Summary

For the week ending December 5, 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)
- 129 influenza cases, including 13 hospitalizations were reported to the health district. No influenza-related deaths were reported.

Current Status

Circulation

Influenza activity continues in Southern Nevada at levels well below those seen in late October and early November. Although the number hospitalized cases increased from the previous week, these fluctuations are not uncommon during influenza season. Nationally, for the last week of November, eight of ten geographic regions reported elevated influenza activity, down from ten the previous week. Widespread geographic distribution of influenza activity was reported in 25 states, down from 32 states 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 increased during the last week of November (Figure 3.4 and Table 3.1), although the number remains well below the number of hospitalized patients late October and early November.

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. No deaths were reported in Southern Nevada for the week ending December 5, 2009 (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 294 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).

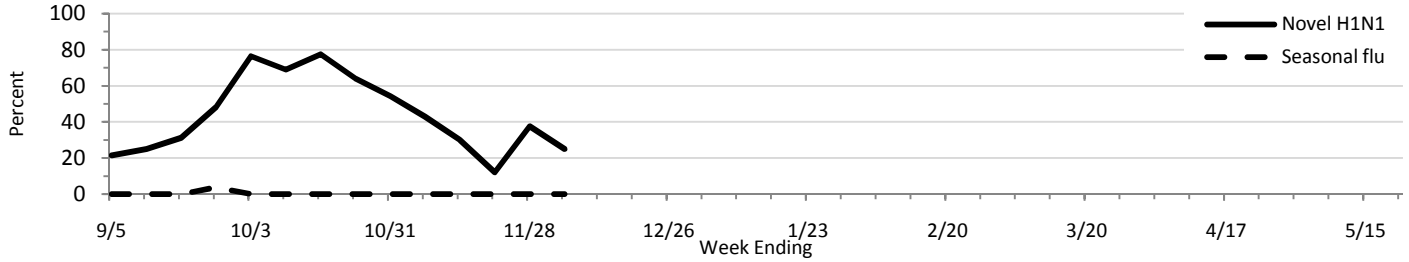
Antiviral Resistance

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 26 cases of oseltamivir-resistance have been identified in the United States. Nineteen of these patients had documented exposure to oseltamivir through either treatment or chemoprophylaxis, one patient had no documented oseltamivir exposure, and six 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



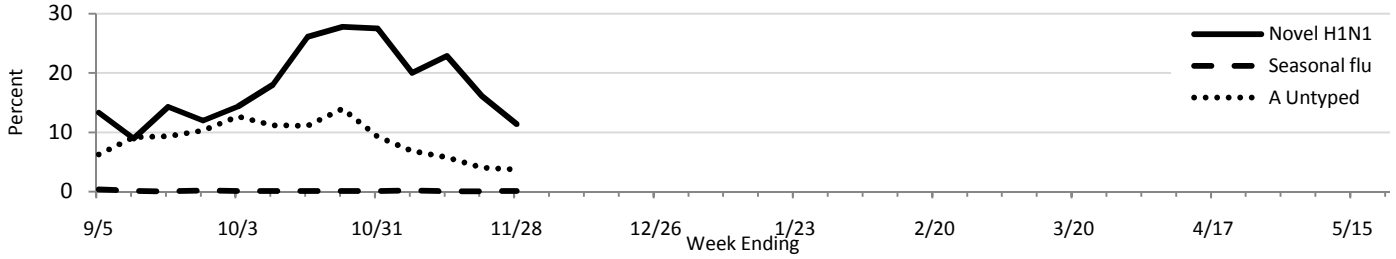
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

Table 1.1 Laboratory Testing - Clark County Pediatric Influenza Surveillance

	Week Ending										Season to Date From 8/30/09	
	11/7		11/14		11/21		11/28		12/5			
Testing Category	n	%	n	%	n	%	n	%	n	%	n	%
Influenza Negative	12	57	14	70	22	88	5	63	6	75	147	50
2009 H1N1 Positive	9	43	6	30	3	12	3	38	2	25	146	50
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	21		20		25		8		8		294	

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/NRVESS

Table 1.2 Laboratory Testing Results - National Influenza Surveillance

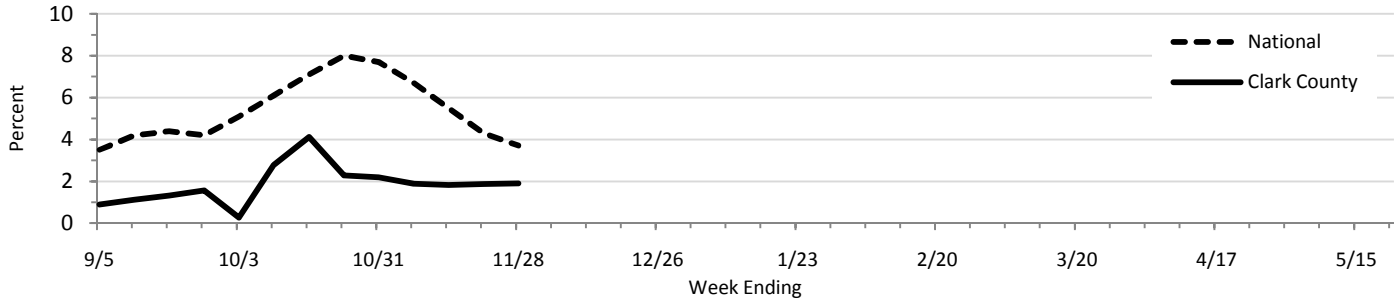
	Week Ending								Season to Date From 8/30/09	
	11/7		11/14		11/21		11/28			
Testing Category	n	%	n	%	n	%	n	%	n	%
Influenza Negative	10,317	73	7,697	71	7,279	79	5,268	85	101,600	71
2009 H1N1 Positive	2,830	20	2,468	23	1,478	16	708	11	28,153	20
Flu A H1 (seasonal) Positive	0	0	0	0	0	0	1	0	25	0
Flu A H3 (seasonal) Positive	0	0	1	0	1	0	0	0	20	0
Flu A Positive, Untyped	985	7	634	6	395	4	241	4	13,818	10
Flu B Positive	19	0	3	0	6	0	6	0	117	0
Specimens Tested	14,151		10,803		9,159		6,224		143,733	

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

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

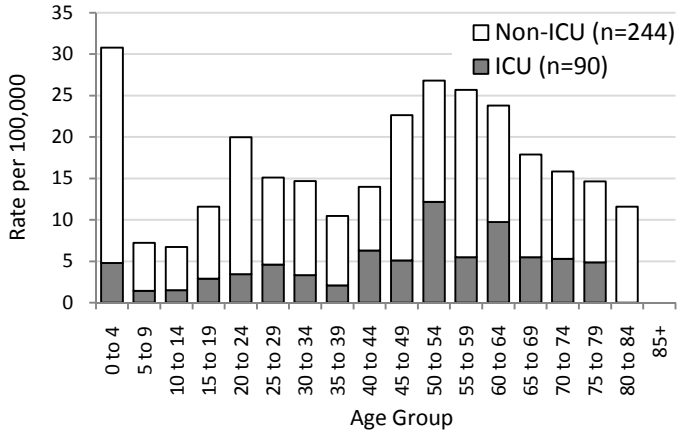


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

Section Three: Clark County Reportable Disease Surveillance

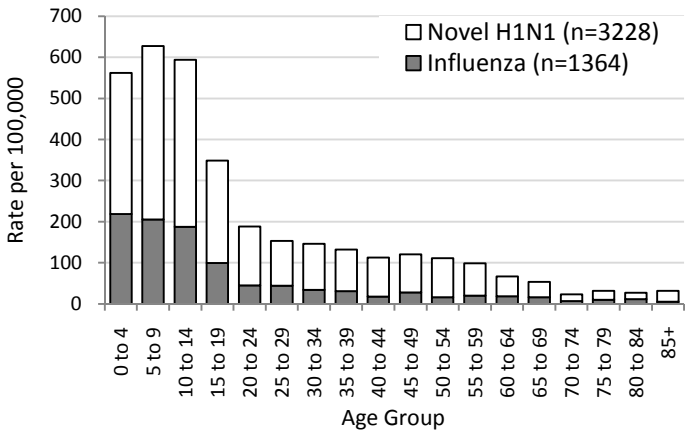
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of influenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



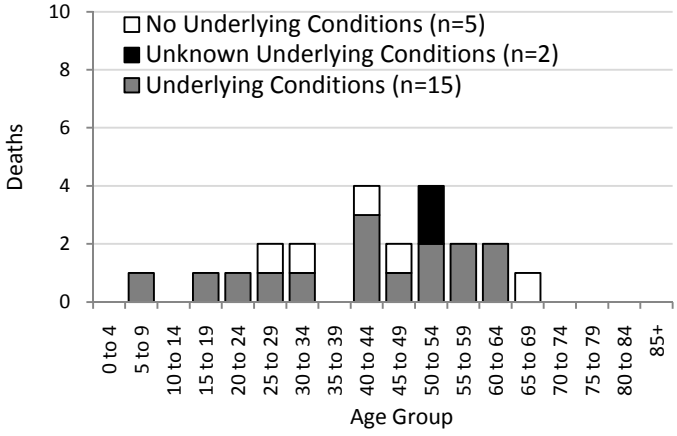
Source: Southern Nevada Health District

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

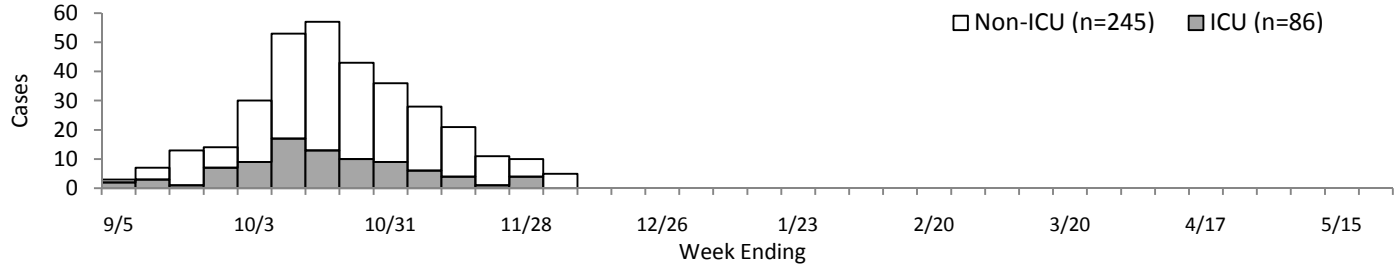


Source: Southern Nevada Health District

Textbox 3.1 Details of Influenza-Related Deaths, Clark County, Week Ending December 05, 2009

No deaths were reported this week.

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

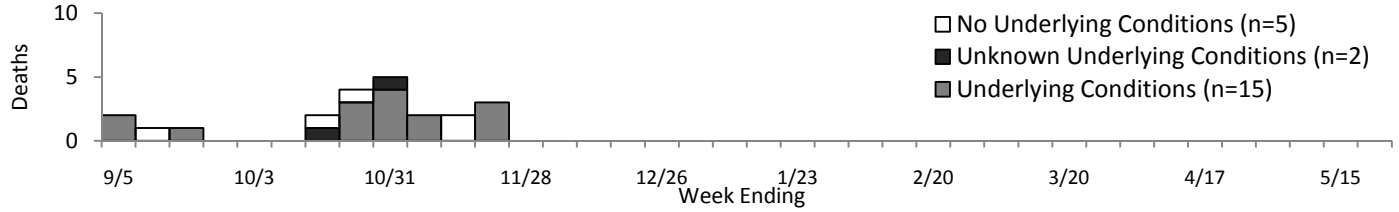


Table 3.1 Counts Influenza Cases by Type, Hospitalizations by Type, and Deaths, Most Recent Week and Season to Date (From August 30, 2009)

	Reported Week Ending December 05, 2009							Season To Date (From August 30, 2009)						
	Cases Reported			Deaths	Hospitalizations			Cases Reported			Deaths	Hospitalizations		
Age Group	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	7	24	31	0	3	0	3	319	503	822	0	38	7	45
5 to 9	2	12	14	0	0	0	0	284	583	867	1	8	2	10
10 to 14	3	6	9	0	0	0	0	251	545	796	0	7	2	9
15 to 19	4	4	8	0	0	0	0	137	344	481	1	12	4	16
20 to 24	2	8	10	0	0	0	0	65	209	274	1	24	5	29
25 to 29	2	11	13	0	0	1	1	67	166	233	2	16	7	23
30 to 34	0	8	8	0	1	0	1	51	168	219	2	17	5	22
35 to 39	3	10	13	0	0	0	0	44	145	189	0	12	3	15
40 to 44	0	4	4	0	0	0	0	25	136	161	4	11	9	20
45 to 49	1	3	4	0	1	0	1	38	127	165	2	24	7	31
50 to 54	0	3	3	0	0	1	1	20	117	137	4	18	15	33
55 to 59	1	1	2	0	0	0	0	22	86	108	2	22	6	28
60 to 64	1	4	5	0	2	1	3	17	45	62	2	13	9	22
65 to 69	1	2	3	0	1	0	1	12	27	39	1	9	4	13
70 to 74	0	0	0	0	0	1	1	4	9	13	0	6	3	9
75 to 79	0	1	1	0	0	0	0	4	9	13	0	4	2	6
80 to 84	1	0	1	0	1	0	1	3	4	7	0	3	0	3
85+	0	0	0	0	0	0	0	1	5	6	0	0	0	0
Total	28	101	129	0	9	4	13	1,364	3,228	4,592	22	244	90	334

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.