



# Epidemiology and Response Division

## NEW MEXICO INFLUENZA SURVEILLANCE UPDATE 2007-2008 Influenza Season

*Epidemiology and Response Division, New Mexico Department of Health (NMDOH)*

Week Ending	Activity Level
3/22/08 (MMWR Week 12)	Regional

NMDOH reported the state influenza activity as “**Regional**” to the Centers for Disease Control and Prevention (CDC). See the table on page 3 for full definitions of activity levels. As of March 14th, the Scientific Lab Division (SLD) has received 452 culture specimens since the beginning of the season. One hundred and fifty-six specimens (34.5%) have been culture-positive.

### Summary of Influenza Activity in New Mexico for Week Ending 3/22/08<sup>1</sup>:

- Twenty-four of the 25 sentinel provider sites reported a total of 7,224 patient visits, of which 196 (2.7%) were positive for an influenza-like illness (ILI)<sup>2</sup>. The previous week ending March 15th reported 3.4% influenza-like illness.

### Summary of Sentinel Laboratory Activity in New Mexico:

Period of 2007-2008 Influenza Season	Number of Tests Performed**	Positive Type A (n,%)	Positive Type B (n,%)	Positive Type Unknown <sup>3</sup> (n,%)	Total Positive All Types (n,%)
Week ending 3/22/08 (27 of 31 labs reporting)	494	22 (4.5%)	13 (2.6%)	0 (0.0%)	35 (7.1%)
Cumulative from 10/1/07 to present	15,107	1,101(7.3%)	747 (4.9%)	357 (2.4%)	2,205 (14.6%)

\*\*Includes rapid antigen and immunofluorescence testing (i.e., direct fluorescent antibody staining)

Note: The sensitivity and specificity of point of care rapid diagnostic tests vary during times when influenza is not circulating widely. The NM Influenza Surveillance Program expects some false positive rapid diagnostic results outside the time of peak influenza activity (i.e., beginning and end of season). The first NM laboratory confirmed case of the influenza season is based on a positive **viral culture** result.

### Influenza-Related Pediatric Mortality:

Since September 30, 2007, CDC has received a total of 53 reports of influenza-associated pediatric deaths that occurred nationally during the current season. NM has reported one influenza-related pediatric death this season.

### Influenza Activity, Mountain Region and Bordering States, Week Ending 3/22/08:

State	Activity Level	State	Activity Level
Montana	Regional	Arizona	Widespread
Idaho	Regional	Utah	Regional
Wyoming	Regional	Nevada	Regional
Colorado	Widespread	Texas	Regional
New Mexico	Regional	Oklahoma	Regional

<sup>1</sup> Weekly ILI and lab data may change as additional reports are compiled.

<sup>2</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>3</sup> Some rapid influenza tests cannot differentiate between types A and B.

### **National Flu Surveillance and Laboratory Activity, Week Ending 3/22/08:**

Nationwide, for the week ending 3/22/08, 2.6% of patient visits to U.S. sentinel providers were due to ILI, which is above the national baseline of 2.2%. Influenza activity was reported as 'Widespread' by 17 states, 'Regional' by 30 states, 'Local' by two states and the District of Columbia, and 'Sporadic' by one state (AR) and Puerto Rico. More information on national surveillance can be found at: <http://www.cdc.gov/flu/weekly/>.

During this same week, the World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories reported 4,625 specimens tested for influenza viruses, 986 (21.3%) of which were positive: 27 influenza A/H1, 156 influenza A/H3 viruses, 363 influenza A viruses that were not subtyped, and 440 influenza B viruses.

### **Antigenic Characterization:**

CDC has antigenically characterized 540 influenza viruses [256 influenza A (H1N1), 127 influenza A (H3N2) and 157 influenza B viruses] collected by U.S. laboratories since September 30, 2007.

#### **Influenza A (H1) [256]**

- One hundred and seventy-five (69%) of the 256 viruses were characterized as A/Solomon Islands/3/2006, the influenza A (H1) component of the 2007-08 influenza vaccine for the Northern Hemisphere and the 2008 influenza A (H1) component for the Southern Hemisphere.
- Nineteen (7%) of the 256 viruses showed somewhat reduced titers with antisera produced against A/Solomon Islands/3/2006.
- Sixty-two (24%) of the 256 viruses were characterized as A/Brisbane/59/2007-like which is a recent antigenic variant of the A/Solomon Islands/03/2006, and the selection for the influenza A (H1) strain in the 2008-09 Northern Hemisphere vaccine.

#### **Influenza A (H3) [127]**

- Twenty-one (17%) of the 127 viruses were characterized as A/Wisconsin/67/2005-like, the influenza A (H3) component of the 2007-08 influenza vaccine.
- Ninety-seven (76%) of the 127 viruses were characterized as A/Brisbane/10/2007-like. A/Brisbane/10/2007 is a recent antigenic variant which evolved from A/Wisconsin/67/2005-like. A/Brisbane/10/2007-like virus is the recommended influenza A (H3) component for the 2008-09 Northern Hemisphere vaccine.
- Nine (7%) of the 127 viruses showed somewhat reduced titers with antisera produced against A/Wisconsin/67/2005 and A/Brisbane/10/2007.

#### **Influenza B (B/Victoria/02/87 and B/Yamagata/16/88 lineages) [157]**

##### *Victoria lineage* [8]

- Eight (5%) of the 157 influenza B viruses belong to the B/Victoria lineage.
  - Six (75%) of these 8 viruses were characterized as B/Ohio/01/2005-like. The recommended influenza B component for the 2007-08 influenza vaccine is a B/Malaysia/2506/2004-like virus, belonging to the B/Victoria lineage. B/Ohio/01/2005 is a recent reference strain of the B/Malaysia/2506/2004-like virus.
  - Two (25%) of these 8 viruses showed somewhat reduced titers with antisera produced against B/Ohio/01/2005 and B/Malaysia/2506/2004.

##### *Yamagata lineage* [149]

- One hundred and forty-eight (99%) of the 149 influenza B viruses that were identified as belonging to the B/Yamagata lineage were characterized as

B/Florida/04/2006-like, a component of the 2008-09 Northern Hemisphere vaccine.

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This information is collected by the Infectious Disease Epidemiology Bureau, Epidemiology Response Division of NMDOH. For questions, please call 505-827-0006. For Border influenza activity (southern New Mexico and the Juarez, Chihuahua, Mexico areas), please refer to the NM/Mexico Border Influenza Surveillance Report at: <http://www.health.state.nm.us/flu/> under Border Surveillance Reports.

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/fluvirus.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>Local</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.

\*Influenza-like illness: Fever (≥ 100°F [37.8°C], oral or equivalent) and cough and/or sore throat (in the absence of a known cause other than influenza)

<sup>†</sup> Lab confirmed case = case confirmed by rapid diagnostic test, antigen detection, culture, or PCR. Care should be given when relying on results of point of care rapid diagnostic test kits during times when influenza is not circulating widely. 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.

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

\*\*Region: population under surveillance in a defined geographical subdivision of a state. A region could be comprised of 1 or more counties and would be based on each state's specific circumstances. Depending on the size of the state, the number of regions could range from 2 to approximately 12. The definition of regions would be left to the state but existing state health districts could be used in many states. Allowing states to define regions would avoid somewhat arbitrary county lines and allow states to make divisions that make sense based on geographic population clusters. Focusing on regions larger than counties would also improve the likelihood that data needed for estimating activity would be available.

## Influenza Surveillance Graphs— 2007-2008 Season:

