Centers for Disease Control and Prevention

2008-2009 Influenza Season Week 1 ending January 10, 2009

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

Synopsis:

week 1 (January 4-10, 2009), overall influenza activity in the United States remained relatively low, but increased compared to previous weeks.

- Two hundred forty-two (7.1%) 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.
- One state reported widespread influenza activity, five states reported regional activity; 10 states reported local influenza activity; the District of Columbia, Puerto Rico and 33 states reported sporadic influenza activity; and one state reported no influenza activity.

National and Regional Summary of Select Surveillance Components

Region	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
Nation	Normal	7.1 %	6 of 51	489	59	801	277	0
New England	Normal	2.9 %	1 of 6	12	3	25	6	0
Mid-Atlantic	Normal	3.2 %	2 of 3	38	7	63	20	0
East North Central	Normal	11.5 %	0 of 5	26	3	29	11	0
West North Central	Normal	2.7 %	0 of 7	25	5	32	13	0
South Atlantic	Normal	4.5 %	2 of 9	42	5	152	102	0
East South Central	Normal	1.2 %	0 of 4	2	0	0	5	0
West South Central	Normal	7.0 %	0 of 4	65	1	287	90	0
Mountain	Normal	9.5 %	1 of 8	24	25	125	7	0
Pacific	Normal	4.8 %	0 of 5	255	10	88	23	0

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

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

‡ Includes all 50 states and the District of Columbia

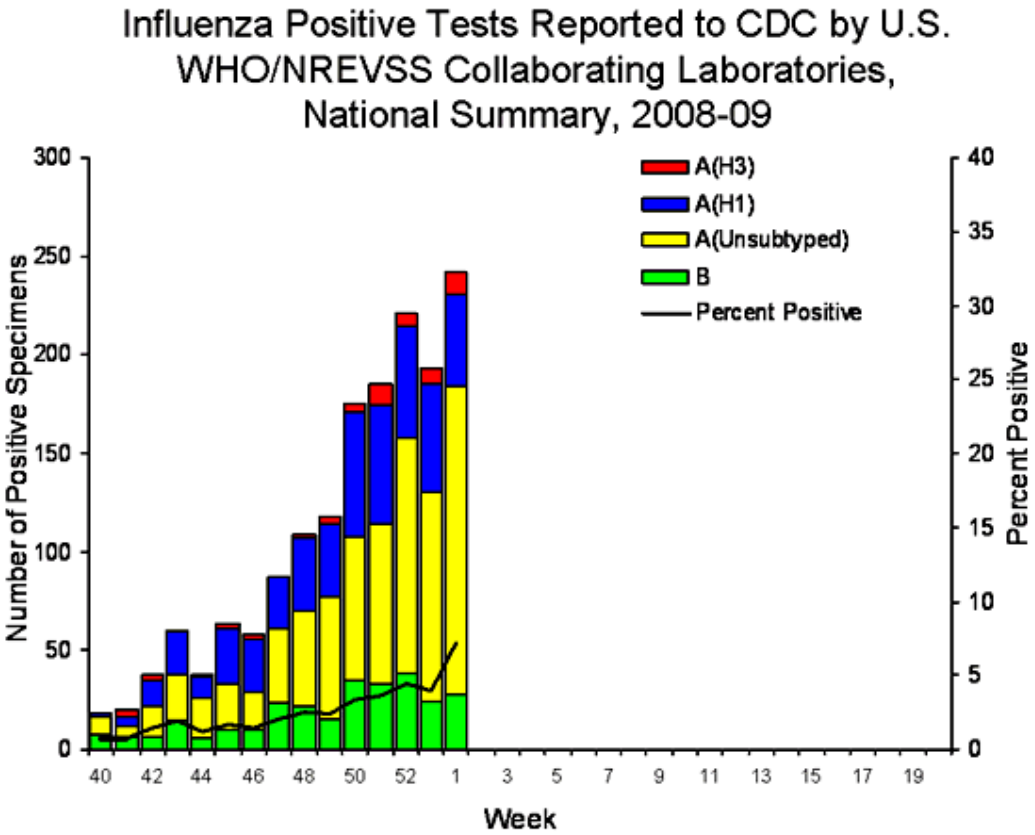
U.S. Virologic Surveillance:

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#VSL)

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 each week. The results of tests performed during the current week and cumulative totals for the season are summarized in the table below.

	Week 1	Cumulative for the Season
No. of specimens tested	3,394	59,462
No. of positive specimens (%)	242 (7.1%)	1,626 (2.7%)
Positive specimens by type/subtype		
Influenza A	214 (88.4%)	1,349(83.0%)
A (H1)	47 (22.0%)	489 (36.2%)
A (H3)	11 (5.1%)	59 (4.4%)
A (unsubtyped)	156 (72.9%)	801 (59.4%)
Influenza B	28 (11.6%)	277 (17.0%)

The District of Columbia and 44 states from all nine surveillance regions have reported laboratory-confirmed influenza this season.



View Chart Data (http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/weeklyarchives2008-2009/data/whoAllregt01.htm) | View Full Screen (http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/weeklyarchives2008-2009/WhoLab01.htm)

Antigenic Characterization:

CDC has antigenically characterized 158 influenza viruses [93 influenza A (H1), 13 influenza A (H3) and 52 influenza B viruses] collected by U.S. laboratories since October 1, 2008.

All 93 influenza A (H1) viruses are related to the influenza A (H1N1) component of the 2008-09 influenza vaccine (A/Brisbane/59/2007). All 13 influenza A (H3N2) viruses are related to the A (H3N2) vaccine component (A/Brisbane/10/2007).

Influenza B viruses currently circulating can be divided into two distinct lineages represented by the B/Yamagata/16/88 and B/Victoria/02/87 viruses. Seventeen influenza B viruses tested belong to the B/Yamagata lineage and are related to the vaccine strain (B/Florida/04/2006). The remaining 35 viruses belong to the B/Victoria lineage and are not related to the vaccine strain. Thirty of the 35 viruses belonging to the B/Victoria lineage were from two states.

Data on antigenic characterization should be interpreted with caution given that:

1. Few U.S. isolates are available for testing because of limited influenza activity thus far.
2. The majority of viruses antigenically characterized to date come from only three states and may not be nationally representative.
3. Antigenic characterization data is based on hemagglutination inhibition (HI) testing using a panel of reference ferret antisera and results may not correlate with clinical protection against circulating viruses provided by influenza vaccination.

Annual influenza vaccination is expected to provide the best protection against those virus strains that are related to the vaccine strains, but limited to no protection may be expected when the vaccine and circulating virus strains are so different as to be from different lineages, as is seen with the two lineages of influenza B viruses.

Antiviral Resistance:

Since October 1, 2008, 103 influenza A (H1N1), 23 influenza A (H3N2), and 61 influenza B viruses from 25 states have been tested for resistance to the neuraminidase inhibitors (oseltamivir and zanamivir). One hundred three influenza A (H1N1) and 23 influenza A (H3N2) viruses from 23 states have been tested for resistance to the adamantanes (amantadine and rimantadine). The results of antiviral resistance testing performed on these viruses are summarized in the table below.

