

Update Number 2: October 28, 2009

Data for the Week Ending October 24, 2009

## Summary

For the week ending October 24, 2009:

- Influenza activity continues to increase throughout Southern Nevada
- There is currently no evidence of increased severity of disease in Southern Nevada or the US.
- Local and national laboratory surveillance indicates that nearly all reported cases of influenza are the result of 2009 Influenza A (H1N1)
- 1,351 influenza cases, including 48 hospitalizations and 4 deaths were reported to the health district. Approximately half the cases reported this week are the result of Health District efforts to catch up on case investigation and data entry of cases who had onset of disease prior to the past week. The health district has also identified two deaths that occurred earlier in October.

## Current Status Circulation

In addition to increased reporting of influenza by health-care providers (Table 3.1) and increased numbers of patients reported to have been hospitalized for influenza (Figure 3.4 and Table 3.1), sentinel provider reports of patients seeking care for influenza-like illness (Figure 2.1) also increased. In addition, the positivity rate for influenza through pediatric laboratory surveillance has increased since the beginning of October (Figure 1.1 and Table 1.1). This is consistent with national trends, as all 10 geographic regions of the country are reporting elevated levels of influenza, and 46 states are reporting widespread geographic distribution of flu (Source: CDC FluView).

## Severity

*There is currently no evidence of increased severity of disease in Southern Nevada.* The number of hospitalizations and the overall infection rate increased during October, (Figure 3.4). An indicator of the severity of disease, the proportion of hospitalized patients requiring intensive care unit admission, has remained consistent at about one-third of patients since the beginning of the influenza season (Table 3.1), and roughly the same number of patients were hospitalized last week as in the previous week. Four influenza-related deaths were reported last week, with 3 of the deaths occurring in persons who were at higher risk for serious disease as a result of underlying health conditions (Figure 3.5). An increase in the number of deaths is the result of increased disease transmission within the community, and not a change in the severity of the disease.

## 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 184 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 14 cases of oseltamivir resistance have been identified in the United States. Twelve of these patients had documented exposure to oseltamivir through either treatment or chemoprophylaxis, one patient had no documented oseltamivir exposure, and one patient is under investigation to determine exposure to oseltamivir. (Source: CDC - <http://www.cdc.gov/flu/weekly/>).

## SNHD Vaccination Clinics

The Southern Nevada Health District has received approximately 50,000 doses of Influenza A (H1N1) 2009 vaccine to date, including both live attenuated vaccine and inactivated vaccine. At this time, the Health District has limited supplies of the injected (inactivated) vaccine, and the flu vaccination clinics are limited to the inhaled (live attenuated) vaccine. The inhaled vaccine is being made available to the following members of the 2009 H1N1 priority group:

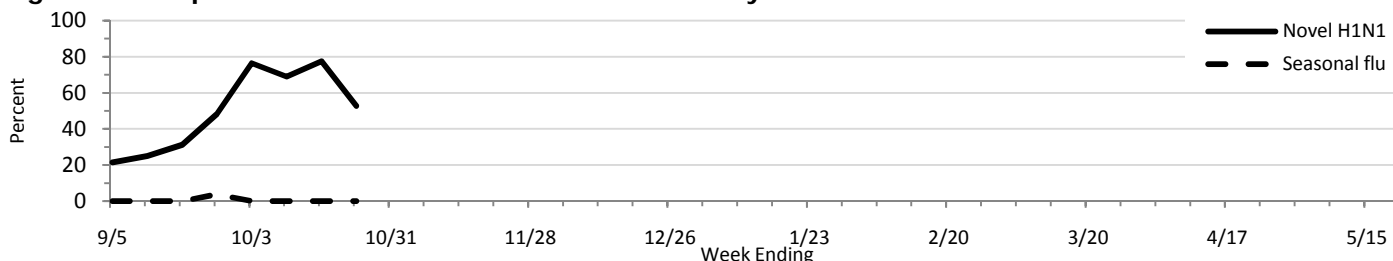
- Parents and caregivers of children younger than 6 months of age\*
  - Health care and emergency medical services personnel with direct patient contact\*
  - People between 2 and 24 years of age with no underlying medical conditions, including pregnancy.
- \* The inhaled vaccine is approved for healthy people between the ages of 2 and 49. It is not approved for pregnant women or children and adults who have underlying medical conditions, such as asthma or diabetes.

Additional clinics will be scheduled based on the availability of vaccine, and targeted priority groups will be determined by the amount and type of vaccine received. Information about vaccination clinics can be found on the health district's website at <http://www.southernnevadahealthdistrict.org/h1n1/vaccine.php>

**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**



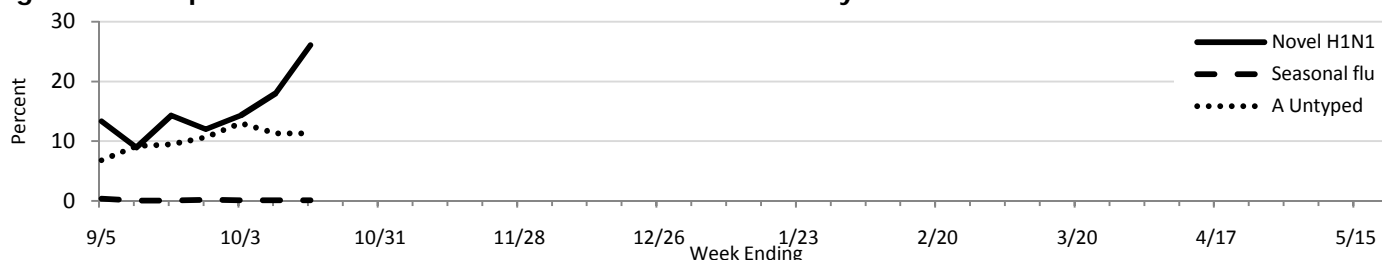
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

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

Testing Category	Week Ending										Season to Date From 8/30/09	
	9/26		10/3		10/10		10/17		10/24		n	%
	n	%	n	%	n	%	n	%	n	%		
Influenza Negative	13	48	8	24	9	31	7	23	9	47	79	43
2009 H1N1 Positive	13	48	26	76	20	69	24	77	10	53	104	57
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	1	4	0	0	0	0	0	0	0	0	1	1
Specimens Tested	27		34		29		31		19		184	

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**

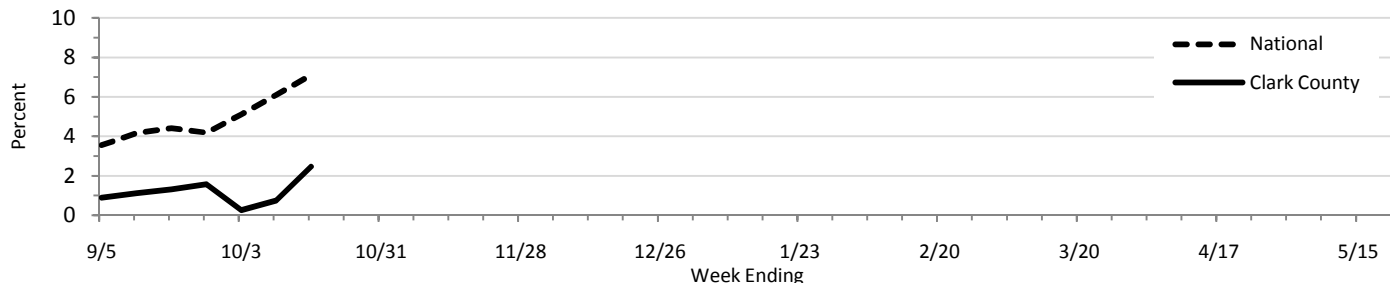
Testing Category	Week Ending								Season to Date From 8/30/09	
	9/26		10/3		10/10		10/17		n	%
	n	%	n	%	n	%	n	%		
Influenza Negative	7,188	77	7,848	73	9,828	71	8,088	62	50,772	73
2009 H1N1 Positive	1,116	12	1,549	14	2,505	18	3,378	26	11,327	16
Flu A H1 (seasonal) Positive	3	0	1	0	0	0	0	0	16	0
Flu A H3 (seasonal) Positive	6	0	1	0	0	0	0	0	22	0
Flu A Positive, Untyped	994	11	1,408	13	1,573	11	1,466	11	7,418	11
Flu B Positive	7	0	9	0	15	0	11	0	48	0
Specimens Tested	9,314		10,816		13,921		12,943		69,603	

