

**2008-2009 Influenza Season**  
**Week 46, ending November 15, 2008**

*(All data are preliminary and may change as more reports are received.)*

**Synopsis:** During week 46 (November 9-15, 2008), a low level of influenza activity was reported in the United States.

- Sixteen (0.9%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories, and reported to CDC/Influenza Division, were positive for influenza.
- The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- The proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels.
- Twenty-one states, the District of Columbia, and Puerto Rico reported sporadic influenza activity and 29 states reported no influenza activity.
- One human infection with a novel influenza A virus was reported.

**National and Regional Summary of Select Surveillance Components**

	Data for current week			Data cumulative for the season				
	Out-patient ILI*	% positive for flu†	Number of jurisdictions reporting regional or widespread activity‡	A (H1)	A (H3)	A Unsub-typed	B	Pediatric Deaths
<b>Nation</b>	Normal	0.9%	0 of 51	62	12	101	43	0
<b>New England</b>	Normal	0.3%	0 of 6	0	1	0	1	0
<b>Mid-Atlantic</b>	Normal	0.2%	0 of 3	2	0	2	1	0
<b>East North Central</b>	Normal	3.6%	0 of 5	3	0	2	4	0
<b>West North Central</b>	Normal	0.3%	0 of 7	0	0	2	1	0
<b>South Atlantic</b>	Normal	1.1%	0 of 9	6	2	28	13	0
<b>East South Central</b>	Normal	0.0%	0 of 4	0	0	0	0	0
<b>West South Central</b>	Normal	2.3%	0 of 4	6	0	21	12	0
<b>Mountain</b>	Normal	0.6%	0 of 8	0	7	5	3	0
<b>Pacific</b>	Normal	2.9%	0 of 5	45	2	41	8	0

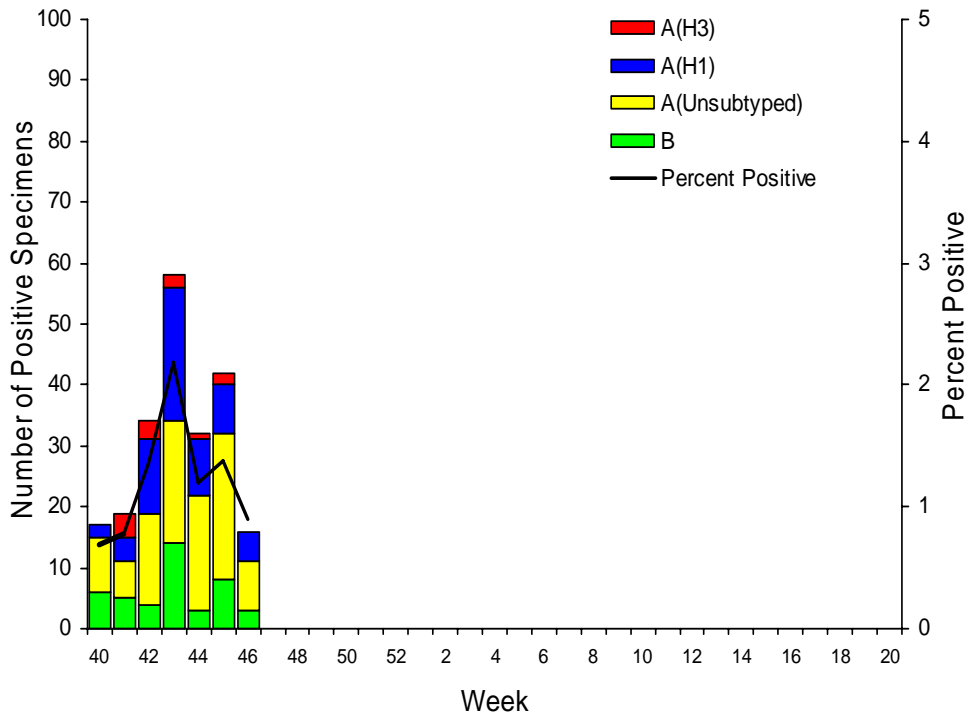
\* Elevated means the % of visits for ILI is at or above the national or region-specific baseline

† National data are for current week; regional data are for the most recent three weeks

‡ Includes all 50 states and the District of Columbia

**U.S. Virologic Surveillance:** During week 46, WHO and NREVSS laboratories located in all 50 states and Washington D.C. reported 1,772 specimens tested for influenza viruses, 16 of which were positive: five influenza A (H1) viruses (Mid-Atlantic, South Atlantic, and West South Central regions), eight influenza A viruses that were not subtyped (East North Central, Mountain, Pacific, and West South Central regions), and three influenza B viruses (East North Central, South Atlantic, and West South Central regions). Twenty-three states from eight of the nine surveillance regions have reported laboratory-confirmed influenza this season.

### Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2008-09



**Antigenic Characterization:** CDC has antigenically characterized one influenza virus collected by U.S. laboratories since October 1, 2008. This influenza B virus was characterized as B/Florida/04/2006-like. The influenza B component of the 2008-09 influenza vaccine is a B/Florida/04/2006-like virus.

In addition, a small number of isolates from specimens collected during September have been antigenically characterized: one influenza A (H1N1), three influenza A (H3N2), and four influenza B viruses. All seven viruses were antigenically related to the components selected for the 2008-09 influenza vaccine (A/Brisbane/59/2007-like (H1N1), A/Brisbane/10/2007-like (H3N2) and B/Florida/04/2006-like).

It is too early in the influenza season to determine which influenza viruses will predominate or how well the vaccine and circulating strains will match.

**Novel Influenza A Viruses:** One case of human infection with a novel influenza A virus was reported by the Texas Department of State Health Services during week 46. The person was infected with a swine influenza A (H1N1) virus, and reported several swine exposures including close contact with an ill pig. Although human infection with swine influenza is uncommon, sporadic cases have occurred in many years, usually among people in direct contact with ill pigs or who have been in places where pigs may have been present (e.g. agricultural fairs, farms, or petting zoos). The sporadic cases of human infections with swine influenza viruses identified in recent years have not resulted in sustained human-to-human transmission or community outbreaks. Nonetheless, when cases are identified, CDC recommends thorough investigations to evaluate the extent of the outbreak and possible human to human transmission, as transmission patterns may change with changes in swine influenza viruses.

**Antiviral Resistance:** In the United States, two groups of antiviral drugs have been approved by Food and Drug Administration for use in treating or preventing influenza virus infections. These two groups of antiviral drugs are the neuraminidase inhibitors (oseltamivir and zanamivir) and the adamantanes (amantadine and rimantadine). A description of these drugs can be found at: <http://www.cdc.gov/flu/protect/antiviral/index.htm>.

**Neuraminidase Inhibitor Antiviral Drugs:** Since October 1, 2008, two influenza A (H1N1) viruses, four influenza A (H3N2) viruses, and five influenza B viruses have been tested for antiviral resistance. One of the two influenza A (H1N1) viruses was found to be resistant to oseltamivir. All the influenza A (H3N2) viruses and influenza B viruses tested retain their sensitivity to oseltamivir. All tested viruses retain their sensitivity to zanamivir.

In addition, CDC performed antiviral resistance testing on one influenza A (H1N1), three influenza A (H3N2), and four influenza B viruses collected during September. All tested viruses are sensitive to both oseltamivir and zanamivir.

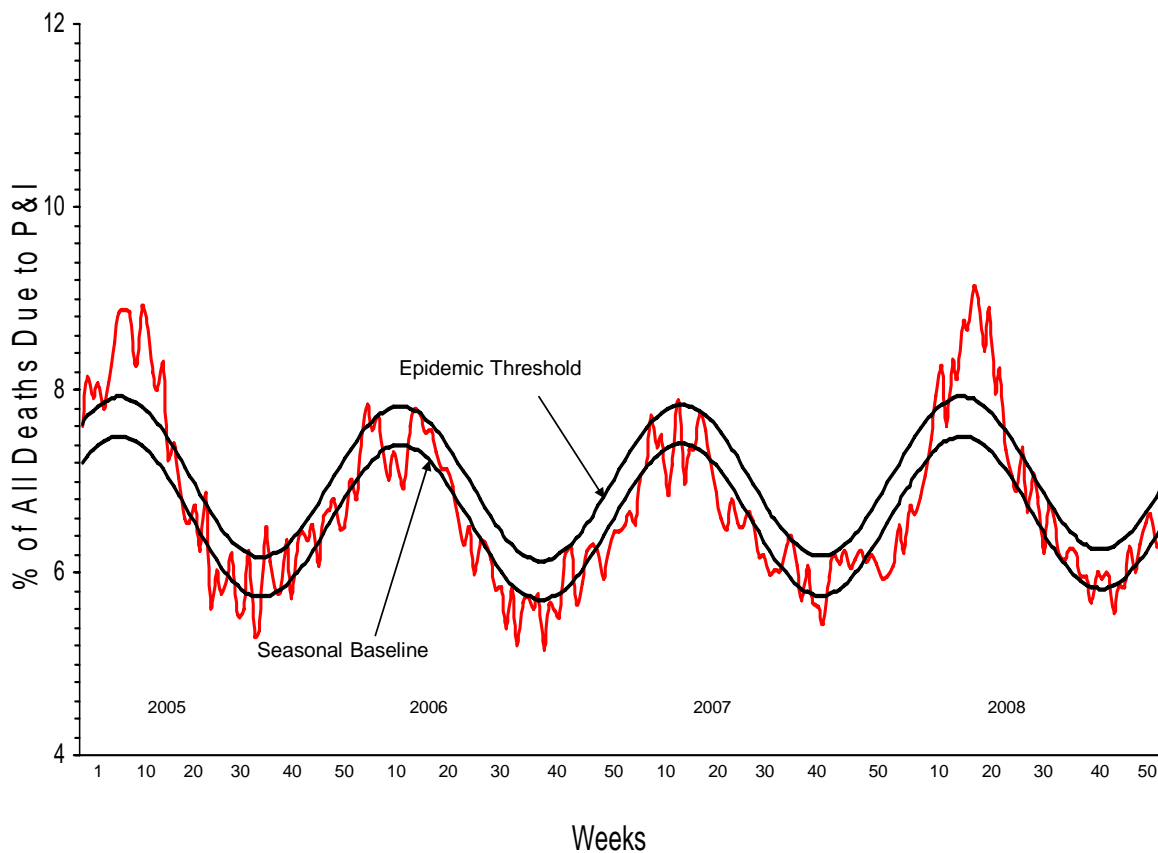
Additional information on antiviral resistance can be found at: <http://www.cdc.gov/flu/about/qa/antiviralresistance.htm>.

