

Update Number 9: December 16, 2009

Data for the Week Ending December 12, 2009

Summary

For the week ending December 12, 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)

131 influenza cases, including 11 hospitalizations were reported to the health district. Two influenza-related deaths were reported: a 20-year-old male and a 56-year-old-male, both with underlying conditions. One patient died in mid-November and was not reported until December, and the second patient died in early December but was admitted to the hospital in late October.

Current Status

Circulation

Influenza activity continues in Southern Nevada at levels well below those seen in late October and early November. Nationally, for the first week of December, six of ten geographic regions reported elevated influenza activity, down from eight the previous week. Widespread geographic distribution of influenza activity was reported in 14 states, down from 25 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) 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 has been roughly the same for each of the past three weeks (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. Two deaths were reported in Southern Nevada for the week ending December 12, 2009 (Figure 3.5). Both patients had underlying conditions that placed them at higher risk. One patient had been hospitalized since late-October and died in early December, and the second patient died in mid-November but was only recently reported.

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 300 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).

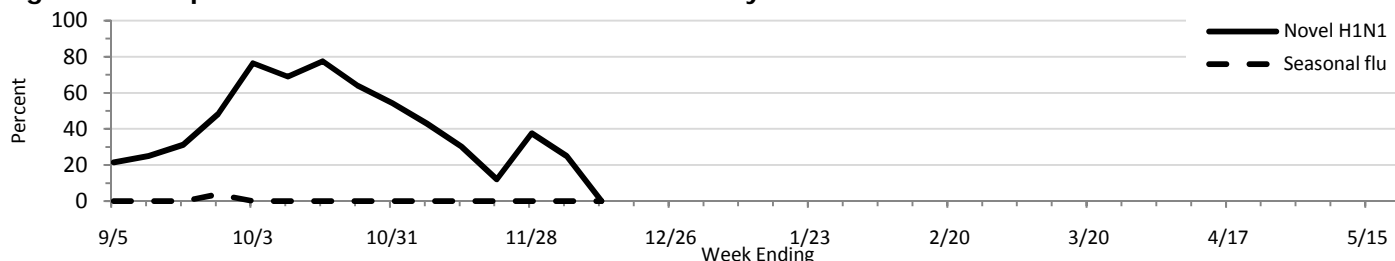
Antiviral Resistance

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 29 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, two patients had no documented oseltamivir exposure, and eight 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 (NREVS) program.

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



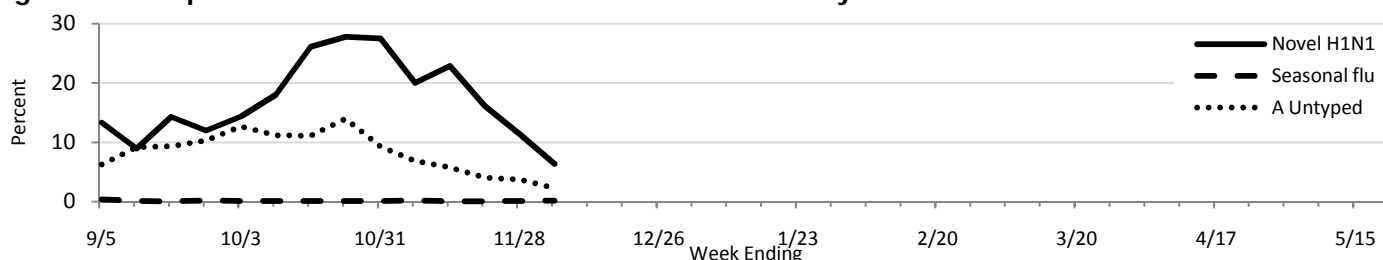
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

Table 1.1 Laboratory Testing - Clark County Pediatric Influenza Surveillance

Testing Category	Week Ending										Season to Date	
	11/14		11/21		11/28		12/5		12/12		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%	n	%
Influenza Negative	14	70	22	88	5	63	6	75	6	100	153	51
2009 H1N1 Positive	6	30	3	12	3	38	2	25	0	0	146	49
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	20		25		8		8		6		300	

