

Update Number 10: December 23, 2009

Data for the Week Ending December 19, 2009

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**Summary**

For the week ending December 19, 2009:

- Influenza activity continues in Southern Nevada at levels well below the levels seen in late October and early November
- There is currently no evidence of increased severity of disease in Southern Nevada.
- National laboratory surveillance indicates that nearly all reported cases of influenza are the result of 2009 Influenza A (H1N1)
- 50 influenza cases, including 2 hospitalizations were reported to the health district. Three influenza-related deaths were reported: a 38-year-old female, a 42-year-old male, and a 53-year-old male, each with underlying conditions. One of the deaths occurred in early November.

**Current Status****Circulation**

Influenza activity continues in Southern Nevada at levels well below those seen in late October and early November. Nationally, for the second week of December, six of ten geographic regions reported elevated influenza activity, the same number as the previous week. Widespread geographic distribution of influenza activity was reported in 11 states, down from 14 states the previous week (Source: CDC Flu-View). Local laboratory testing is showing a decrease in the testing positivity rates (Figure 1.1 and Table 1.1) since mid- to late-October. Sentinel provider reports of patients seeking care for influenza-like illness has remained at roughly 2 percent since the peak in mid-October. (Figure 2.1). The number of persons hospitalized for influenza was the lowest reported since mid-September (Figure 3.4 and Table 3.1).

**Severity**

There is currently no evidence of increased severity of disease in Southern Nevada or in the United States. An indicator of the severity of disease, the proportion of hospitalized patients

in Clark County requiring intensive care unit admission, has continued to decline over the past several weeks. Three deaths were reported in Southern Nevada for the week ending December 19, 2009 (Figure 3.5). All patients had underlying conditions that placed them at higher risk. One patient died in early November.

**Circulating Strains**

Local and national laboratory surveillance indicates that nearly all reported cases of influenza are the result of 2009 Influenza A (H1N1). Local pediatric laboratory surveillance has identified no seasonal influenza A H1 or H3 infections and only one influenza B infection out of 314 samples tested since the beginning of influenza season (Figure 1.1 and Table 1.1). This is consistent with national surveillance (Figure 1.2 and Table 1.2).

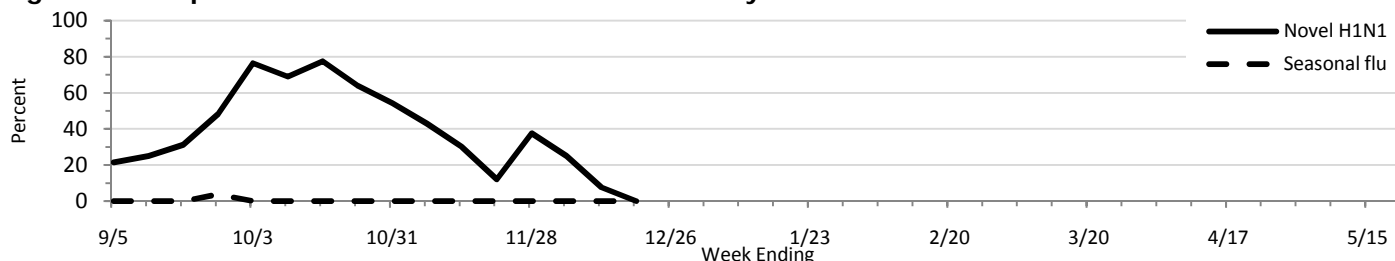
**Antiviral Resistance**

The circulating strain of 2009 Influenza A (H1N1) continues to display sensitivity to oseltamivir and zanamivir and resistance to adamantanes. Although sporadic cases of oseltamivir-resistance have been identified in the United States, nearly all patients had documented treatment or prophylaxis with oseltamivir, and occasional development of oseltamivir resistance during treatment or prophylaxis is not unexpected. Since April of 2009, a total of 34 cases of oseltamivir-resistance have been identified in the United States. Twenty seven of these patients had documented exposure to oseltamivir through either treatment or chemoprophylaxis, two patients had no documented oseltamivir exposure, and fifteen are under investigation to determine exposure to oseltamivir. (Source: CDC - <http://www.cdc.gov/flu/weekly/>).

**Section One: Laboratory Surveillance**

Enhanced pediatric influenza surveillance (EPIS) is conducted through four Clark County, NV medical practices. Each practice submits up to 10 specimens each week from pediatric patients presenting with respiratory disease and the specimens are tested for influenza and typed by RT-PCR. National surveillance is conducted through laboratories participating in the Center for Disease Control and Prevention (CDC) National Respiratory and Enteric Virus Surveillance System (NREVSS) program.

**Figure 1.1 Proportion of Influenza Viruses - Clark County Pediatric Influenza Surveillance**



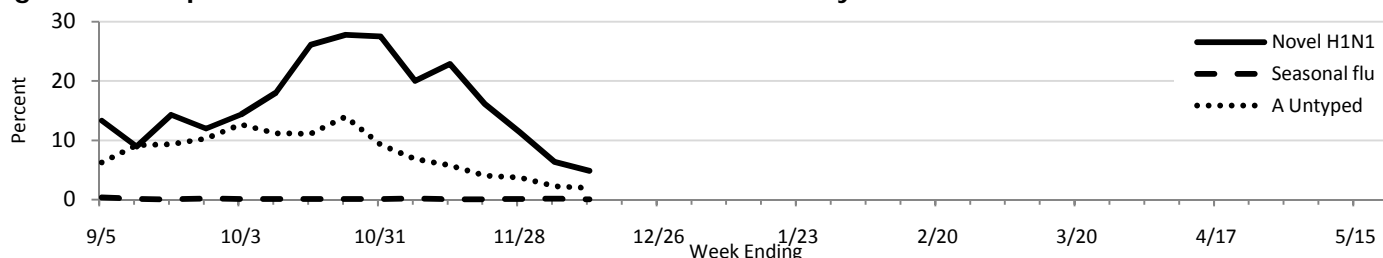
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

**Table 1.1 Laboratory Testing - Clark County Pediatric Influenza Surveillance**

Testing Category	Week Ending										Season to Date	
	11/21		11/28		12/5		12/12		12/19		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%	n	%
Influenza Negative	22	88	5	63	6	75	12	92	7	100	166	53
2009 H1N1 Positive	3	12	3	38	2	25	1	8	0	0	147	47
Flu A H1 (seasonal) Positive	0	0	0	0	0	0	0	0	0	0	0	0
Flu A H3 (seasonal) Positive	0	0	0	0	0	0	0	0	0	0	0	0
Flu B Positive	0	0	0	0	0	0	0	0	0	0	1	0
Specimens Tested	25		8		8		13		7		314	

Source: EPIS

**Figure 1.2. Proportion of Influenza Viruses - National Laboratory Influenza Surveillance**



Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: CDC/NREVSS

**Table 1.2 Laboratory Testing Results - National Influenza Surveillance**

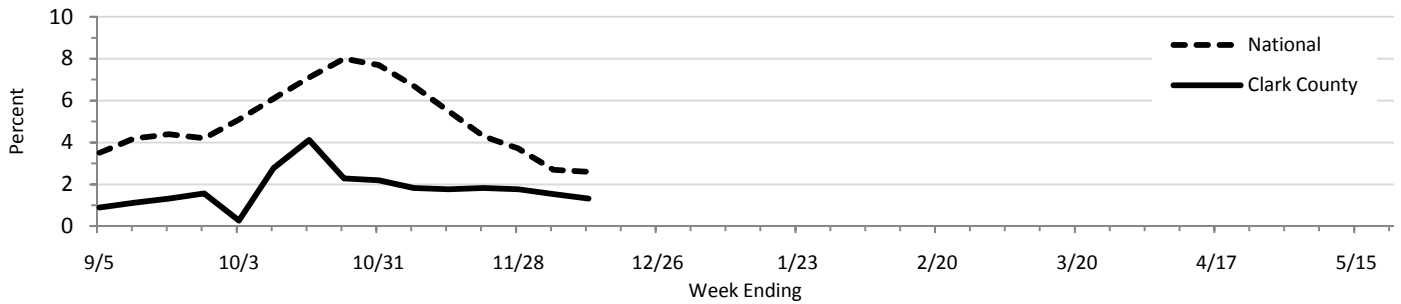
Testing Category	Week Ending								Season to Date	
	11/21		11/28		12/5		12/12		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%
Influenza Negative	7,279	79	5,268	85	4,911	91	5,249	93	111,760	72
2009 H1N1 Positive	1,478	16	708	11	344	6	273	5	28,770	19
Flu A H1 (seasonal) Positive	0	0	1	0	0	0	2	0	27	0
Flu A H3 (seasonal) Positive	1	0	0	0	1	0	0	0	21	0
Flu A Positive, Untyped	395	4	241	4	126	2	114	2	14,058	9
Flu B Positive	6	0	6	0	7	0	2	0	126	0
Specimens Tested	9,159		6,224		5,389		5,640		154,762	

Note: National data lags local data by one week, thus national data for the most recent week are unavailable. Source: CDC/NREVSS

**Section Two: Sentinel Physician Inﬂuenza-Like Illness Surveillance**

Data from physicians enrolled in the Center for Disease Control and Prevention’s Outpatient Inﬂuenza-like Illness Surveillance Network (ILINet) indicate the percentage of all patients in a given week presenting with inﬂuenza-like illness (ILI), which is deﬁned as a fever and either a cough or sore throat.

**Figure 2.1 Percentage of Visits for Inﬂuenza-Like Illness Reported to ILINet, Locally and Nationally**

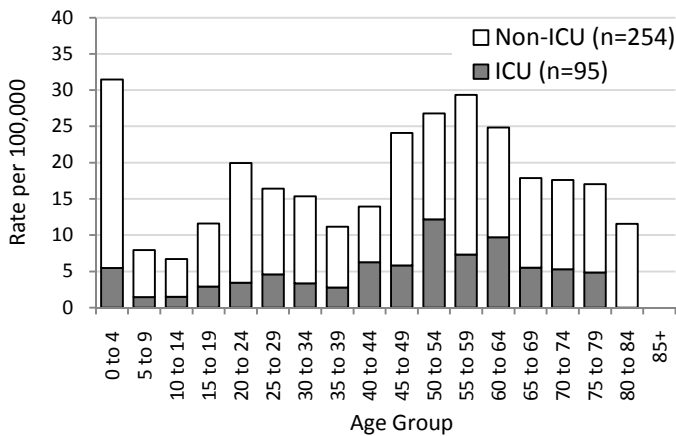


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

**Section Three: Clark County Reportable Disease Surveillance**

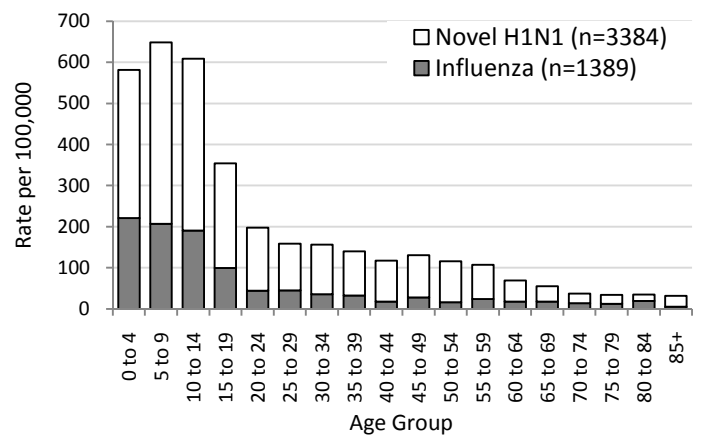
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive care unit (ICU) admission.

**Figure 3.1 Clark County Reported Inﬂuenza Hospitalization Rates by Age, Season to Date**



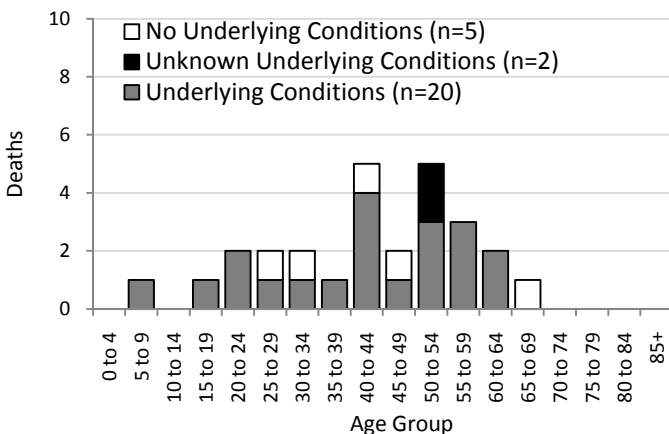
Source: Southern Nevada Health District

**Figure 3.2 Clark County Reported Inﬂuenza Case Rates by Age, Season to Date**



Source: Southern Nevada Health District

**Figure 3.3 Clark County Reported Inﬂuenza Deaths by Age, Season to Date**

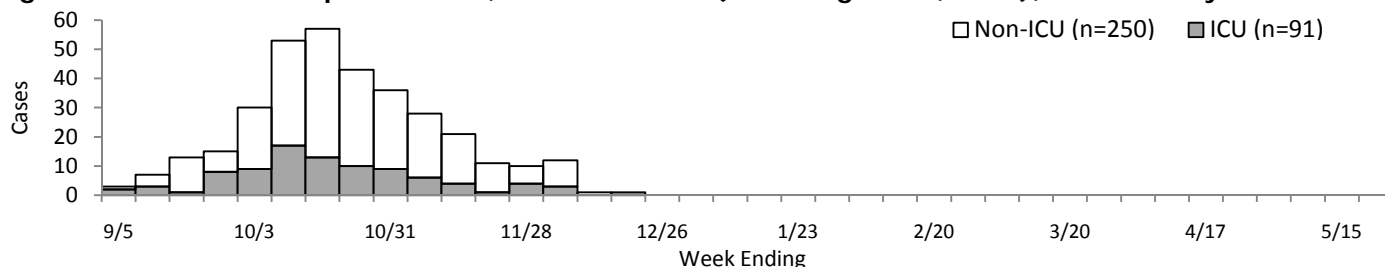


Source: Southern Nevada Health District

**Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending December 19, 2009**

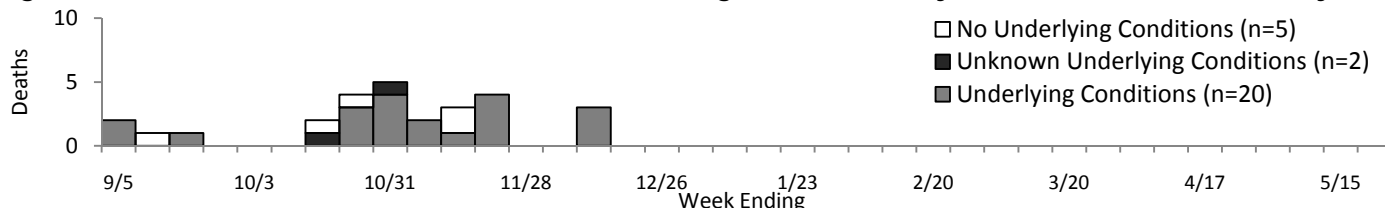
3 deaths:  
 38F with underlying conditions  
 42M with underlying conditions  
 53M with underlying conditions

**Figure 3.4 Inﬂuenza Hospitalizations, Season to Date (From August 30, 2009), Clark County**



Note: Data are presented by "event date", the earliest known date for a case. Although this is ideally a disease onset date, a standardized, hierarchical process is used to assign this date when the onset date is unavailable. Hospitalization that occurred before Aug. 30 but were reported Aug. 30 or after are not included in this figure, as data are displayed by the date of hospitalization.

**Figure 3.5 Inﬂuenza Deaths, Season to Date (From August 30, 2009) by Date of Death, Clark County**



**Table 3.1 Counts Inﬂuenza Cases by Type, Hospitalizations by Type, and Deaths, Most Recent Week and Season to Date (From August 30, 2009)**

Age Group	Reported Week Ending December 19, 2009					Season To Date (From August 30, 2009)												
	Cases Reported			Deaths	Hospitalizations					Cases Reported			Deaths	Hospitalizations				
	Inﬂuenza	Novel N1H1 Inﬂuenza	Total		Non-ICU Admissions	ICU Admissions	Total Admissions	Inﬂuenza	Novel N1H1 Inﬂuenza	Total	Non-ICU Admissions	ICU Admissions		Total Admissions				
0 to 4	1	5	6	0	0	0	0	323	527	850	0	38	8	46				
5 to 9	1	10	11	0	0	0	0	286	610	896	1	9	2	11				
10 to 14	1	3	4	0	0	0	0	255	560	815	0	7	2	9				
15 to 19	0	2	2	0	0	0	0	137	351	488	1	12	4	16				
20 to 24	0	3	3	0	0	0	0	64	223	287	2	24	5	29				
25 to 29	1	1	2	0	0	0	0	68	174	242	2	18	7	25				
30 to 34	0	4	4	0	0	0	0	53	181	234	2	18	5	23				
35 to 39	2	6	8	1	0	0	0	46	154	200	1	12	4	16				
40 to 44	0	2	2	1	0	0	0	25	143	168	5	11	9	20				
45 to 49	0	2	2	0	1	1	2	38	141	179	2	25	8	33				
50 to 54	0	1	1	1	0	0	0	20	123	143	5	18	15	33				
55 to 59	2	0	2	0	0	0	0	26	91	117	3	24	8	32				
60 to 64	0	0	0	0	0	0	0	16	48	64	2	14	9	23				
65 to 69	0	0	0	0	0	0	0	13	27	40	1	9	4	13				
70 to 74	1	1	2	0	0	0	0	8	13	21	0	7	3	10				
75 to 79	1	0	1	0	0	0	0	5	9	14	0	5	2	7				
80 to 84	0	0	0	0	0	0	0	5	4	9	0	3	0	3				
85+	0	0	0	0	0	0	0	1	5	6	0	0	0	0				
<b>Total</b>	<b>10</b>	<b>40</b>	<b>50</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1,389</b>	<b>3,384</b>	<b>4,773</b>	<b>27</b>	<b>254</b>	<b>95</b>	<b>349</b>				

Note: Case and hospitalization data for the most recent week are limited to those cases reported in the one-week period ending on the date listed, and are based solely on the date in which the case was reported to SNHD. Cases listed as "Novel H1N1 Inﬂuenza" are conﬁrmed by RT-PCR. Cases listed as "Inﬂuenza" include all patients who tested positive by a rapid inﬂuenza test and have either had no conﬁrmatory testing or conﬁrmatory testing indicating the presence of seasonal inﬂuenza. Case categories are mutually exclusive, as are hospitalization categories. Deaths listed are by the date or which the patient died. Cumulative totals may not add up to the current week total plus the cumulative total from the previous week, as cases from previous weeks can be reclassified from Inﬂuenza to Novel H1N1 based on new lab results, and duplicates are identiﬁed and removed.