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**

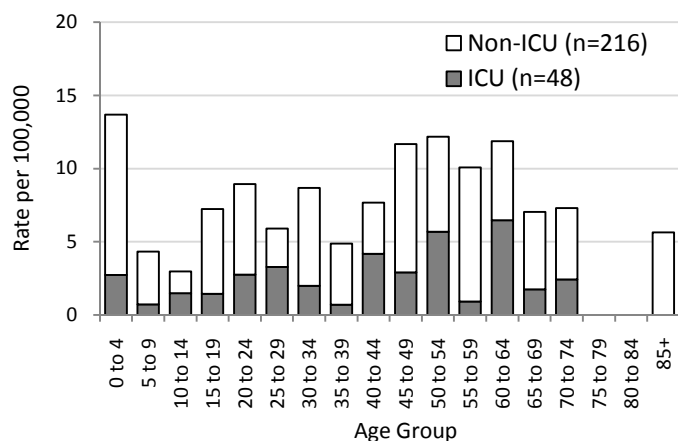


Note: ILI data collection for the previous week are not complete on Tuesdays when this report is issued, and results will lag other parts of this report by one week. Source: CDC/ILINet

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

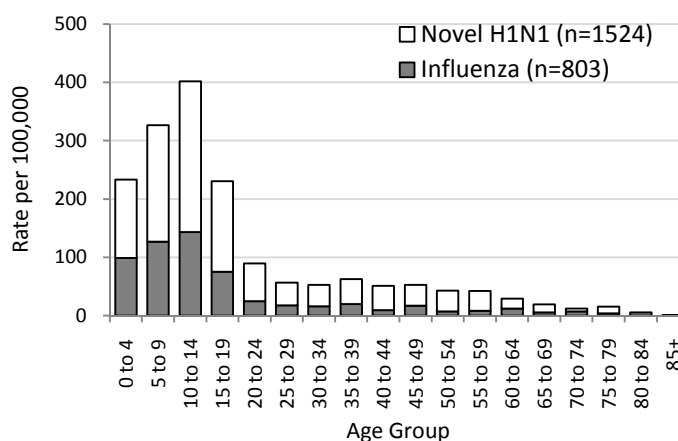
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



