

## 2010-2011 Influenza Season Week 44 ending November 6, 2010

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

**Synopsis:** During week 44 (October 31-November 6, 2010), influenza activity remained low in the United States.

- Of 2,704 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, 185 (6.8%) were positive for influenza.
- Two human infections with novel influenza A viruses were reported.
- The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- One influenza-associated pediatric death was reported and was associated with an influenza A virus for which the subtype was undetermined.
- The proportion of outpatient visits for influenza-like illness (ILI), 1.3%, was below the national baseline, 2.5%. All 10 regions reported ILI below region-specific baseline levels; one state experienced low ILI activity, 49 states experienced minimal ILI activity.
- Geographic spread of influenza in three states was reported as local; the District of Columbia, Puerto Rico, and 34 states reported sporadic activity; Guam and 13 states reported no influenza activity, and the U.S. Virgin Islands did not report.

### National and Regional Summary of Select Surveillance Components

HHS Surveillance Regions*	Data for current week			Data cumulative since October 3, 2010 (Week 40)				
	Out-patient ILI†	% positive for flu‡	Number of jurisdictions reporting regional or widespread activity§	A (H3)	2009 A (H1N1)	A (Subtyping not performed)	B	Pediatric Deaths
<b>Nation</b>	Normal	6.8%	0 of 54	159	49	194	173	1
<b>Region 1</b>	Normal	1.4%	0 of 6	5	1	0	1	0
<b>Region 2</b>	Normal	1.4%	0 of 4	11	0	7	2	0
<b>Region 3</b>	Normal	0.7%	0 of 6	11	2	0	1	0
<b>Region 4</b>	Normal	11.6%	0 of 8	53	10	141	130	0
<b>Region 5</b>	Normal	1.1%	0 of 6	14	3	1	0	0
<b>Region 6</b>	Normal	2.2%	0 of 5	14	1	11	13	1
<b>Region 7</b>	Normal	0.9%	0 of 4	2	1	1	1	0
<b>Region 8</b>	Normal	2.5%	0 of 6	19	10	20	3	0
<b>Region 9</b>	Normal	5.7%	0 of 5	29	21	11	20	0
<b>Region 10</b>	Normal	0.7%	0 of 4	1	0	2	2	0

\*HHS regions (Region 1 CT, ME, MA, NH, RI, VT; Region 2: NJ, NY, Puerto Rico, U.S. Virgin Islands; Region 3: DE, DC, MD, PA, VA, WV; Region 4: AL, FL, GA, KY, MS, NC, SC, TN; Region 5: IL, IN, MI, MN, OH, WI; Region 6: AR, LA, NM, OK, TX; Region 7: IA, KS, MO, NE; Region 8: CO, MT, ND, SD, UT, WY; Region 9: AZ, CA, Guam, HI, NV; and Region 10: AK, ID, OR, WA).

† 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.

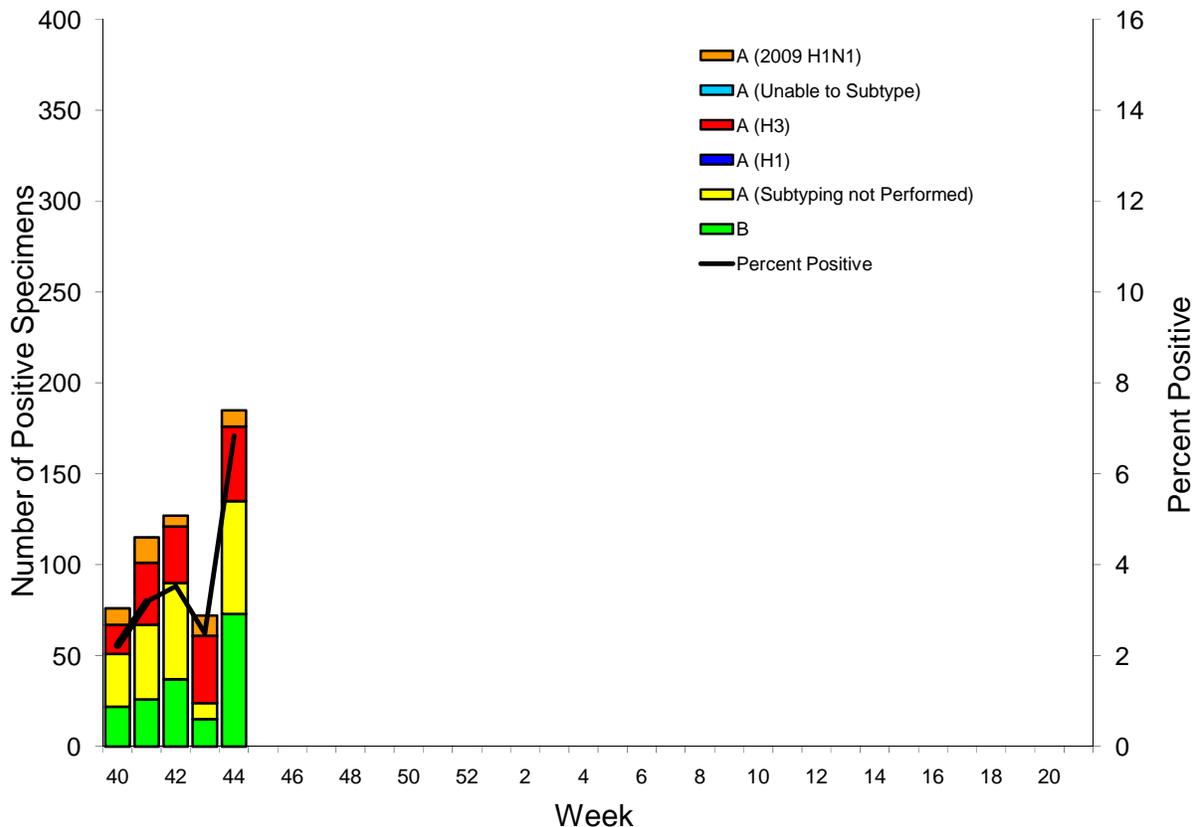
§ Includes all 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

**U.S. Virologic Surveillance:** WHO and NREVSS collaborating laboratories located in all 50 states and Washington D.C. report to CDC the number of respiratory specimens tested for influenza and the number positive by influenza type and subtype. The results of tests performed during the current week are summarized in the table below.

	<b>Week 44</b>
<b>No. of specimens tested</b>	2,704
<b>No. of positive specimens (%)</b>	185 (6.8%)
<b>Positive specimens by type/subtype</b>	
<b>Influenza A</b>	112 (60.5%)
<b>A (2009 H1N1)</b>	9 (8.0%)
<b>A (subtyping not performed)</b>	41 (36.6%)
<b>A (H3)</b>	62 (55.4%)
<b>Influenza B</b>	73 (39.5%)

Thirty-five states from all 10 surveillance regions have reported laboratory-confirmed influenza this season. Region 4 in the Southeastern United States has accounted for 334 (58.1%) of the 575 reported influenza viruses this season.

### Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2010-11 Season



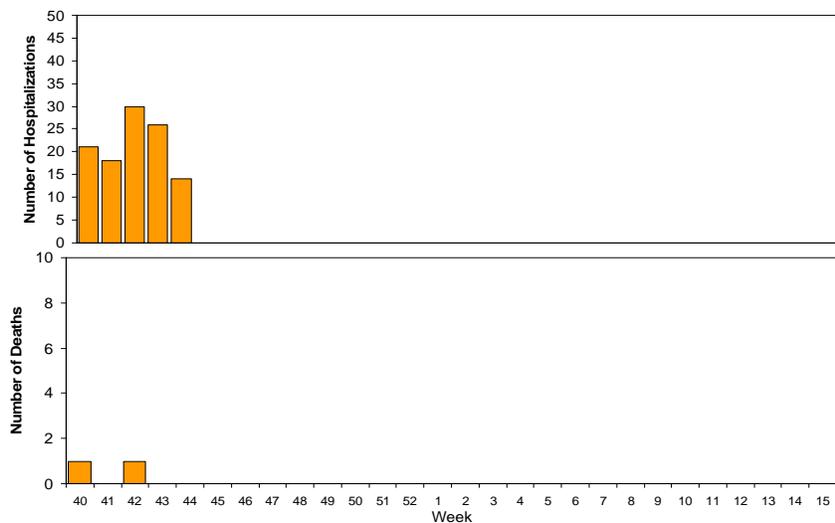
**Novel Influenza A Virus:** Two cases of human infection with a novel influenza A virus were reported: one case by the Wisconsin Department of Health Services and one case by the Pennsylvania Department of Health. Both patients were infected with a swine origin influenza A (H3N2) virus similar to the three other swine origin influenza A (H3N2) viruses previously identified in 2009 and 2010. The Wisconsin case reported contact with pigs in the week preceding symptom onset on September 8, 2010 and required hospitalization. No contact with pigs has been identified in the Pennsylvania case in the week before symptom onset on October 24, 2010; however the case lives in an area close to pig farms. Both patients have fully recovered from their illness. The cases are not related and the viruses from these two cases have some genetic differences, indicating that they did not come from the same source.

Although both investigations are ongoing, there is no evidence of human-to-human transmission with this virus in either case. Early identification and investigation of human infections with novel influenza A viruses is critical to evaluate the extent of the outbreak and possible human-to-human transmission. Surveillance for human infections with novel influenza A viruses continues year round.

For additional information on these cases and swine influenza, see <http://www.cdc.gov/media/subtopic/heard.htm#h3n2>

**Aggregate Hospitalization and Death Reporting Activity (AHDRA):** This system tracks weekly counts of laboratory-confirmed influenza-associated hospitalizations and deaths and was implemented on August 30, 2009, during the 2009 pandemic, and ended on April 4, 2010. AHDRA surveillance during the 2010-11 season is being continued on a voluntary basis and 20 jurisdictions reported during week 44. From October 3-November 6, 2010, 109 laboratory-confirmed influenza associated hospitalizations and two laboratory-confirmed influenza associated deaths were reported to CDC.