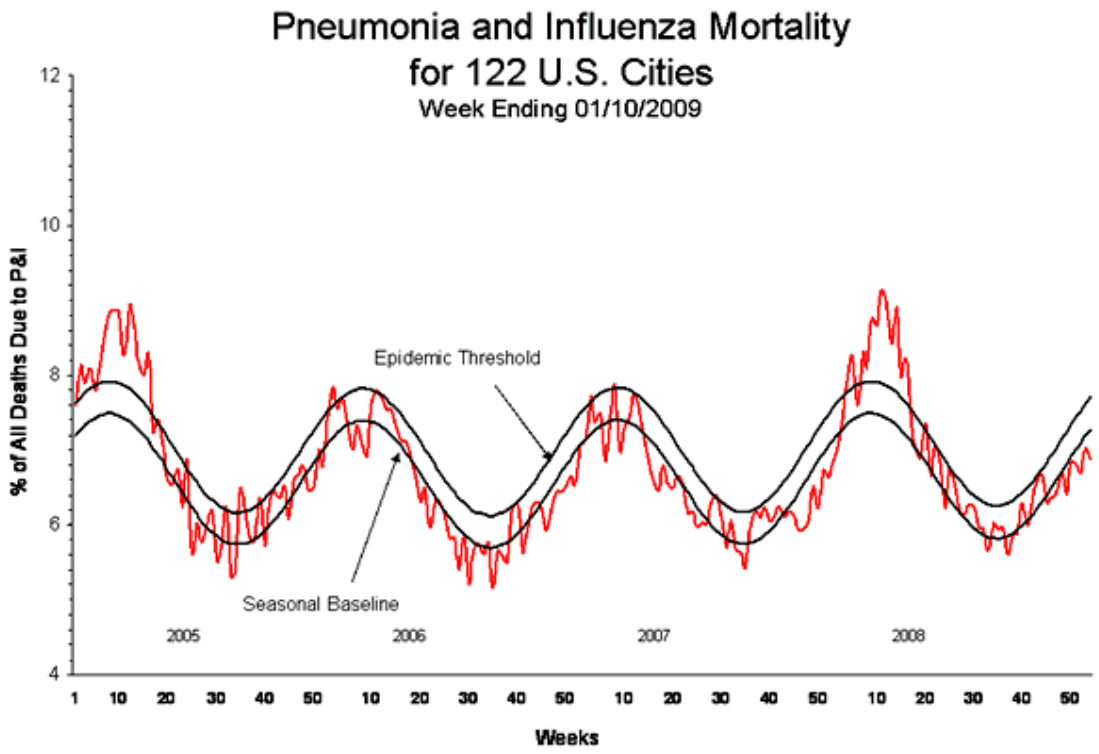
	Isolates tested (n)	Resistant Viruses, Number (%)		Isolates tested (n)	Resistant Viruses, Number (%)
		Oseltamivir	Zanamivir		Adamantanes
Influenza A (H1N1)	103	101 (98%)	0 (0)	103	1 (1%)
Influenza A (H3N2)	23	0 (0)	0 (0)	23	23 (100%)
Influenza B	61	0 (0)	0 (0)	N/A*	N/A*

*The adamantanes (amantadine and rimantadine) are not effective against influenza B viruses.

With low levels of influenza activity thus far in the 2008-09 season in the United States, overall numbers of virus specimens and the number of states that have submitted specimens for testing is limited. The limited number and geographic diversity of specimens tested for antiviral resistance, as well as the uncertainty regarding which influenza virus types or subtypes will predominate during the season, make it too early to make an accurate determination of the prevalence of influenza viruses resistant to oseltamivir nationally or regionally at this time. CDC has solicited a representative sample of viruses from WHO collaborating laboratories in the United States, and more specimens are expected as influenza activity increases.

Pneumonia and Influenza (P&I) Mortality Surveillance

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#MS)
During week 1, 6.9% of all deaths reported through the 122-Cities Mortality Reporting System were due to P&I.; This percentage is below the epidemic threshold of 7.7% for week 1.



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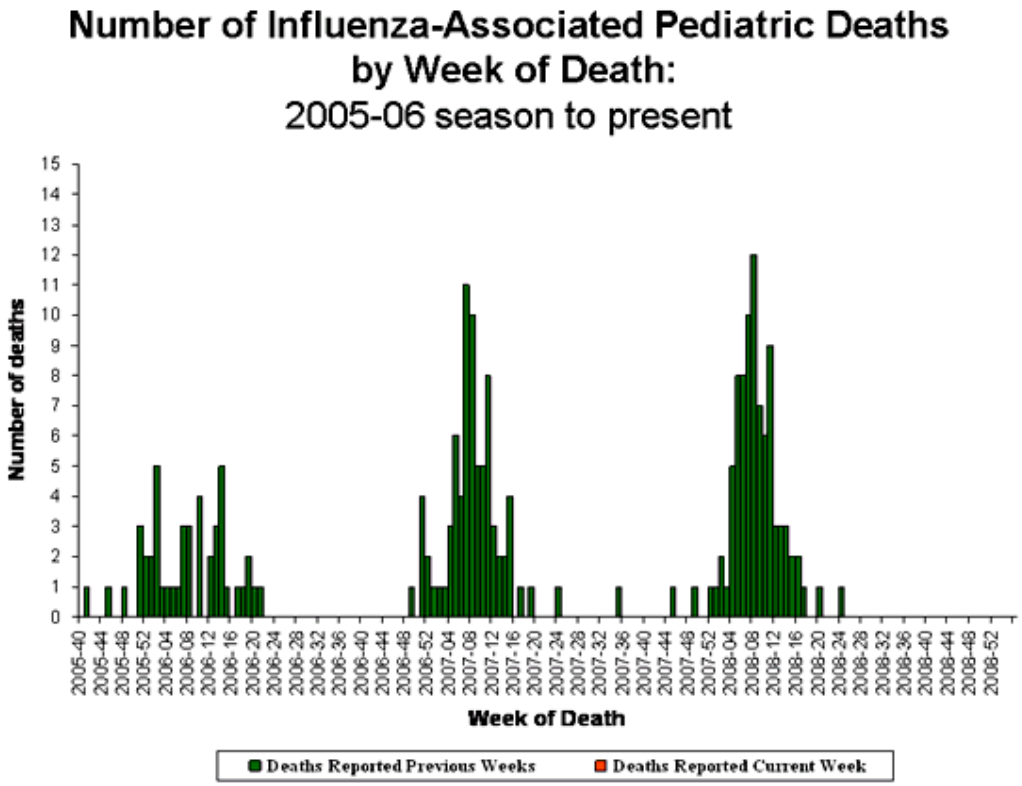
Influenza-Associated Pediatric Mortality

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#MS)

No influenza-associated pediatric deaths were reported during week 1. The pediatric death that was reported from Minnesota during week 52 was later reclassified by the state as not due to influenza. No influenza-associated pediatric deaths have been reported during the 2008-09 season.



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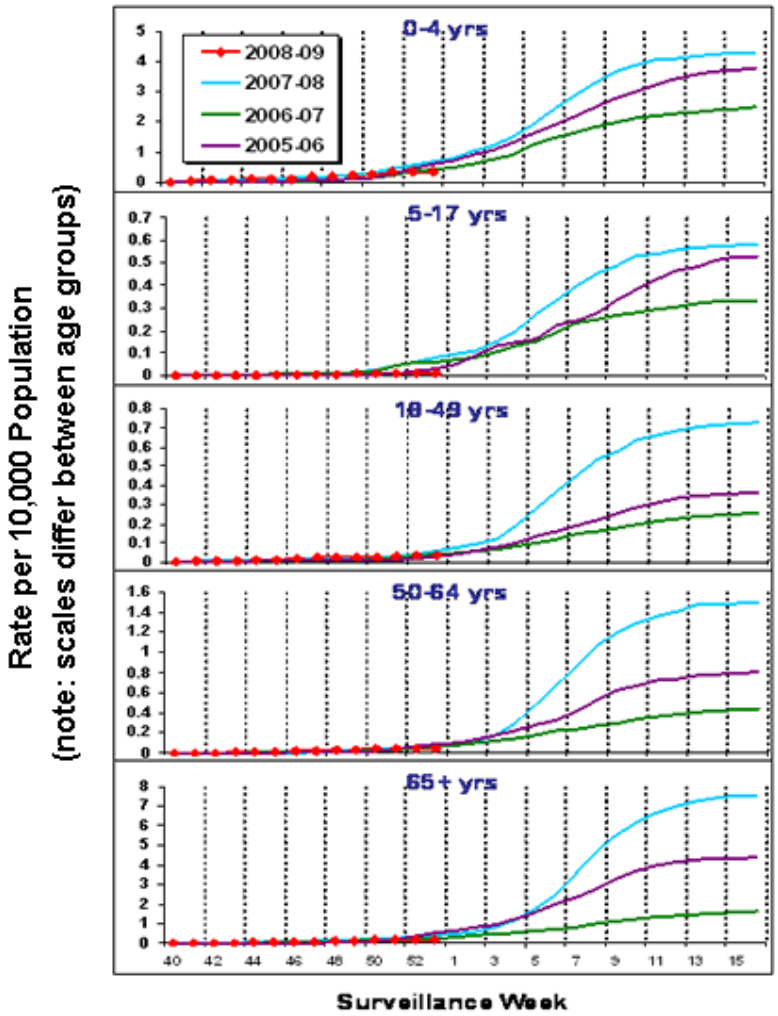
Influenza-Associated Hospitalizations

