S. aureus</i>	1972	94	348	78
<i>S. pneumoniae</i>	1158	88	1147*	92*
<i>H. influenzae</i>	4752	99	4351	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.

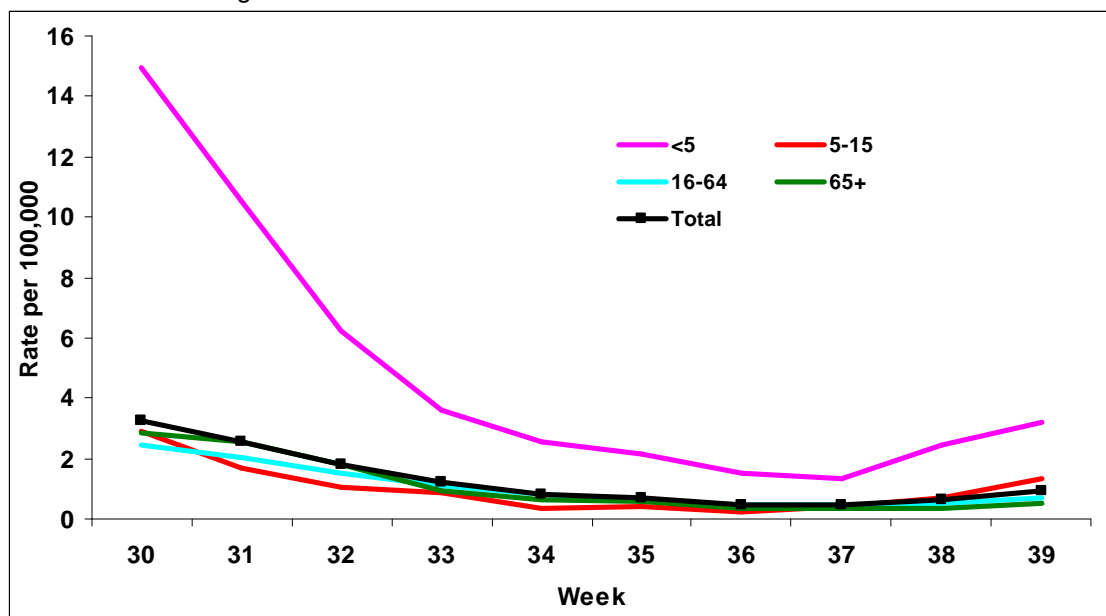
In England, on 30 September there were 286 hospitalised patients with suspected pandemic influenza, an increase from 218 seven days previously. Of the 286, 36 (12.6%) were in intensive care and 103 were newly hospitalised in the 24 hours up to 8am. In week 39 (the 7 days up to 8am Monday 28 September), 467 new patients were hospitalised with suspected pandemic influenza corresponding to a rate of 0.9 per 100,000 population, which is increased from the previous week's rate of 0.6 per 100,000 (table 8). The highest hospitalisation rate has consistently been in those aged under 5 years, the weekly rates have increased in most age groups recently, particularly in the 5-15 year-olds (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 184 cumulative hospitalisations of patients with confirmed pandemic influenza, 60 in Wales and 167 in Northern Ireland.

Table 8: Current inpatients with suspected pandemic influenza in England, up to 29 September 2009.

	Number (rate per 100,000* population)				
	<5	5-15	16-64	65+	Total
Patients currently hospitalised (as of 8am 30 Sept)	55 (1.9)	41 (0.6)	152 (0.5)	38 (0.5)	286 (0.6)
Patients currently in ICU (as of 8am 30 Sept)	6 (0.2)	2 (0.0)	25 (0.1)	3 (0.0)	36 (0.1)
New patients hospitalised in 24 hours up to 8am 30 Sept	22 (0.3)	20 (0.2)	45 (0.1)	16 (0.1)	103 (0.2)
New patients hospitalised in week 37 (7 days to 8am Mon 14 Sept)	40 (1.4)	28 (0.4)	148 (0.4)	30 (0.4)	246 (0.5)
New patients hospitalised in week 38 (7 days to 8am Mon 21 Sept)	73 (2.5)	47 (0.7)	176 (0.5)	28 (0.3)	324 (0.6)
New patients hospitalised in week 39 (7 days to 8am Mon 28 Sept)	94 (3.2)	91 (1.4)	240 (0.7)	42 (0.5)	467 (0.9)

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.



