



# Epidemiology and Response Division

## **NEW MEXICO INFLUENZA SURVEILLANCE UPDATE from the Epidemiology and Response Division of the New Mexico Department of Health (NMDOH)**

Weekly Report ending March 11, 2006 (MMWR Week 10)

Posted on March 16, 2006.

### **Summary of Influenza Activity in New Mexico for Week Ending March 11, 2006:**

- Twenty of the 21 sentinel sites reported a total of 5,224 patient visits, of which 56 (1.07 %) were positive for an influenza-like illness (ILI)<sup>1</sup>. The previous week ending March 4th reported 1.17 % influenza-like illness<sup>2</sup>.
- Sentinel clinical laboratories reported that 2.75 % of influenza rapid antigen or immunofluorescence tests were positive for influenza A, and 2.06 % were positive for Influenza B.
- NMDOH reported the state influenza activity as “SPORADIC” to the Centers for Disease Control and Prevention (CDC) (see table below for definitions).

### **Laboratory Activity in NM:**

- For the week ending March 11, 2006, 16 of 17 sentinel clinical laboratories reported performing 291 rapid antigen or immunofluorescence (i.e., direct fluorescent antibody staining, DFA) tests, of which 8 (2.75 %) were positive for influenza A, 6 (2.06 %) were positive for influenza B and none were indistinguishable<sup>3</sup>.
- Since October 2, 2005, 17 sentinel clinical laboratories have reported the results of 8,256 rapid influenza tests. One thousand, two hundred and eighty-five (15.56 %) tests were positive, of which 1,231 detected influenza A, 49 detected influenza B, and 5 were indistinguishable.
- NMDOH Scientific Laboratory Division (SLD) has isolated 70 (36.1%) influenza A and two influenza B in 194 specimens submitted since October 2005<sup>2</sup>. Subtyping of the influenza A cultures has revealed 60 H3 and 1 H1 viral subtypes; N subtyping by CDC is pending. Subtyping of the two influenza B isolates has revealed a Hong Kong-like strain (from the Victoria lineage).

### **Influenza-Related Pediatric Mortality**

NMDOH has received its first report of a pediatric influenza-related death this season. The death occurred in January and was diagnosed by special testing done from an autopsy. Since October 2, 2005, CDC has received reports of sixteen influenza-related pediatric deaths, fourteen of which occurred during the current influenza season.

### **Flu Activity in the Mountain Region and Texas**

For the week ending March 4, 2006 (the most recent data available), influenza activity was reported as “Widespread” by Texas, Montana and Colorado; “Regional” by Wyoming and Nevada; “Local” by Idaho; and “Sporadic” by New Mexico, Arizona and Utah. Since October 2, 2005, laboratory testing from the National Respiratory and Enteric Virus

<sup>1</sup> Influenza-like Activity (ILI) is defined as Fever ( $\geq 100^{\circ}\text{F}$  [ $37.8^{\circ}\text{C}$ ], oral or equivalent) AND cough and/or sore throat in absence of a KNOWN cause other than influenza.

<sup>2</sup> Weekly ILI and lab data may change as additional reports are compiled.

<sup>3</sup> Some rapid influenza tests cannot differentiate between types A and B.

Surveillance System (NREVSS) in the Mountain Region (NM, AZ, CO, UT, NV, ID, MT, WY) has identified 788 influenza A H3N2 isolates, 5 influenza A H1N1 isolates, 776 influenza A unknown subtype isolates, and 200 influenza B isolates.<sup>3</sup>

### **National Flu Surveillance and Laboratory Activity**

Nationwide, for the week ending March 4, 2006, 3.0 % of patient visits to U.S. sentinel providers were due to influenza-like illness, which is above the national baseline of 2.2%. Influenza activity was reported as 'Widespread' by 25 states and New York City, 'Regional' by 13 states, 'Local' by 8 states and the District of Columbia and 'Sporadic' by 4 states. More information on national surveillance can be found at <http://www.cdc.gov/flu/weekly/>.

For the week ending March 4, 2006, 701 (21.6 %) of 3,239 specimens tested for influenza viruses were positive by culture. Of these, 175 were influenza A (H3N2), 20 were influenza A (H1N1), 399 were influenza A that were not subtyped, and 107 were influenza B. During the past three weeks (weeks 7-9), the percentage of specimens testing positive for influenza has ranged from 29.5 % in the East South Central region to 10.8 % in the Pacific region. Influenza B isolates from the Mountain and West South Central regions have accounted for 66.3% of the nationally reported influenza B isolates during the past 3 weeks.

