

Summary

For the week ending January 16, 2010:

- Influenza activity continues in Southern Nevada at levels well below the season-to-date peak seen in October and 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)
- 30 influenza cases, including 5 hospitalizations were reported to the health district. Only one case of influenza A (H1N1) has been detected by our pediatric viral surveillance sentinel site program since the second week of December. No influenza-related deaths were reported.

Current Status

Circulation

Influenza activity continues in Southern Nevada at levels well below the season-to-date peak seen in October and November. Nationally, for the first week of 2010, only one of ten geographic regions reported elevated influenza activity. Widespread geographic distribution of influenza activity was not reported by any state, down from one state the previous week (Source: CDC FluView). National laboratory testing is showing a decrease since the season-to-date peak in October in the number of specimens submitted and the positivity rate (Figure 1.1 and Table 1.1) Local laboratory-based surveillance has identified only one case of H1N1 since mid-December. Sentinel provider reports of patients seeking care for influenza-like illness have decreased to less than one percent since the peak in mid-October. (Figure 2.1). The number of persons hospitalized for influenza is well below the peak levels seen so far this season (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. No influenza-related deaths were reported in Clark County for the week ending January 16, 2010.

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 340 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).

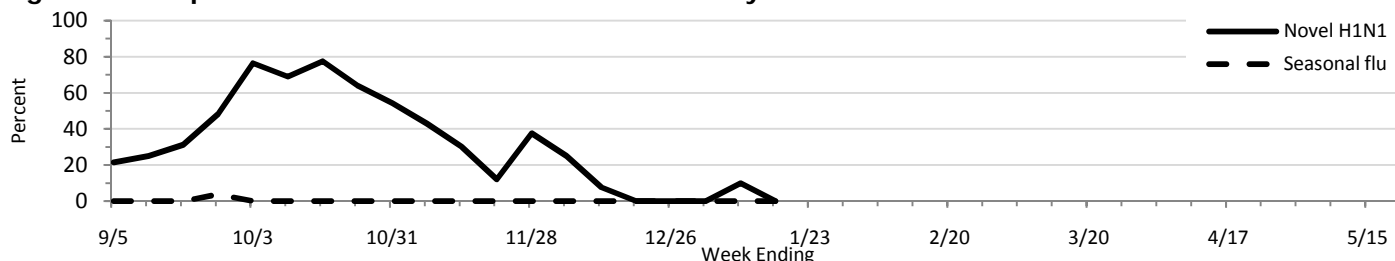
Antiviral Resistance

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 52 cases of oseltamivir-resistance have been identified in the United States. Forty of these patients had documented exposure to oseltamivir through either treatment or chemoprophylaxis, three patients had no documented oseltamivir exposure, and nine 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



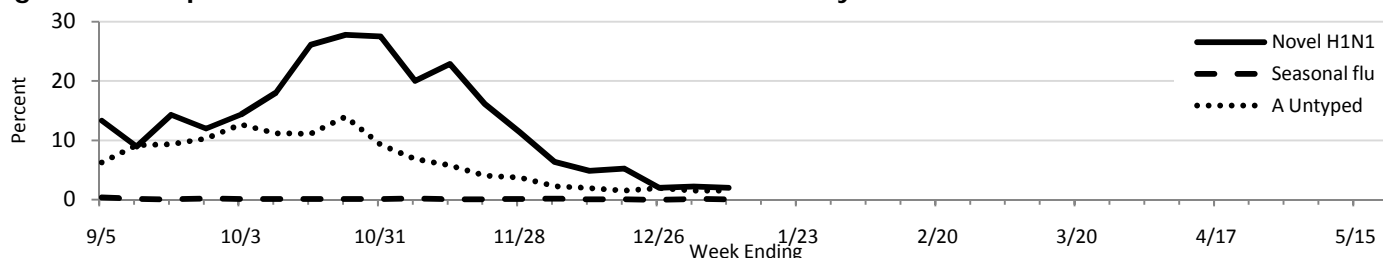
Note: The category of "seasonal flu" includes all influenza A types other than 2009 H1N1 and all influenza B. Source: EPIS