### Weekly Laboratory-Confirmed Influenza-Associated Hospitalizations and Deaths, National Summary, 2010-11 Season



**Antigenic Characterization:** CDC has antigenically characterized eight influenza viruses [four 2009 influenza A (H1N1) viruses, three influenza A (H3N2) viruses, and one influenza B virus] collected by U.S. laboratories since October 1, 2010.

**2009 Influenza A (H1N1) [4]**

- All four were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2010-11 influenza vaccine for the Northern Hemisphere.

**Influenza A (H3N2) [3]**

- All three were characterized as A/Perth/16/2009-like, the influenza A (H3N2) component of the 2010-11 influenza vaccine for the Northern Hemisphere.

**Influenza B [1]**

- This virus belongs to the B/Victoria lineage of viruses and was characterized as B/Brisbane/60/2008-like, the recommended influenza B component for the 2010-11 Northern Hemisphere influenza vaccine.

**Antiviral Resistance:** Testing of 2009 influenza A (H1N1), influenza A (H3N2), and influenza B virus isolates for resistance to neuraminidase inhibitors (oseltamivir and zanamivir) is performed at CDC using a functional assay. Additional 2009 influenza A (H1N1) clinical samples are tested for a single known mutation in the neuraminidase protein of the virus that confers oseltamivir resistance (H275Y). The data summarized below combine the results of both test methods and includes samples that were tested as part of routine surveillance purposes; it does not include diagnostic testing specifically done because of clinical suspicion of antiviral resistance.

High levels of resistance to the adamantanes (amantadine and rimantadine) persist among 2009 influenza A (H1N1) and A (H3N2) viruses (the adamantanes are not effective against influenza B viruses) circulating globally. As a result of the sustained high levels of resistance, data from adamantane resistance testing are not presented weekly in the table below.

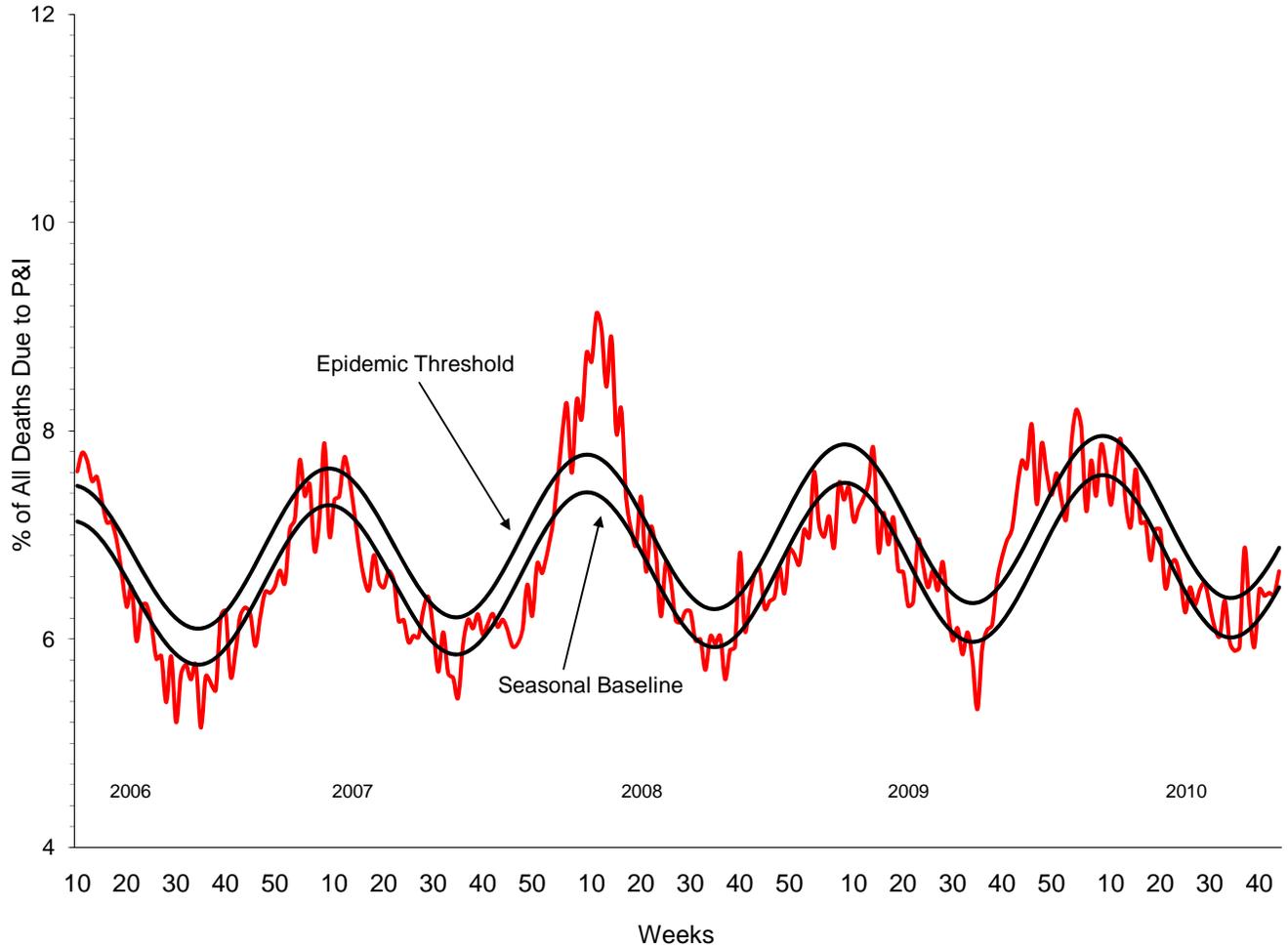
**Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2010.**