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#HS)
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).

No influenza-associated hospitalizations have been reported from the New Vaccine Surveillance Network this season.

During October 1, 2008 – January 3, 2009, preliminary laboratory-confirmed influenza-associated hospitalization rates reported by the EIP for children aged 0-4 years and 5-17 years were 0.3 per 10,000 and 0.01 per 10,000, respectively. For adults aged 18-49 years, 50-64 years, and = 65 years, the rates were 0.03 per 10,000, 0.05 per 10,000, and 0.2 per 10,000, respectively.

EIP Influenza Laboratory-Confirmed Cumulative Hospitalization Rates, 2008-09 and Previous 3 Seasons



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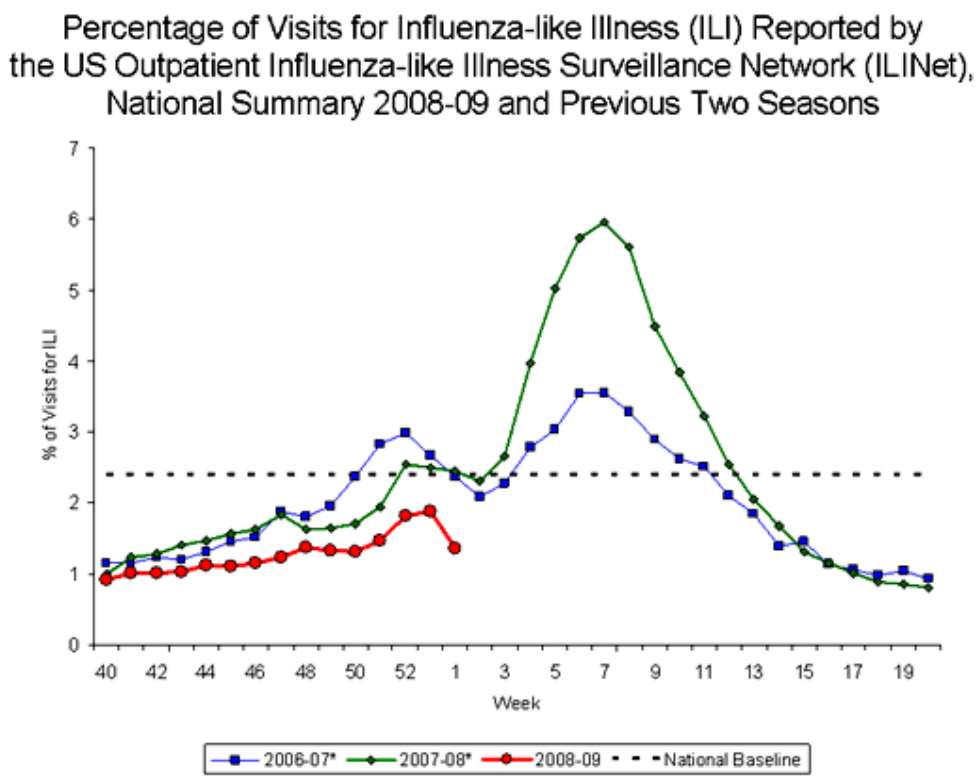
Outpatient Illness Surveillance:

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#OIS)

During week 1, 1.4% 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 less than the national baseline of 2.4%. On a regional level, the percentage of visits for ILI ranged from 0.3% to 2.2%. All nine surveillance regions reported percentages of visits for ILI below their respective region-specific baselines.