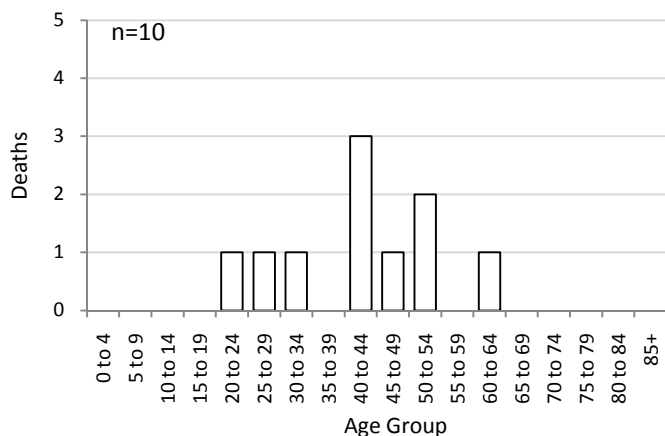
Source: Southern Nevada Health District

**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**



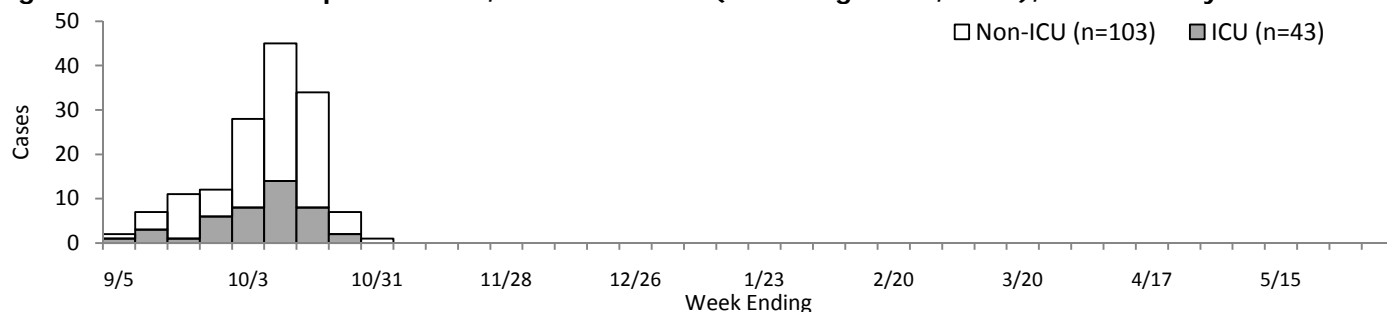
Source: Southern Nevada Health District

**Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending October 24, 2009**

4 deaths: 22F with underlying conditions, 28F with underlying conditions, 44M with underlying conditions, 40M without underlying conditions

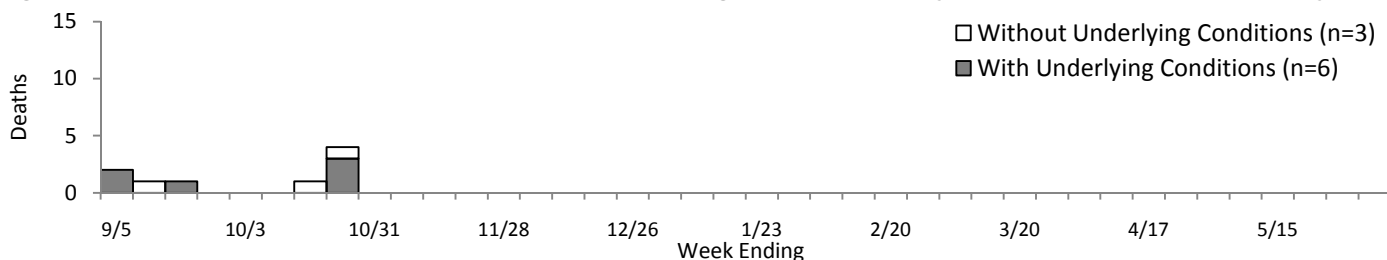
In addition, 2 additional deaths earlier in October have been identiﬁed: 64F with underlying conditions, 50F with unknown underlying conditions

**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.

**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 October 24, 2009					Season To Date (From August 31, 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	97	125	222	0	5	1	6	144	197	341	0	16	4	20					
5 to 9	116	162	278	0	3	0	3	175	276	451	0	5	1	6					
10 to 14	105	178	283	0	0	1	1	192	346	538	0	2	2	4					
15 to 19	49	111	160	0	1	1	2	104	214	318	0	8	2	10					
20 to 24	28	59	87	1	0	1	1	36	94	130	1	9	4	13					
25 to 29	17	29	46	1	2	2	4	27	59	86	1	4	5	9					
30 to 34	18	32	50	0	2	1	3	24	55	79	1	10	3	13					
35 to 39	19	41	60	0	1	0	1	28	62	90	0	6	1	7					
40 to 44	9	34	43	2	4	2	6	13	60	73	3	5	6	11					
45 to 49	16	33	49	0	5	1	6	23	49	72	1	12	4	16					
50 to 54	6	17	23	0	3	2	5	9	44	53	2	8	7	15					
55 to 59	5	20	25	0	3	1	4	9	37	46	0	10	1	11					
60 to 64	10	4	14	0	0	1	1	11	16	27	1	5	6	11					
65 to 69	1	6	7	0	3	0	3	3	8	11	0	6	1	7					
70 to 74	0	0	0	0	2	0	2	3	2	5	0	3	1	4					
75 to 79	1	1	2	0	0	0	0	1	3	4	0	2	0	2					
80 to 84	0	0	0	0	0	0	0	1	0	1	0	0	0	0					
85+	0	2	2	0	0	0	0	0	2	2	0	0	0	0					
<b>Total</b>	<b>497</b>	<b>854</b>	<b>1,351</b>	<b>4</b>	<b>34</b>	<b>14</b>	<b>48</b>	<b>803</b>	<b>1,524</b>	<b>2,327</b>	<b>10</b>	<b>111</b>	<b>48</b>	<b>159</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 limited to cases conﬁrmed by RT-PCR. Cases listed as "Inﬂuenza" include all patients who had 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 on which the patient died.