	Viruses tested (n)	Resistant Viruses, Number (%)	Viruses tested (n)	Resistant Viruses, Number (%)
		Oseltamivir		Zanamivir
Seasonal Influenza A (H1N1)	0	0 (0.0)	0	0 (0.0)
Influenza A (H3N2)	4	0 (0.0)	4	0 (0.0)
Influenza B	1	0 (0.0)	1	0 (0.0)
2009 Influenza A (H1N1)	5	0 (0.0)	4	0 (0.0)

To prevent the spread of antiviral resistant virus strains, CDC reminds clinicians and the public of the need to continue hand and cough hygiene measures for the duration of any symptoms of influenza, even while taking antiviral medications. Additional information on antiviral recommendations for treatment and chemoprophylaxis of influenza virus infection is available at <http://www.cdc.gov/flu/antivirals/index.htm>.

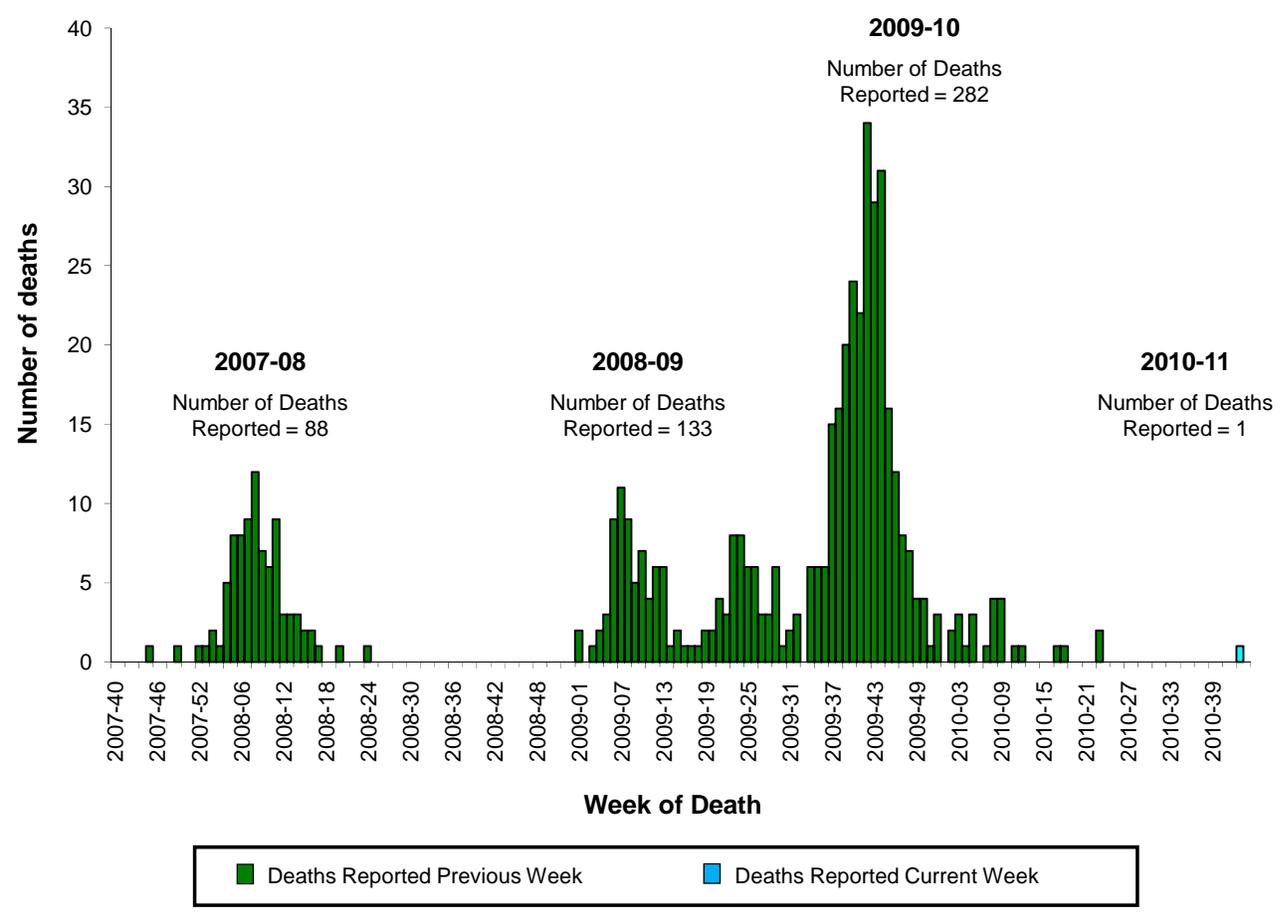
**Pneumonia and Influenza (P&I) Mortality Surveillance:** During week 44, 6.7% of all deaths reported through the 122-Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.9% for week 44.

### Pneumonia and Influenza Mortality for 122 U.S. Cities Week ending 11/6/2010



**Influenza-Associated Pediatric Mortality:** One influenza-associated pediatric death was reported to CDC during week 44 (Texas). This death was associated with an influenza A virus for which the subtype was not determined. The death reported during week 44 occurred between October 24 and October 30, 2010.

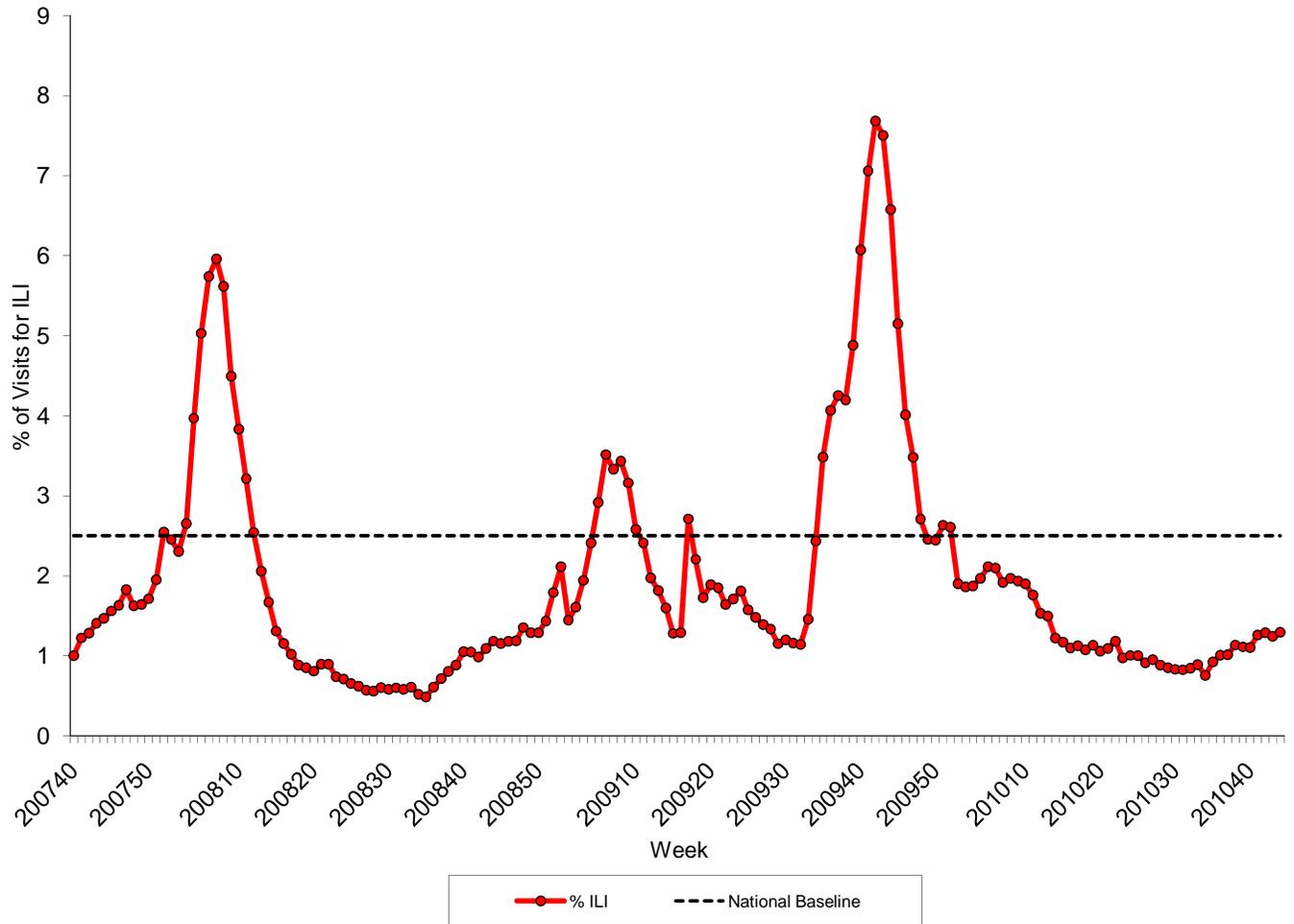
Number of Influenza-Associated Pediatric Deaths by Week of Death:  
2007-08 season to present



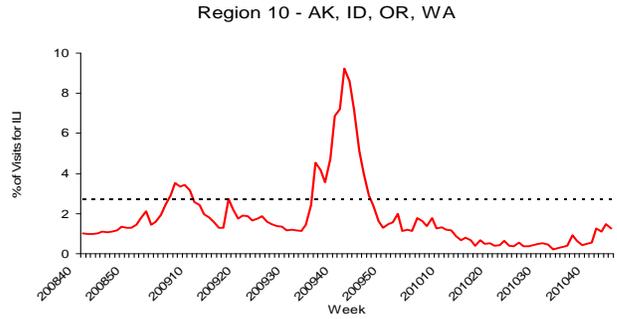
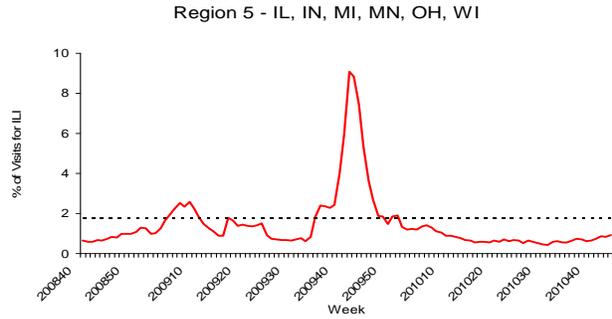
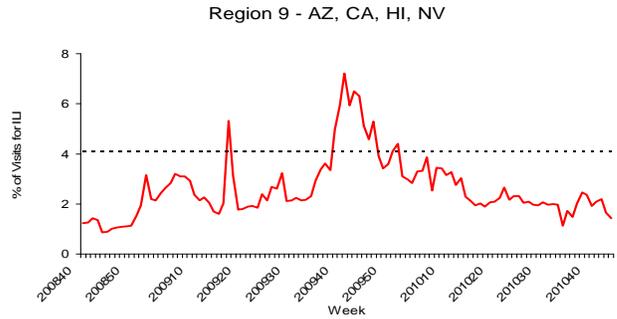
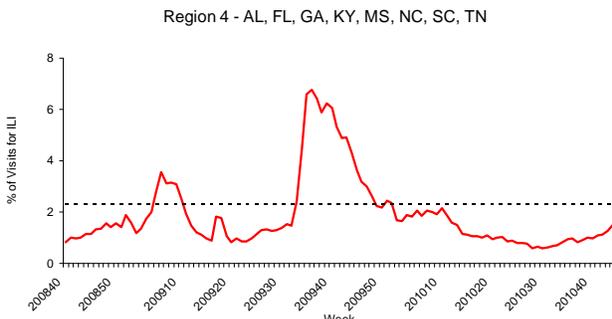
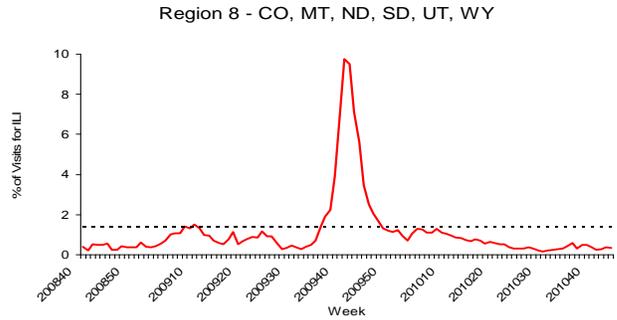
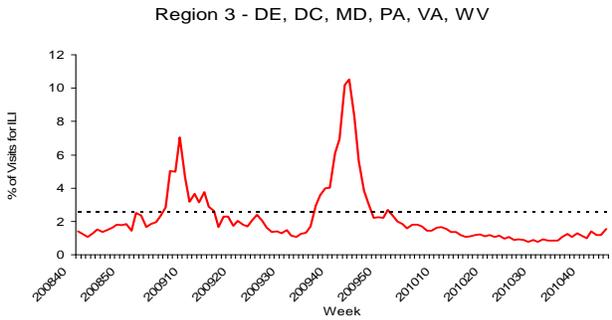
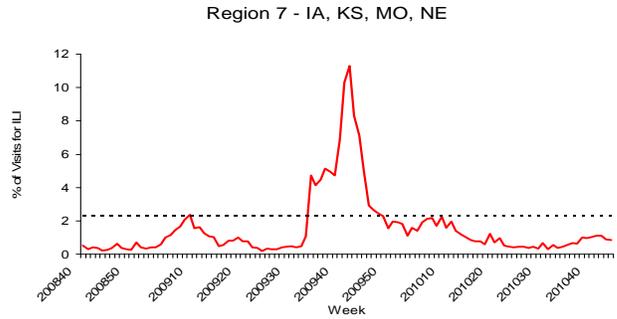
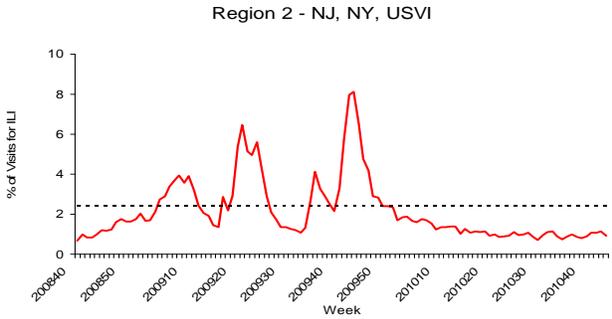
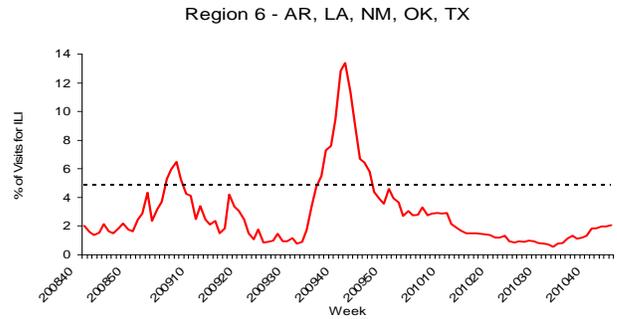
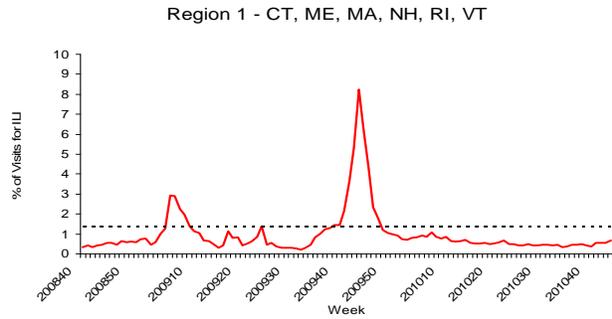
**Influenza-Associated Hospitalizations:** The Influenza Hospitalization Network (FluSurv-NET) conducts surveillance for population-based, laboratory-confirmed influenza related hospitalizations in children (persons less than 18 years) and adults. The network covers over 80 counties in the 10 Emerging Infections Program (EIP) states (CA, CO, CT, GA, MD, MN, NM, NY, OR, and TN) and six additional states (ID, MI, OH, OK, RI and UT). FluSurv-NET estimated hospitalization rates will be updated every two weeks starting later this season.

**Outpatient Illness Surveillance:** Nationwide during week 44, 1.3% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). This percentage is below the national baseline of 2.5%.

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, September 30, 2007 – November 6, 2010



On a regional level, the percentage of outpatient visits for ILI ranged from 0.3% to 2.1% during week 44. All 10 regions reported a proportion of outpatient visits for ILI below their region-specific baseline levels.



— % ILI      - - - - - Baseline\*

NOTE: Scales differ between regions

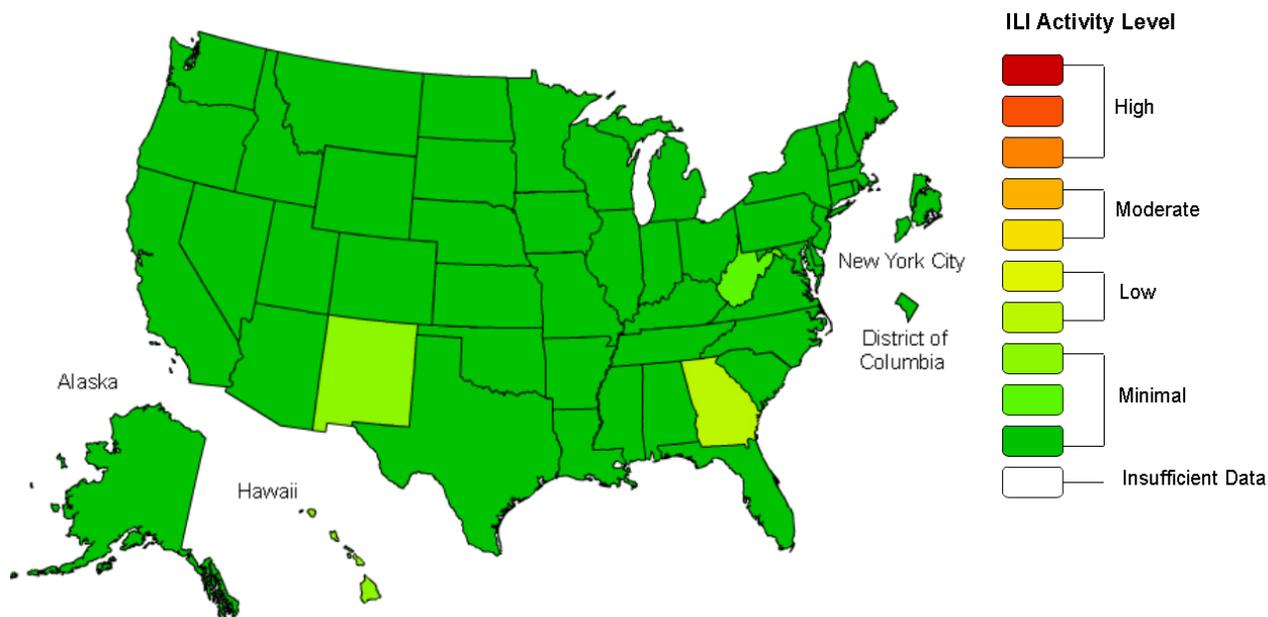
\*Use of the regional baselines for state data is not appropriate.

**ILINet Activity Indicator Map:** Data collected in ILINet are used to produce a measure of ILI activity\* by state. Activity levels are based on the percent of outpatient visits in a state due to ILI and are compared to the average percent of ILI visits that occur during spring and fall weeks with little or no influenza virus circulation. Activity levels range from minimal, which would correspond to ILI activity from outpatient clinics being below the average, to high, which would correspond to ILI activity from outpatient clinics being much higher than the average. Because the clinical definition of ILI is very general, not all ILI is caused by influenza; however, when combined with laboratory data, the information on ILI activity provides a clear picture of influenza activity in the United States.

During week 44, the following ILI activity levels were experienced:

- One state (Georgia) experienced low ILI activity.
- New York City, the District of Columbia and 49 states were experiencing minimal ILI activity (Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming).

**Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet  
2010-11 Influenza Season Week 44 ending Nov 06, 2010**



Interactive web tool available at: <http://gis.cdc.gov/grasp/fluview/main.html>

\*This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within a state. It does not, however, measure the extent of geographic spread of flu within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels.

Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state.

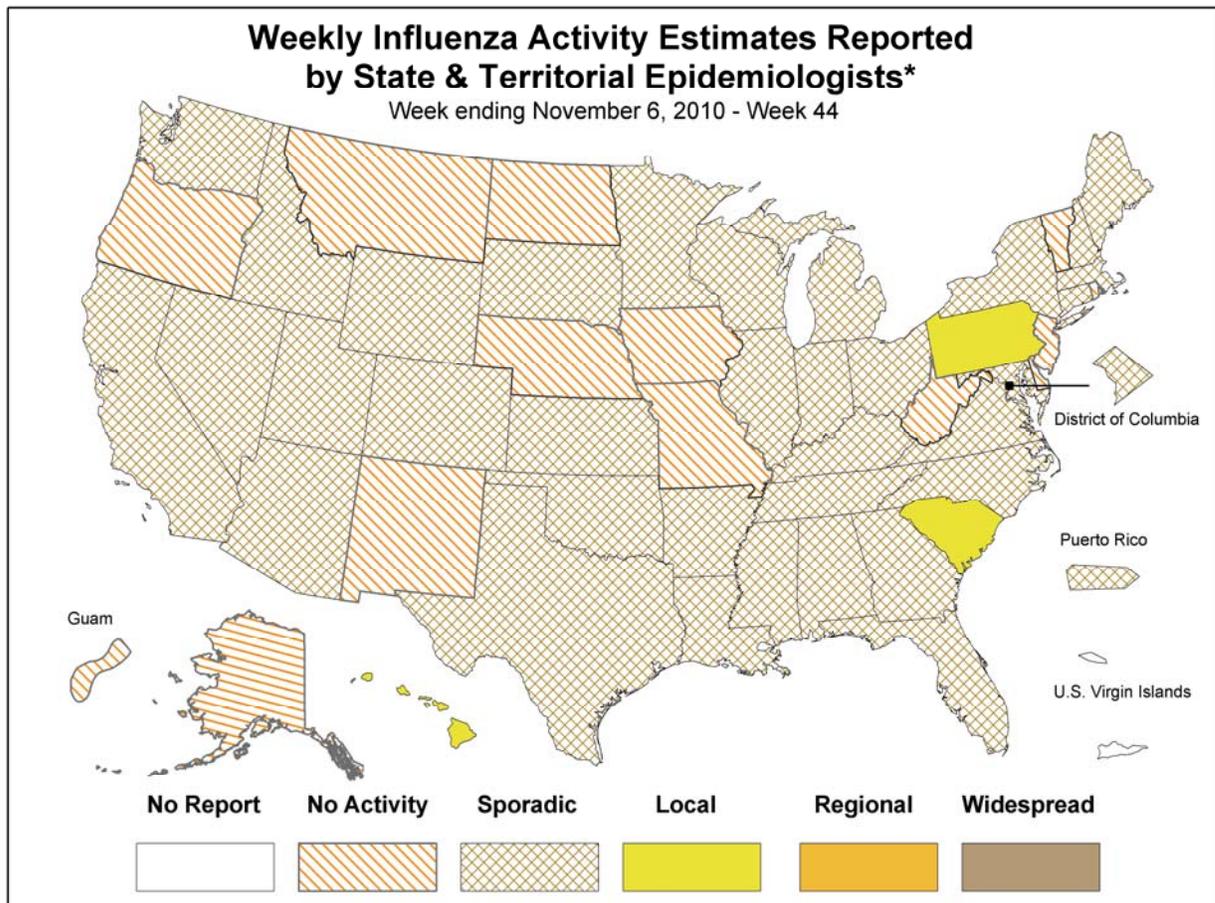
Data displayed in this map are based on data collected in ILINet, whereas the State and Territorial flu activity map are based on reports from state and territorial epidemiologists. The data presented in this map is preliminary and may change as more data is received.

Differences in the data presented by CDC and state health departments likely represent differing levels of data completeness with data presented by the state likely being the more complete.

**Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists:** The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity.

During week 44, the following influenza activity was reported:

- Local influenza activity was reported by three states (Hawaii, Pennsylvania, and South Carolina).
- Sporadic influenza activity was reported by the District of Columbia, Puerto Rico, and 34 states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nevada, New Hampshire, New York, North Carolina, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin, Wyoming).
- No influenza activity was reported by Guam and 13 states (Alaska, Delaware, Iowa, Missouri, Montana, Nebraska, New Jersey, New Mexico, North Dakota, Oregon, Rhode Island, Vermont, and West Virginia).
- The U.S. Virgin Islands did not report.



\* 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/overview.htm>  
Report prepared: November 12, 2010.