The increase in the percentage of patient visits for ILI over the previous weeks may have been influenced by a reduction in routine health care visits during the holiday season, as has occurred in previous 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.

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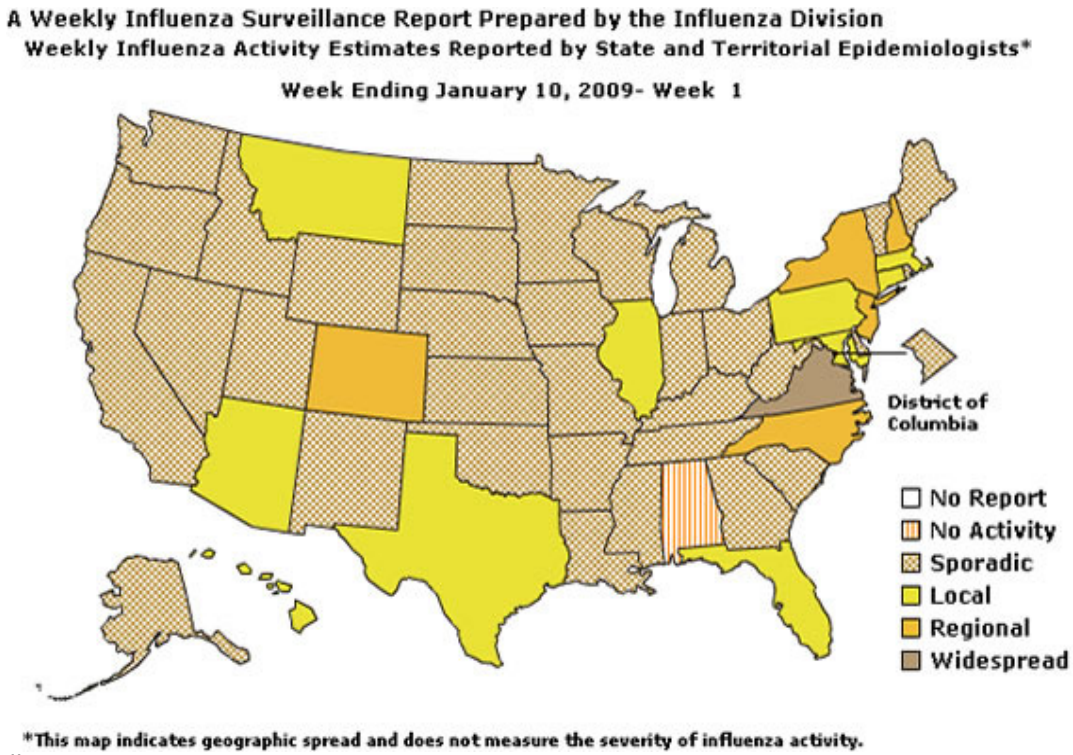
Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists:

(http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm#SGSI)
During week 1, the following influenza activity was reported:

- Widespread influenza activity was reported by one state (Virginia).
- Regional influenza activity was reported by five states (Colorado, New Hampshire, New Jersey, New York, and North Carolina).
- Local influenza activity was reported by 10 states (Arizona, Connecticut, Florida, Hawaii, Illinois, Maryland, Massachusetts, Montana, Pennsylvania, and Texas).
- Sporadic activity was reported in the District of Columbia, Puerto Rico, and 33 states (Alaska, Arkansas, California, Delaware, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming).
- No influenza activity was reported in one state (Alabama).



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A description of surveillance methods is available at: http://www.cdc.gov/flu/weekly/fluactivity.htm (http://wwwdev.cdc.gov/web/20111020205949/http://www.cdc.gov/flu/weekly/fluactivity.htm)

Page last updated January 16, 2009.

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