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/NREVS

Table 1.2 Laboratory Testing Results - National Influenza Surveillance

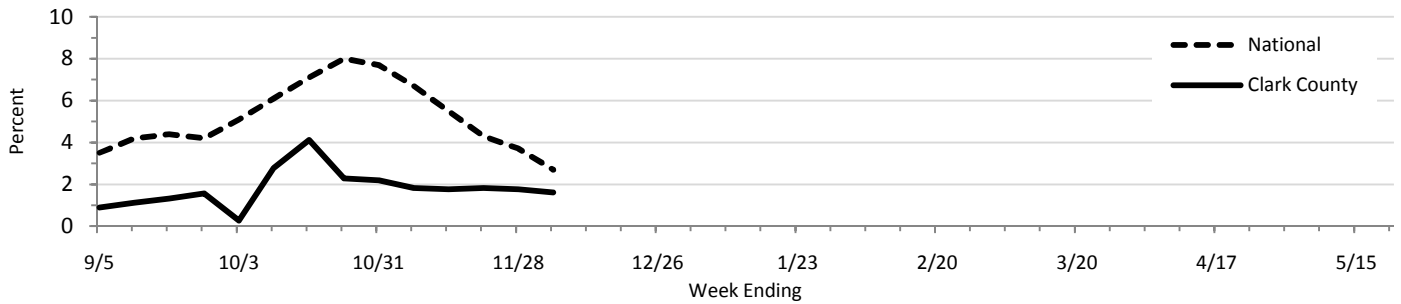
Testing Category	Week Ending								Season to Date	
	11/14		11/21		11/28		12/5		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%
Influenza Negative	7,697	71	7,279	79	5,268	85	4,911	91	106,511	71
2009 H1N1 Positive	2,468	23	1,478	16	708	11	344	6	28,497	19
Flu A H1 (seasonal) Positive	0	0	0	0	1	0	0	0	25	0
Flu A H3 (seasonal) Positive	1	0	1	0	0	0	1	0	21	0
Flu A Positive, Untyped	634	6	395	4	241	4	126	2	13,944	9
Flu B Positive	3	0	6	0	6	0	7	0	124	0
Specimens Tested	10,803		9,159		6,224		5,389		149,122	

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

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

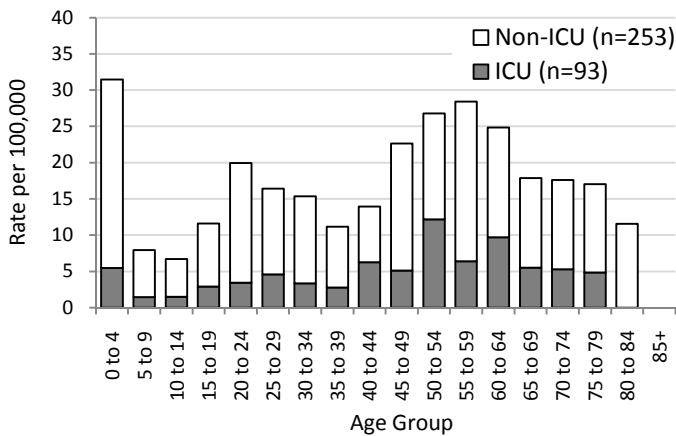


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

Section Three: Clark County Reportable Disease Surveillance

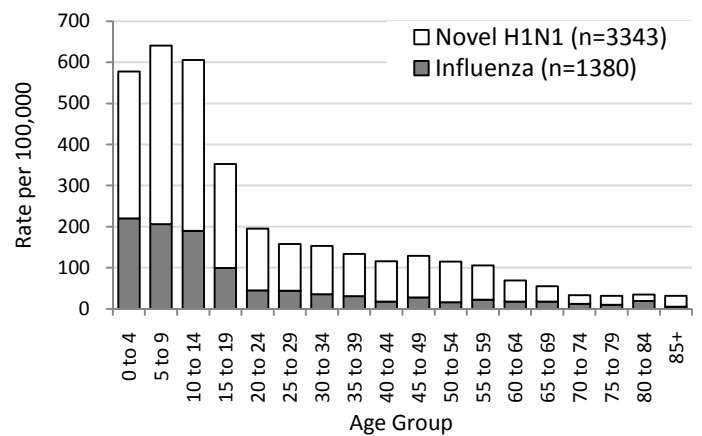
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



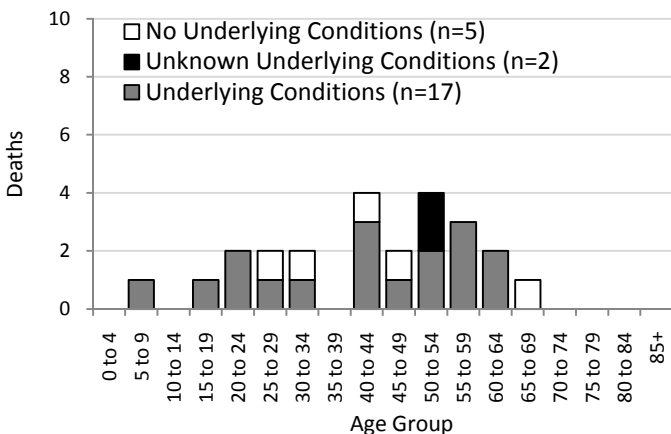
Source: Southern Nevada Health District

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

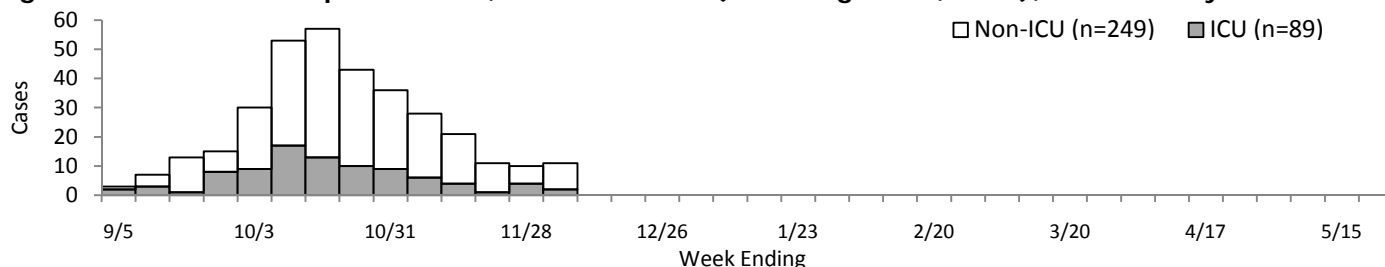


Source: Southern Nevada Health District

Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending December 12, 2009

2 deaths:
 20M with underlying conditions
 56M 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

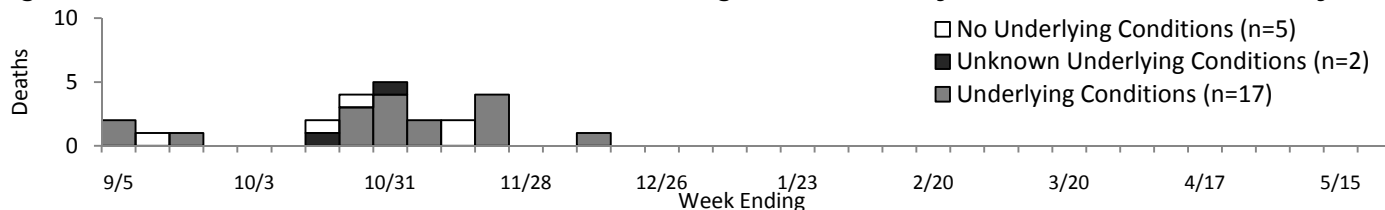


Table 3.1 Counts Inﬂuenza Cases by Type, Hospitalizations by Type, and Deaths, Most Recent Week and Season to Date (From August 30, 2009)

Age Group	Reported Week Ending December 12, 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	4	18	22	0	0	1	1	322	522	844	0	38	8	46
5 to 9	2	16	18	0	1	0	1	285	600	885	1	9	2	11
10 to 14	3	12	15	0	0	0	0	254	557	811	0	7	2	9
15 to 19	1	4	5	0	0	0	0	137	349	486	1	12	4	16
20 to 24	0	10	10	1	0	0	0	65	219	284	2	24	5	29
25 to 29	1	6	7	0	2	0	2	67	173	240	2	18	7	25
30 to 34	2	9	11	0	1	0	1	53	177	230	2	18	5	23
35 to 39	0	3	3	0	0	0	0	44	148	192	0	12	4	16
40 to 44	0	5	5	0	0	0	0	25	141	166	4	11	9	20
45 to 49	0	12	12	0	0	0	0	38	139	177	2	24	7	31
50 to 54	1	4	5	0	0	0	0	20	122	142	4	18	15	33
55 to 59	2	5	7	1	2	1	3	24	91	115	3	24	7	31
60 to 64	0	2	2	0	1	0	1	16	48	64	2	14	9	23
65 to 69	1	0	1	0	0	0	0	13	27	40	1	9	4	13
70 to 74	3	3	6	0	1	0	1	7	12	19	0	7	3	10
75 to 79	0	0	0	0	1	0	1	4	9	13	0	5	2	7
80 to 84	2	0	2	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
Total	22	109	131	2	9	2	11	1,380	3,343	4,723	24	253	93	346

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.