**Adamantane Antiviral Drugs:** Three isolates from specimens collected during September were tested for adamantane resistance. The one influenza A (H1N1) virus tested and the two influenza A (H3N2) viruses tested were resistant to the adamantanes. The adamantanes are not effective against influenza B viruses.

Based on the level of oseltamivir resistance observed in only one influenza subtype, H1N1, and the persisting high levels of resistance to the adamantanes in H3N2 viruses, CDC continues to recommend the use of oseltamivir and zanamivir for the treatment or prevention of influenza in the United States. Use of amantadine or rimantadine is not recommended. Guidance on influenza antiviral use can be found at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e717a1.htm>

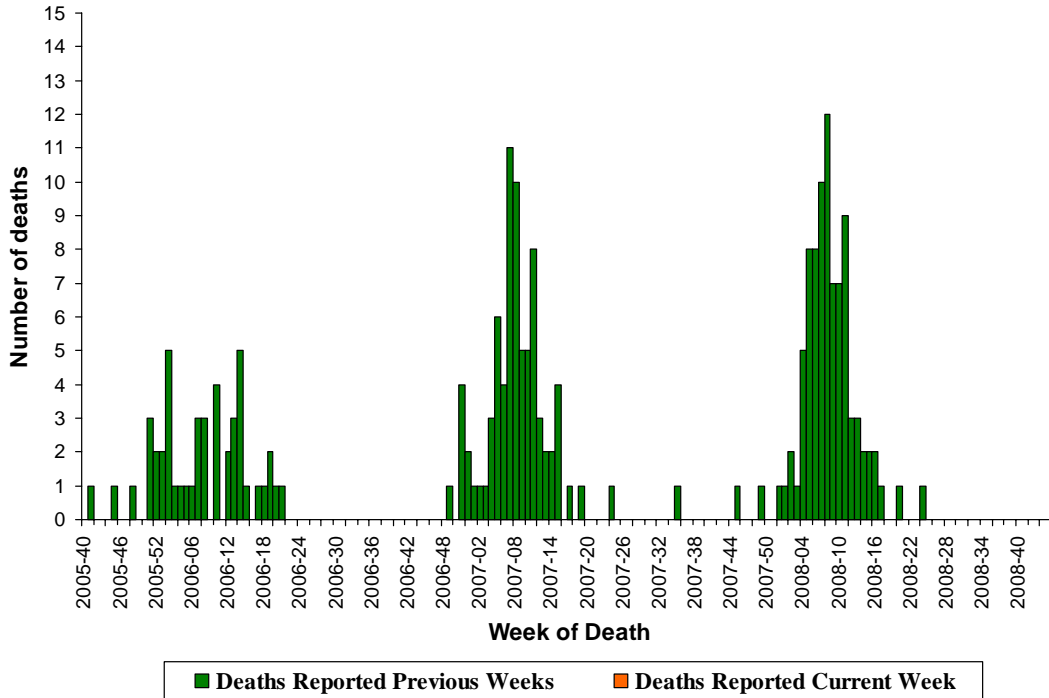
**Pneumonia and Influenza (P&I) Mortality Surveillance:** During week 46, 6.4% of all deaths reported through the 122-Cities Mortality Reporting System were due to P&I. This percentage is below the epidemic threshold of 6.9% for week 46.

### Pneumonia and Influenza Mortality for 122 U.S. Cities Week ending 11/15/2008



**Influenza-Associated Pediatric Mortality:** No influenza-associated pediatric deaths were reported during week 46.

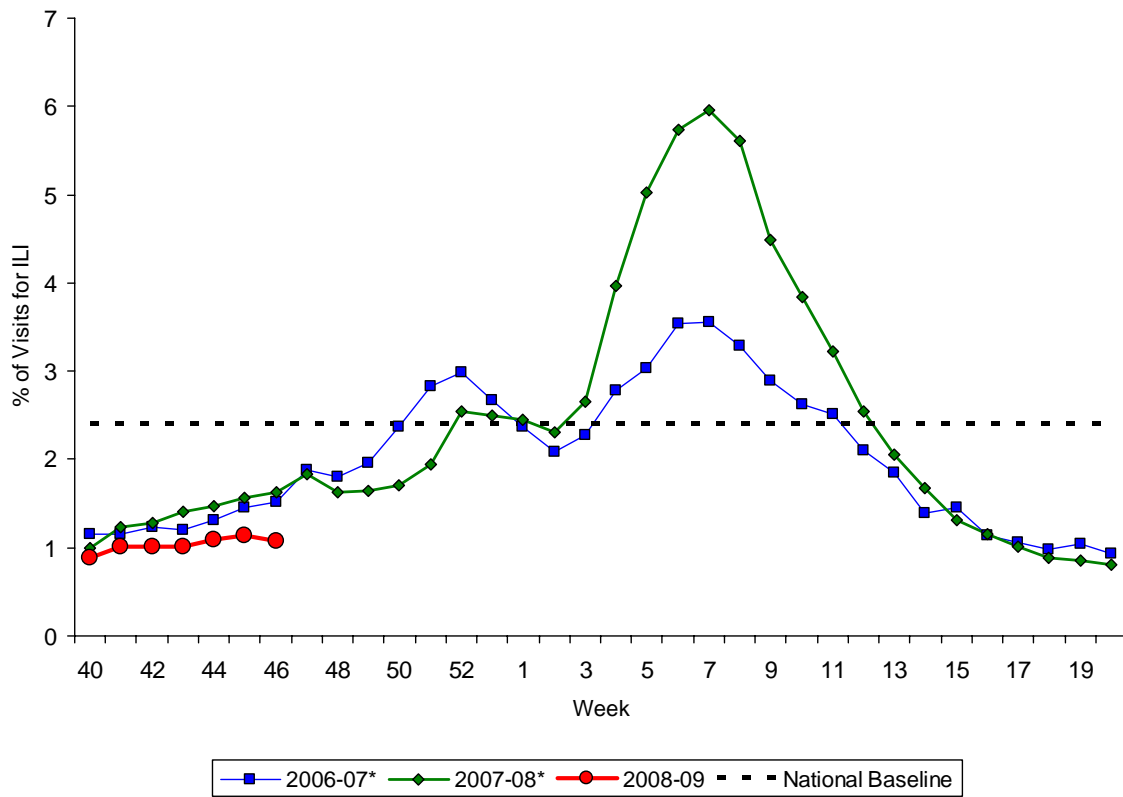
Number of Influenza-Associated Pediatric Deaths by Week of Death:  
2005-06 season to present



**Influenza-Associated Hospitalizations:** Laboratory-confirmed influenza-associated hospitalizations are monitored in two population-based surveillance networks: the Emerging Infections Program (EIP) and the New Vaccine Surveillance Network (NVSN). EIP and NVSN estimated rates of hospitalization for influenza will be reported every two weeks starting later this season.

**Outpatient Illness Surveillance:** During week 46, 1.1% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) (formerly known as the U.S. Influenza Sentinel Provider Surveillance Network) were due to influenza-like illness (ILI). This percentage is less than the national baseline of 2.4%. On a regional level, the percentage of visits for ILI ranged from 0.4% to 1.8%. All nine regions reported percentages of visits for ILI below their respective region-specific baselines.

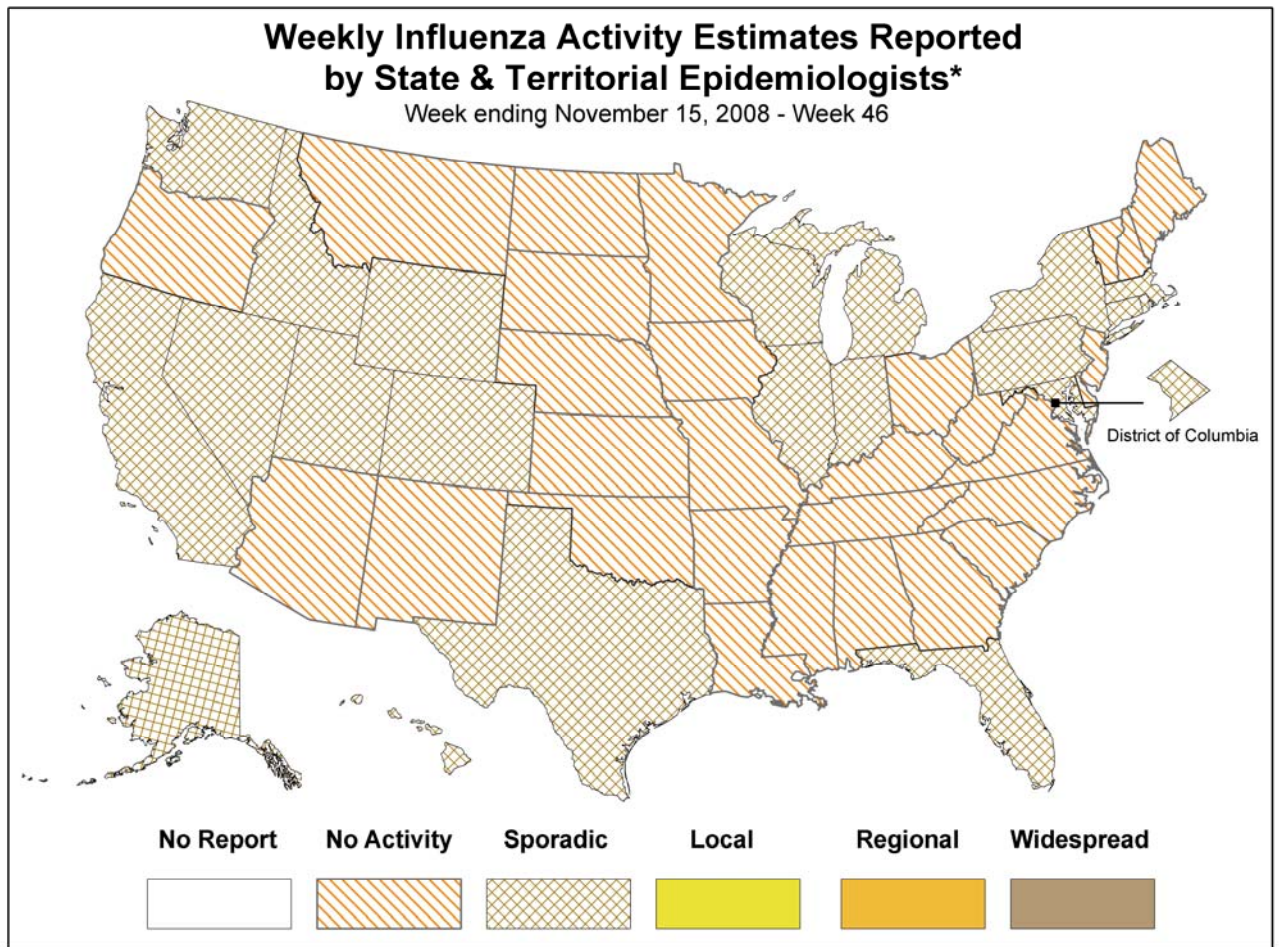
### Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), National Summary, 2008-09 and Previous Two Seasons



\*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.

**Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists:** During week 46 the following influenza activity was reported:

- Sporadic activity was reported in the District of Columbia, Puerto Rico and 21 states (Alaska, California, Colorado, Connecticut, Florida, Hawaii, Idaho, Illinois, Indiana, Massachusetts, Maryland, Michigan, Nevada, New York, Pennsylvania, Rhode Island, Texas, Utah, Washington, Wisconsin, and Wyoming).
- No influenza activity was reported in 29 states (Alabama, Arizona, Arkansas, Delaware, Georgia, Iowa, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia).



\* This map indicates geographic spread & does not measure the severity of influenza activity

A description of surveillance methods is available at: <http://www.cdc.gov/flu/weekly/fluactivity.htm>

Report prepared: November 21, 2008