

Update Number 6: November 25, 2009

Data for the Week Ending November 21, 2009

Summary

For the week ending November 21, 2009:

- Influenza activity persists throughout Southern Nevada, although it has continued to decrease over the first three weeks of November
- Several surveillance systems are continuing to show a decrease in influenza activity. However it is not possible to determine if this is a short-term aberration or the beginning of a trend of decreasing influenza activity
- There is currently no evidence of increased severity of disease in Southern Nevada. Posting of the nation-wide report has been delayed until November 30, due to Thanksgiving holiday
- Local laboratory surveillance indicates that nearly all reported cases of influenza are the result of 2009 Influenza A (H1N1)
- 232 cases, including 15 hospitalizations and 3 deaths were reported to the health district. The deaths include a 25-year-old female with no underlying health conditions, a 59-year-old female with underlying health conditions and a 49-year-old female with underlying health conditions who was visiting from another country.

Current Status

Circulation

Over the first three weeks of November, influenza activity decreased in Southern Nevada. US statistics for the third week in November will be posted November 30, due to Thanksgiving holiday. Nationally, for the second week of November, all ten geographic regions of the country continued to report elevated levels of influenza, and 43 states reported widespread geographic distribution of influenza, down from 44 states in the previous week (Source: CDC FluView). Local laboratory testing is showing a decrease in the testing positivity rates (Figure 1.1 and Table 1.1). Sentinel provider reports of patients seeking care for influenza-like illness has displayed the same trend (Figure 2.1). The number of patients hospitalized for influenza decreased during the third week of November (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 three weeks. During September and early October, about one-third of hospitalized patients were admitted to the intensive care unit; for the first half of November, one-quarter of hospitalized patients required admission to the intensive care unit; in the past week there were no admissions to ICU. Three influenza-related deaths were reported last week, and two of the three deaths occurred 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 278 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).

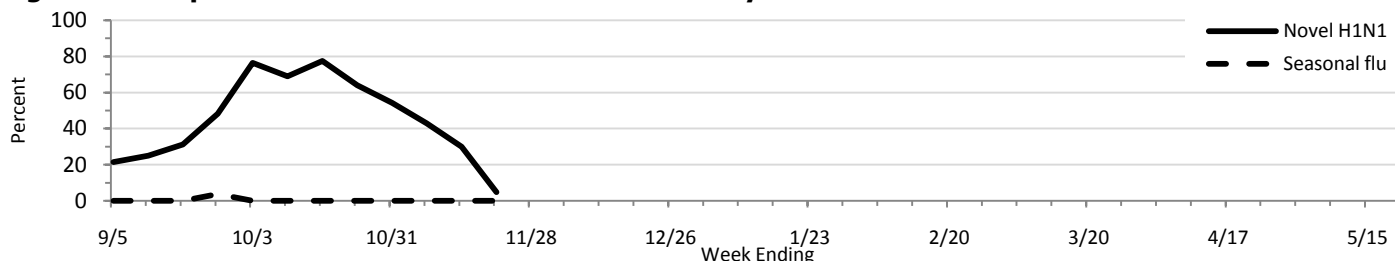
Antiviral Resistance

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 21 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/>).

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



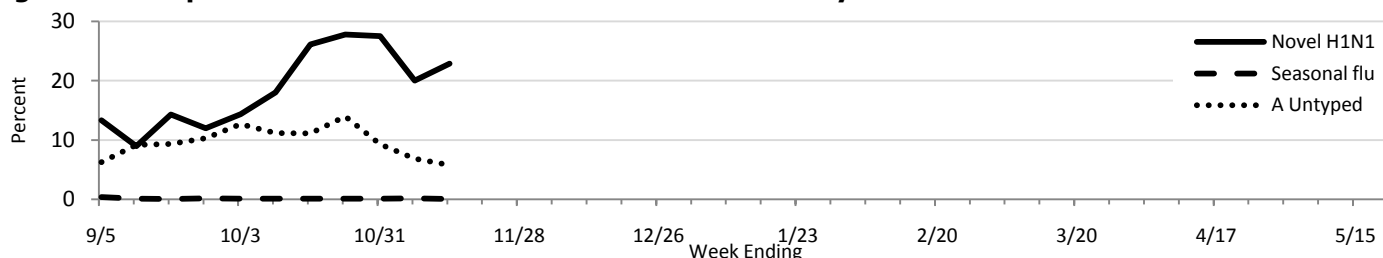
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

Table 1.1 Laboratory Testing - Clark County Pediatric Influenza Surveillance

Testing Category	Week Ending										Season to Date	
	10/24		10/31		11/7		11/14		11/21		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%	n	%
Influenza Negative	9	36	11	46	12	57	14	70	20	95	134	49
2009 H1N1 Positive	16	64	13	54	9	43	6	30	1	5	139	51
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		24		21		20		21		274	

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

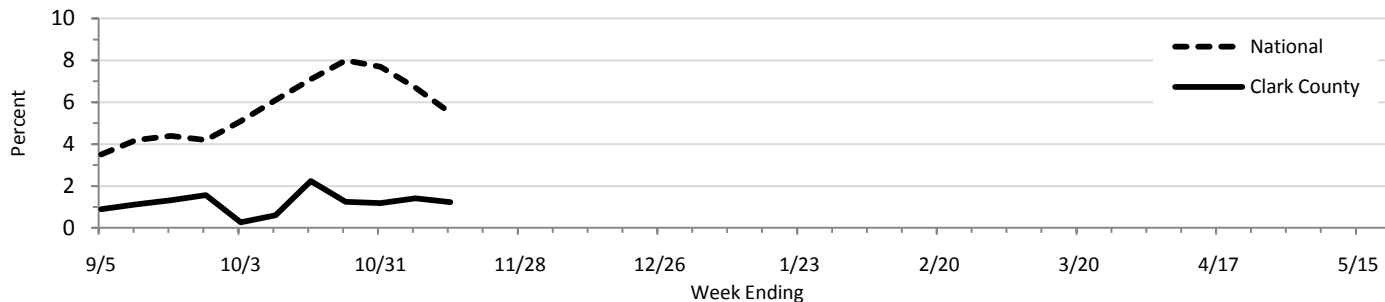
Testing Category	Week Ending								Season to Date	
	10/24		10/31		11/7		11/14		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%
Influenza Negative	11,374	58	8,893	63	10,317	73	7,697	71	89,053	69
2009 H1N1 Positive	5,453	28	3,889	27	2,830	20	2,468	23	25,967	20
Flu A H1 (seasonal) Positive	0	0	2	0	0	0	0	0	24	0
Flu A H3 (seasonal) Positive	0	0	2	0	0	0	1	0	19	0
Flu A Positive, Untyped	2,794	14	1,351	10	985	7	634	6	13,182	10
Flu B Positive	21	0	14	0	19	0	3	0	105	0
Specimens Tested	19,642		14,151		14,151		10,803		128,350	

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

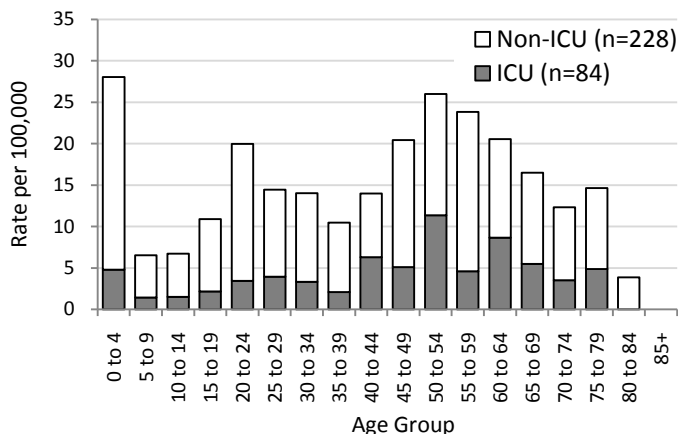


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

Section Three: Clark County Reportable Disease Surveillance

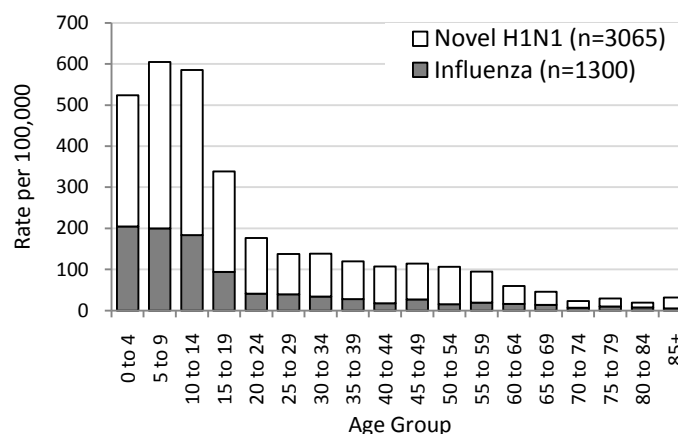
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



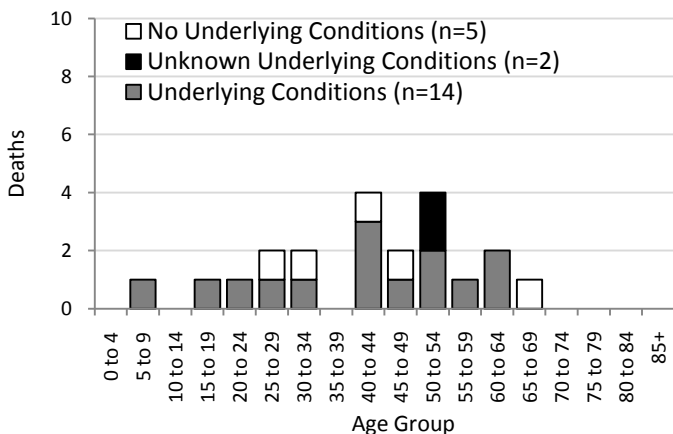
Source: Southern Nevada Health District

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

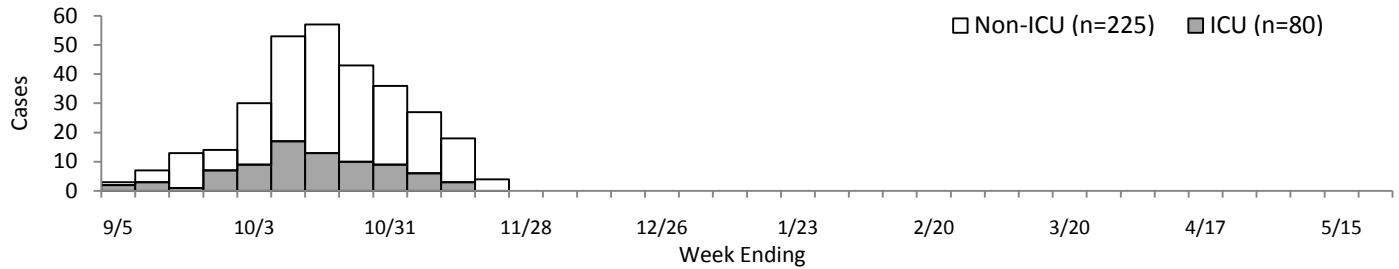


Source: Southern Nevada Health District

Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending November 21, 2009

3 deaths:
 25F without underlying conditions
 49F with underlying conditions
 59F 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

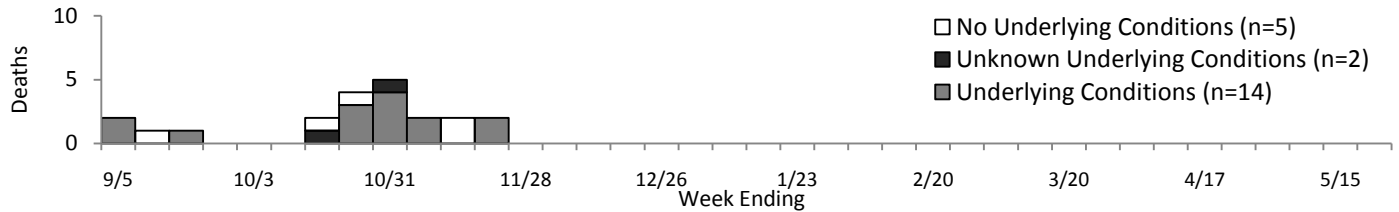


Table 3.1 Counts Influenza Cases by Type, Hospitalizations by Type, and Deaths, Most Recent Week and Season to Date (From August 30, 2009)

Age Group	Reported Week Ending November 21, 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	15	24	39	0	3	0	3	299	467	766	0	34	7	41
5 to 9	9	33	42	0	0	0	0	276	560	836	1	7	2	9
10 to 14	4	16	20	0	1	0	1	246	538	784	0	7	2	9
15 to 19	3	10	13	0	0	0	0	130	337	467	1	12	3	15
20 to 24	9	12	21	0	2	0	2	60	197	257	1	24	5	29
25 to 29	2	16	18	1	2	0	2	60	149	209	2	16	6	22
30 to 34	5	11	16	0	1	0	1	51	156	207	2	16	5	21
35 to 39	0	6	6	0	1	0	1	40	131	171	0	12	3	15
40 to 44	2	3	5	0	0	0	0	25	129	154	4	11	9	20
45 to 49	3	14	17	1	1	0	1	37	119	156	2	21	7	28
50 to 54	2	10	12	0	0	0	0	19	112	131	4	18	14	32
55 to 59	1	6	7	1	2	0	2	21	82	103	1	21	5	26
60 to 64	2	3	5	0	1	0	1	15	40	55	2	11	8	19
65 to 69	2	3	5	0	0	0	0	10	23	33	1	8	4	12
70 to 74	0	2	2	0	1	0	1	4	9	13	0	5	2	7
75 to 79	0	0	0	0	0	0	0	4	8	12	0	4	2	6
80 to 84	1	3	4	0	0	0	0	2	3	5	0	1	0	1
85+	0	0	0	0	0	0	0	1	5	6	0	0	0	0
Total	60	172	232	3	15	0	15	1,300	3,065	4,365	21	228	84	312

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 on 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.