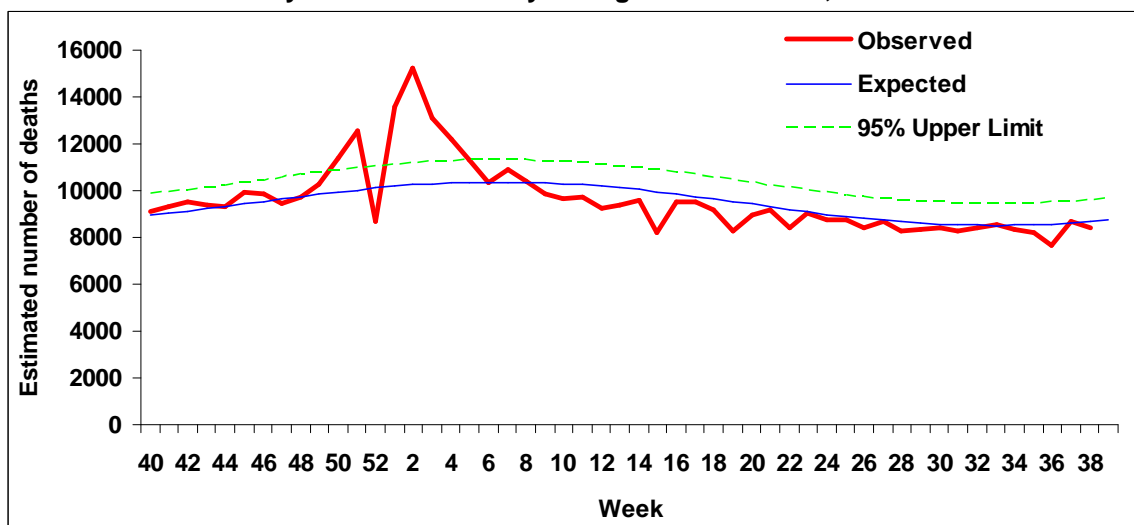
Eighty-four deaths (72 in England, nine in Scotland, two in Northern Ireland and one in Wales) have been reported across the UK in people with pandemic H1N1 infection.

HPA receives weekly death registrations from the Office for National Statistics. In week 38/09, an estimated 8384 all-cause deaths were registered, which is a decrease compared to 8704 in week 37/09. 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 since week 05/09 in February (figure 13).

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Figure 13: Estimated weekly all-cause mortality in England and Wales, 2008/09 season.



International Situation

Confirmed global deaths reported by ECDC (Update 09:00 CEST 30 September 2009)

Globally 4,334 deaths have been reported. Over the last seven days, the total number of deaths recorded since the start of the pandemic globally has increased by 5%, lower than the 12% 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 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 25 September that for:

- **Tropical regions:** influenza activity remains variable. Parts of India, Bangladesh and Cambodia continue to have active influenza transmission, while Indonesia, Singapore and Thailand report declining transmission. Most tropical areas of the Americas still report regional to widespread influenza activity, with no consistent pattern in the trend of respiratory diseases: Peru and Mexico reported an increasing trend in some areas, while Bolivia, Venezuela and Brazil report decreasing trends.
- **Temperate southern hemisphere regions:** influenza transmission has largely returned to baseline (Chile, Argentina and New Zealand) or is starting to decline (Australia and South Africa).
- **Temperate northern hemisphere regions:** The United States reports continued increases in activity above the seasonal baseline, primarily in the southeast but now also in the upper midwest and northeast. In Europe, the Netherlands, France, Ireland and Israel are reporting rates above the seasonal baseline. Influenza activity in Japan continues to be slightly above the seasonal epidemic threshold. Increases in ILI activity were 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 75% of all influenza detections worldwide (an increase from 58% reported in week 36). This rise was due to increases in the northern hemisphere, where the proportion of all influenza detections that were pandemic (H1N1) increased to 79% from 57%. The southern hemisphere saw a decline to 87% of detections from 94% in week 36. Other influenza viruses detected included: influenza A H3 (14%), seasonal A H1 (6%), A not subtyped (16%), and B (4%). 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. Worldwide, 28 cases with resistant viruses have been detected and characterized. All show the same H275Y mutation, which 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

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post-exposure prophylaxis. Six were associated with 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.

WHO does not report any new information about clinical features or at risk groups this week, but has made recommendations for the composition of the influenza virus vaccine for use in the 2010 southern hemisphere influenza season http://www.who.int/csr/disease/influenza/200909_Recommendation.pdf, and recently announced two new candidate reassortment vaccine viruses for vaccine development http://www.who.int/csr/resources/publications/swineflu/x181_x181a/en/index.html. WHO currently estimates worldwide production capacity for pandemic vaccines at approximately 3 billion doses per year.

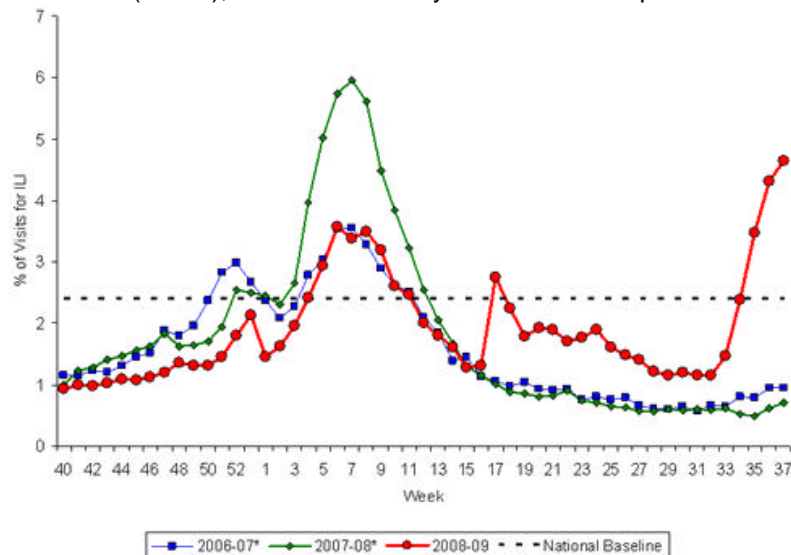
Country updates

Country updates of particular note this week are reported here:

USA

Latest data from CDC <http://www.cdc.gov/flu/weekly/> (week 37: 13 – 19 Sep 2009) shows that influenza activity has continued to increase in the US. Specific indicators show that visits to doctors for influenza like illness have increased over the last five weeks (figure 13) and remain unusually high for the time of year.

Figure 13. 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



Twenty-six 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 and Washington). The proportion of deaths attributed to pneumonia and influenza remains below the epidemic threshold. Three pandemic influenza-associated paediatric deaths were reported in week 37. The majority (99%) of all subtyped influenza A viruses being reported to CDC have been 2009 influenza A (H1N1) viruses.

Canada

Latest data from the Public Health Agency of Canada http://www.phac-aspc.gc.ca/fluwatch/09-10/w37_09/index-eng.php (week 37: 13 - 19 Sep 2009) shows that overall influenza activity increased slightly this week, and remains high for this time of year. The national ILI consultation rate increased for a second consecutive week to 23 consultations per 100,000, above the expected range. Although there is no indication of the emergence of the second wave of pandemic (H1N1) 2009, significant increases in influenza activity were seen in southern British Columbia.

France

Latest data from the l'Institut de Veille Sanitaire (InVS) http://www.invs.sante.fr/display/?doc=surveillance/grippe_dossier/index_h1n1.htm shows that in metropolitan France from 14 to 20 September the incidence of consultations for clinical influenza estimated by the Sentinel network increased to 262 cases per 100,000 inhabitants which is well above the epidemic threshold (90 cases for 100,000 inhabitants). The excess of influenza clinic consultations was estimated at 151,000. A further 20 episodes of clustered confirmed influenza cases were reported this week.

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Ireland

As of week 38 (14 -20 Sep 2009), the influenza-like illness (ILI) GP consultation was 72.2 per 100,000 population in week 38, a marked increase compared to the updated rate of 42.2/100,000 for week 36. The number of hospitalised cases increased, as did reports of outbreaks in schools. <http://www.hpsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/Surveillance%20Reports/File,3749,en.pdf>

Australia

As of 18 September 2009, the number of new confirmed pandemic (H1N1) 2009 cases and hospitalisations has decreased nationally, indicating the first wave of the pandemic has subsided. Overall, ILI presentations to General Practitioners have remained steady or decreased, and are below national levels for 2007 and 2008. ILI presentations to emergency departments decreased across all reporting systems. Indigenous Australians are approximately 10 times more likely than non-Indigenous Australians to be hospitalised for pandemic (H1N1) 2009. 32% of all hospitalisations were pregnant women aged 20-39 years and, where Indigenous status was known, 20% have been Indigenous Australians. Most of the 172 deaths associated with pandemic (H1N1) 2009 had underlying medical conditions including cancer, diabetes and morbid obesity.

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/D172E87918D1CE17CA25763E00823443/\\$File/ozflu-no19-2009.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/D172E87918D1CE17CA25763E00823443/$File/ozflu-no19-2009.pdf)

Other intelligence:

1. The European Commission has authorised two pandemic influenza vaccines following the positive scientific opinion issued by the Committee for Medicinal Products for Human Use (CHMP) at the European Medicines Agency (EMA). The products concerned are Focetria® (Novartis), and Pandemrix® (GlaxoSmithKline). The vaccines will be authorised for use in all Member States of the EU and the EEA. <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1384>
2. ECDC has published an updated interim risk assessment for pandemic H1N1 2009 This update draws especially on data and experience from the Southern Hemisphere's temperate countries during their winter flu season. http://ecdc.europa.eu/en/healthtopics/Documents/0908_Influenza_AH1N1_Risk_Assessment.pdf
3. CDC has published Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season <http://www.cdc.gov/h1n1flu/recommendations.htm>
4. Fitness of Pandemic H1N1 and Seasonal influenza A viruses during Co-infection: Evidence of competitive advantage of pandemic H1N1 influenza versus seasonal influenza. This study showed that the current pandemic virus is more transmissible than, and has a biological advantage over, prototypical seasonal H1 or H3 strains <http://www.ncbi.nlm.nih.gov/rrn/RRN1011>

A ProMED report describes two patients in the Netherlands infected with influenza pandemic A(H1N1) 2009 virus that had a mutation (E627K) in the basic polymerase 2 (PB2) protein. This mutation has previously been associated with increased efficiency of replication and possible virulence changes in other influenza A viruses

http://www.promedmail.org/pls/otn/f?p=2400:1001:2563940884289071::NO::F2400_P1001_BACK_PAGE,F2400_P1001_PUB_MAIL_ID:1000,79432

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