Antigenic characterization of 305 influenza viruses by CDC, since October 2005, has indicated the following:

- Two hundred and one (80.4 %) out of 250 H3N2 influenza A isolates are A/California/7/2004-like.
- Sixteen (88.8 %) of the 18 H1 influenza A isolates were antigenically similar to the vaccine strain A/New Caledonia/20/99.
- Twenty (54 %) of the 37 influenza B viruses belong to the B/Yamagata lineage: eighteen are B/Florida/07/2004-like (a minor antigenic variant of B/Shanghai/361/2002) and two are antigenically similar to the 2005-2006 vaccine strain B/Shanghai/361/2002. Seventeen (46 %) influenza B viruses belong to the B/Victoria lineage and all were similar to B/Ohio/1/2005, the influenza B component selected for the 2006-07 vaccine.

### **Components of 2005-06 influenza vaccines:**

- Fluvirin® (Chiron) contains A/California/7/2004-like (H3N2); and A/New Caledonia/20/99-like (H1N1); and B/Shanghai/361/2002-like strain.
- Both Fluzone® (sanofi) and Fluarix™ (GSK) contain A/New York/55/2004 (H3N2, an A/California/7/2004-like strain); and A/New Caledonia/20/99 (H1N1); and B/Jiangsu/10/2003 (a B/Shanghai/361/2002-like strain).
- FluMist® (Medimmune, live attenuated vaccine) contains A/California/7/2004-like (H3N2); and A/New Caledonia/20/99 (H1N1); and B/Jiangsu/10/2003 (a B/Shanghai/361/2002-like strain).

### **Composition of the 2006-2007 Influenza Vaccine**

WHO has recommended that the 2006-07 trivalent influenza vaccine for the Northern Hemisphere contain A/New Caledonia/20/99-like (H1N1), A/Wisconsin/67/2005-like (H3N2) and B/Malaysia/2506/2004-like viruses. The influenza A (H3N2) and the

influenza B components have been changed from the 2005-06 season vaccine components. A/Wisconsin/67/2005 is an antigenic variant of the current vaccine strain A/California/07/2004. Influenza B viruses currently circulating can be divided into two antigenically distinct lineages represented by B/Yamagata/16/88 and B/Victoria/2/87 viruses. The updating of the influenza B component to B/Ohio/1/2005 (which is antigenically equivalent to B/Malaysia/2506/2004) represents a change to the B/Victoria lineage, based on antigenic analyses of recently isolated influenza viruses, epidemiologic data and post-vaccination serologic studies in humans.

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This information is collected by the Infectious Disease Epidemiology Bureau, Epidemiology Response Division, NMDOH. For questions, please call 505-827-0006. For more information on influenza go to the NMDOH web page: <http://www.health.state.nm.us/flu/> or the CDC web page: <http://www.cdc.gov/ncidod/diseases/flu/fluivirus.htm>

Activity Level	ILI activity*/Outbreaks		Laboratory data
<b>No activity</b>	Low	<b>And</b>	No lab confirmed cases <sup>†</sup>
<b>Sporadic</b>	Not increased	<b>And</b>	Isolated lab-confirmed cases
	<b>OR</b>		
<b>Local</b>	Not increased	<b>And</b>	Lab confirmed outbreak in one institution <sup>‡</sup>
	<b>OR</b>		
<b>Regional</b>	Increased ILI in 1 region**; ILI activity in other regions is not increased	<b>And</b>	Recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI
	<b>OR</b>		
<b>Regional</b> (doesn't apply to states with ≤4 regions)	2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased	<b>And</b>	Recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions
	<b>OR</b>		
<b>Regional</b> (doesn't apply to states with ≤4 regions)	Increased ILI in ≥2 but less than half of the regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	<b>OR</b>		
<b>Regional</b> (doesn't apply to states with ≤4 regions)	Institutional outbreaks (ILI or lab confirmed) in ≥2 and less than half of the regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	<b>OR</b>		
<b>Widespread</b>	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions	<b>And</b>	Recent (within the past 3 weeks) lab confirmed influenza in the state.

\* ILI activity can be assessed using a variety of data sources including sentinel providers, school/workplace absenteeism, and other syndromic surveillance systems that monitor influenza-like illness.

<sup>†</sup> Lab confirmed case = case confirmed by rapid diagnostic test, antigen detection, culture, or PCR. The sensitivity and specificity of these tests vary and the predicative value positive may be low outside the time of peak influenza activity. Therefore, a state may wish to obtain laboratory confirmation of influenza by testing methods other than point of care rapid tests for reporting the first laboratory confirmed case of influenza of the season. For assigning an influenza activity level, NMDOH Epidemiology and Response Division utilizes results of rapid influenza testing only after receiving evidence of at least one culture confirmed case.

<sup>‡</sup> Institution includes nursing home, hospital, prison, school, etc.

\*\*Region: population under surveillance in a defined geographical subdivision of a state. NMDOH Epidemiology and Response Division uses the five Public Health Regions for our state subdivisions.

## Influenza Surveillance Graphs:

