

Update Number 3: November 4, 2009

Data for the Week Ending October 31, 2009

## Summary

For the week ending October 31, 2009:

- Influenza activity continues 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)
- 573 cases, including 38 hospitalizations and 2 deaths were reported to the health district.

## Current Status

### Circulation

Over the month of October, influenza activity increased both in Southern Nevada and nationwide. In addition to increased reporting of influenza by healthcare 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 increased over the month 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 48 states are reporting widespread geographic distribution of influenza (Source: CDC FluView).

### Severity

*There is currently no evidence of increased severity of disease in Southern Nevada or in the United States.* The number of hospitalizations and the overall infection rate increased during the month of 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). In the week ending October 31, 2009, fewer patients were hospitalized with influenza than in the previous week. Two influenza-related deaths were reported last week, with both of the deaths occurring in persons who were at higher risk for serious disease as a result of underlying health conditions (Figure 3.5).

### 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 203

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/>).

### Of Note...

#### SNHD Vaccination Clinics

The Southern Nevada Health District has received approximately 69,600 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.

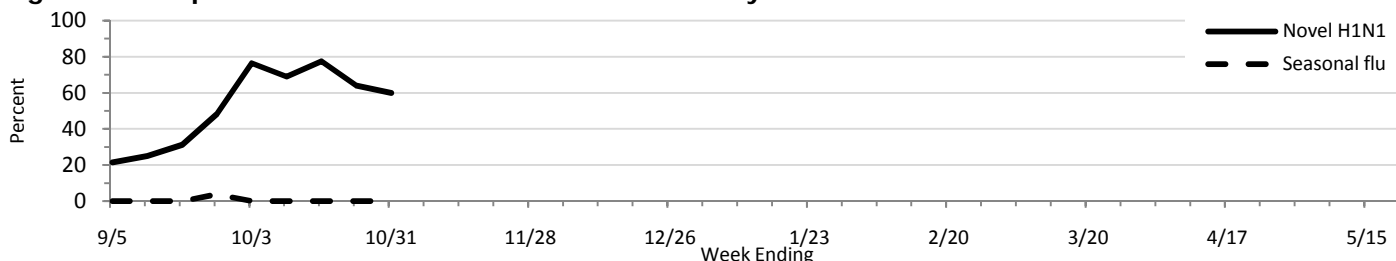
Additional clinics will be scheduled based on the availability of vaccine, and targeted priority groups will be determined by the amount and type of vaccine received.

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 (NREVVSS) program.

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



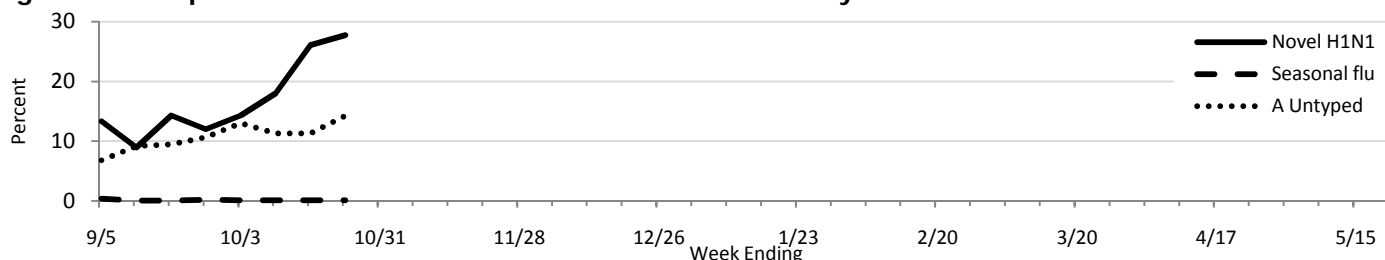
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

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

Testing Category	Week Ending										Season to Date From 8/30/09	
	10/3		10/10		10/17		10/24		10/31		n	%
	n	%	n	%	n	%	n	%	n	%		
Influenza Negative	8	24	9	31	7	23	9	36	6	40	83	41
2009 H1N1 Positive	26	76	20	69	24	77	16	64	9	60	119	59
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	34		29		31		25		15		203	

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/NREVVSS

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

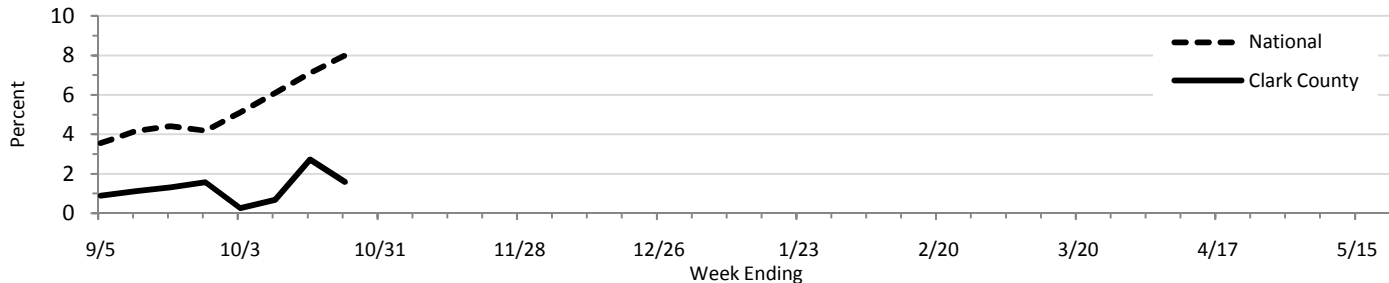
Testing Category	Week Ending								Season to Date From 8/30/09	
	10/3		10/10		10/17		10/24		n	%
	n	%	n	%	n	%	n	%		
Influenza Negative	7,848	73	9,828	71	8,088	62	11,374	58	62,146	70
2009 H1N1 Positive	1,549	14	2,505	18	3,378	26	5,453	28	16,780	19
Flu A H1 (seasonal) Positive	1	0	0	0	0	0	0	0	16	0
Flu A H3 (seasonal) Positive	1	0	0	0	0	0	0	0	22	0
Flu A Positive, Untyped	1,408	13	1,573	11	1,466	11	2,794	14	10,212	11
Flu B Positive	9	0	15	0	11	0	21	0	69	0
Specimens Tested	10,816		13,921		12,943		19,642		89,245	

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

**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**

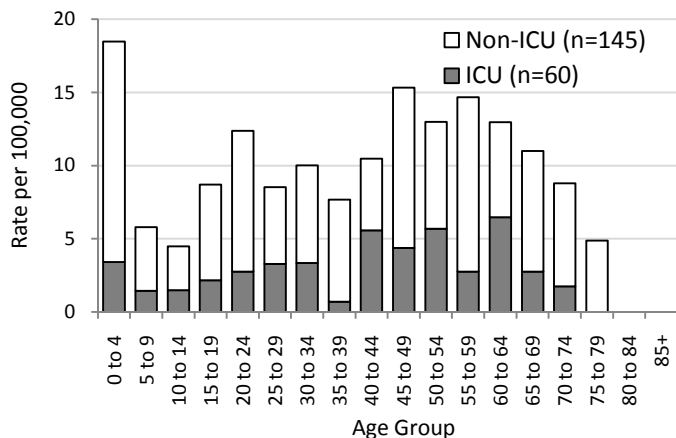


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

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

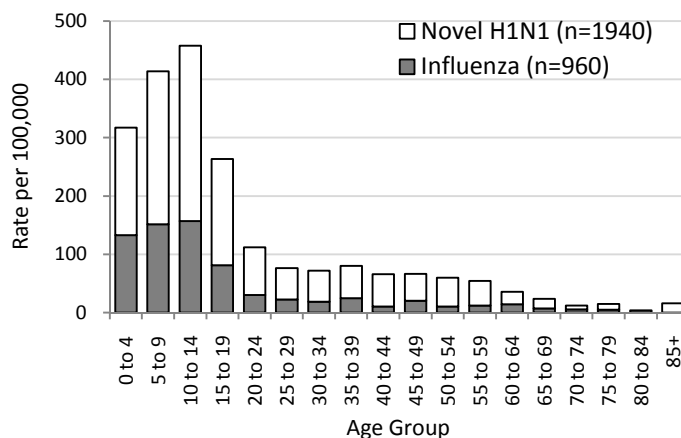
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



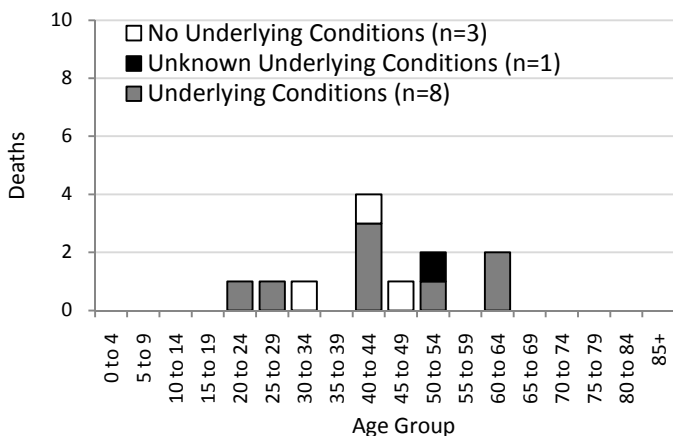
Source: Southern Nevada Health District

**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**

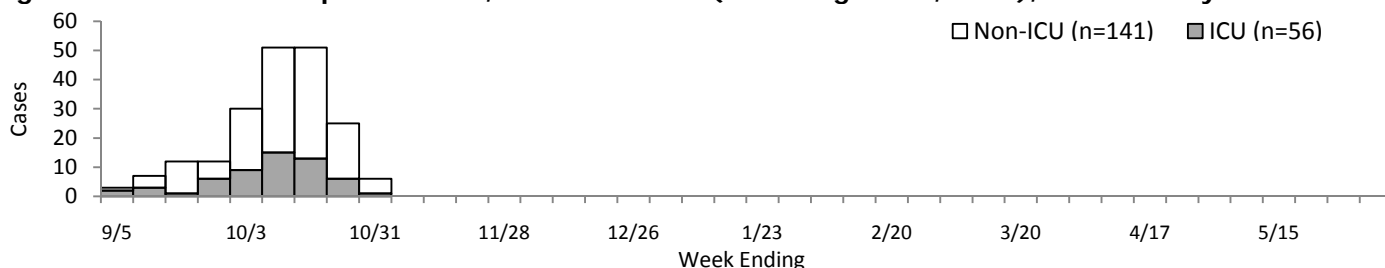


Source: Southern Nevada Health District

**Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending October 31, 2009**

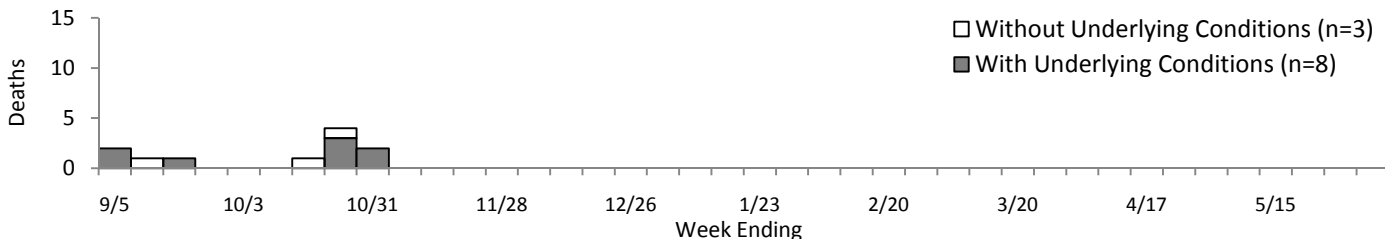
2 deaths: 61F with underlying conditions, 44F with underlying conditions

**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**



Note: one death reported after August 30 occurred prior to August 30, and is not represented in this figure

**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 31, 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	50	73	123	0	6	1	7	194	270	464	0	22	5	27		
5 to 9	34	87	121	0	1	0	1	209	363	572	0	6	2	8		
10 to 14	18	57	75	0	2	0	2	210	403	613	0	4	2	6		
15 to 19	8	37	45	0	1	1	2	112	251	363	0	9	3	12		
20 to 24	8	25	33	0	3	1	4	44	119	163	1	14	4	18		
25 to 29	7	23	30	0	4	0	4	34	82	116	1	8	5	13		
30 to 34	4	25	29	0	0	2	2	28	80	108	1	10	5	15		
35 to 39	7	18	25	0	3	0	3	35	80	115	0	10	1	11		
40 to 44	2	19	21	1	1	2	3	15	79	94	4	7	8	15		
45 to 49	5	14	19	0	1	2	3	28	63	91	1	15	6	21		
50 to 54	4	17	21	0	1	0	1	13	61	74	2	9	7	16		
55 to 59	4	9	13	0	1	2	3	13	46	59	0	13	3	16		
60 to 64	2	4	6	1	1	0	1	13	20	33	2	6	6	12		
65 to 69	2	4	6	0	1	0	1	5	12	17	0	6	2	8		
70 to 74	0	2	2	0	1	0	1	3	4	7	0	4	1	5		
75 to 79	1	1	2	0	0	0	0	2	4	6	0	2	0	2		
80 to 84	0	0	0	0	0	0	0	1	0	1	0	0	0	0		
85+	1	1	2	0	0	0	0	1	3	4	0	0	0	0		
<b>Total</b>	<b>157</b>	<b>416</b>	<b>573</b>	<b>2</b>	<b>27</b>	<b>11</b>	<b>38</b>	<b>960</b>	<b>1,940</b>	<b>2,900</b>	<b>12</b>	<b>145</b>	<b>60</b>	<b>205</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.