Table 1.1 Laboratory Testing - Clark County Pediatric Influenza Surveillance

Testing Category	Week Ending										Season to Date	
	12/19		12/26		1/2		1/9		1/16		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%	n	%
Influenza Negative	8	100	7	100	3	100	9	90	5	100	191	56
2009 H1N1 Positive	0	0	0	0	0	0	1	10	0	0	148	44
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	8		7		3		10		5		340	

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

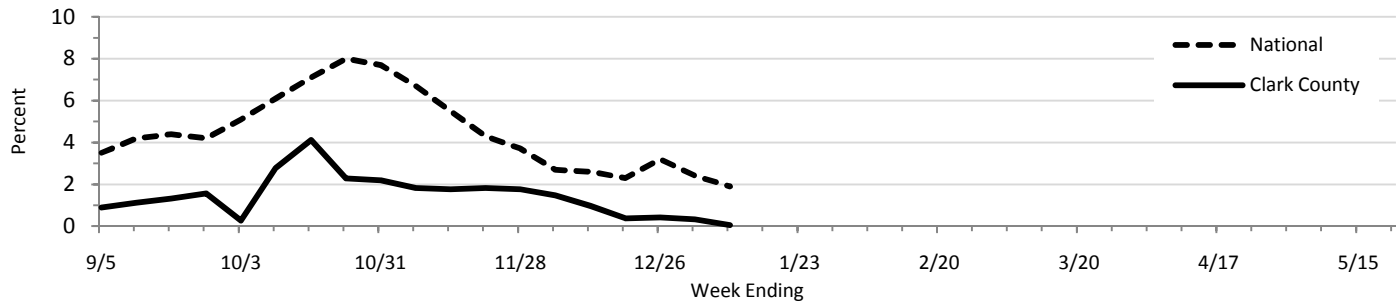
Testing Category	Week Ending								Season to Date	
	12/19		12/26		1/2		1/9		From 8/30/09	
	n	%	n	%	n	%	n	%	n	%
Influenza Negative	4,134	93	3,752	96	4,019	96	3,747	96	127,412	74
2009 H1N1 Positive	233	5	78	2	92	2	78	2	29,251	17
Flu A H1 (seasonal) Positive	0	0	0	0	0	0	0	0	27	0
Flu A H3 (seasonal) Positive	0	0	0	0	0	0	0	0	21	0
Flu A Positive, Untyped	70	2	76	2	65	2	59	2	14,328	8
Flu B Positive	3	0	0	0	4	0	2	0	135	0
Specimens Tested	4,440		3,906		4,180		3,886		171,174	

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

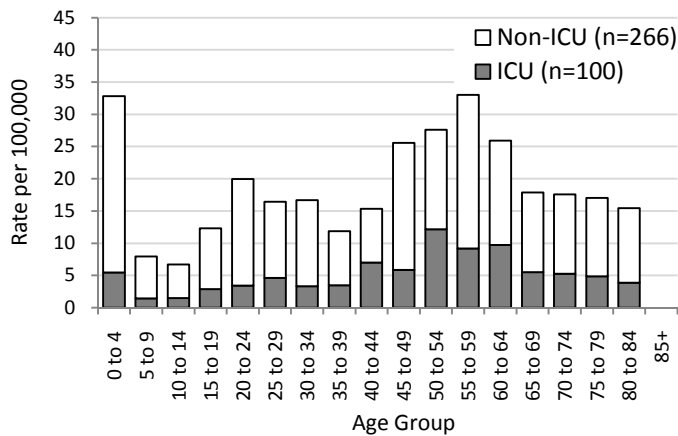


Note: ILI data collection for the previous week is not complete when this report is generated, and results will lag other parts of this report by one week. Source: CDC/ILINet

Section Three: Clark County Reportable Disease Surveillance

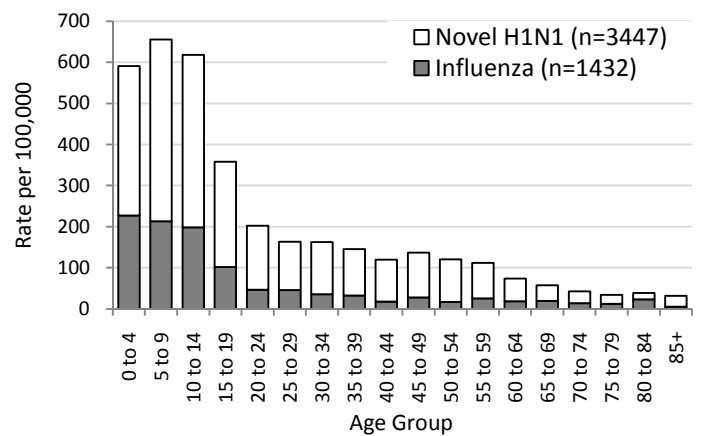
Per Nevada Administrative Code 441A.575, healthcare providers and laboratories must report all laboratory-confirmed cases of inﬂuenza to the health authority. Reported hospitalizations are further investigated for the presence of underlying risk factors and for the severity of illness, including intensive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

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



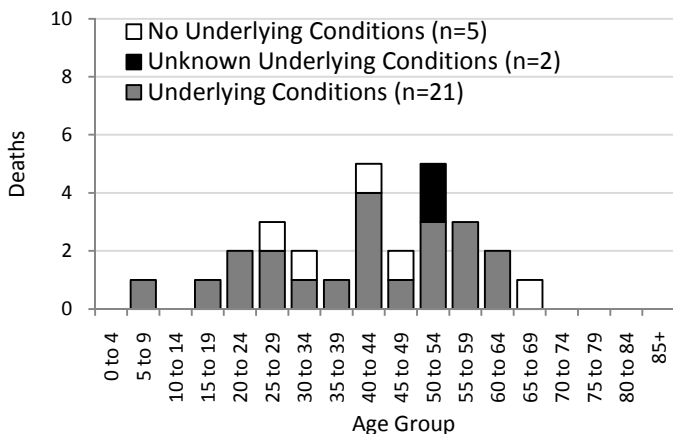
Source: Southern Nevada Health District

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

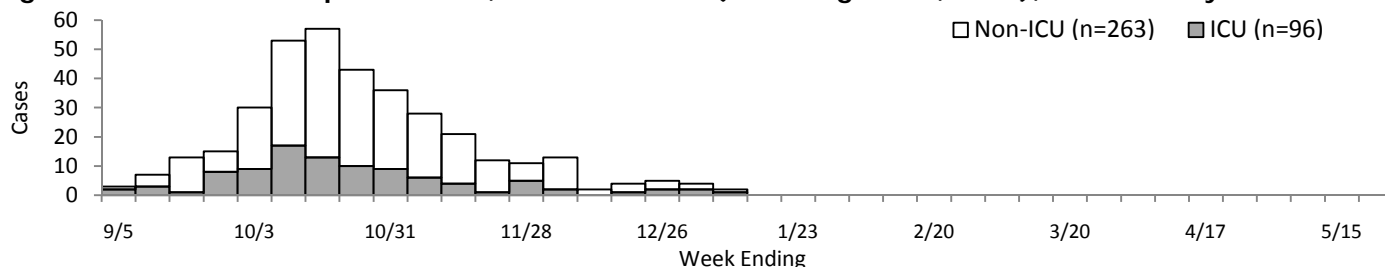


Source: Southern Nevada Health District

Textbox 3.1 Details of Inﬂuenza-Related Deaths, Clark County, Week Ending January 16, 2010

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

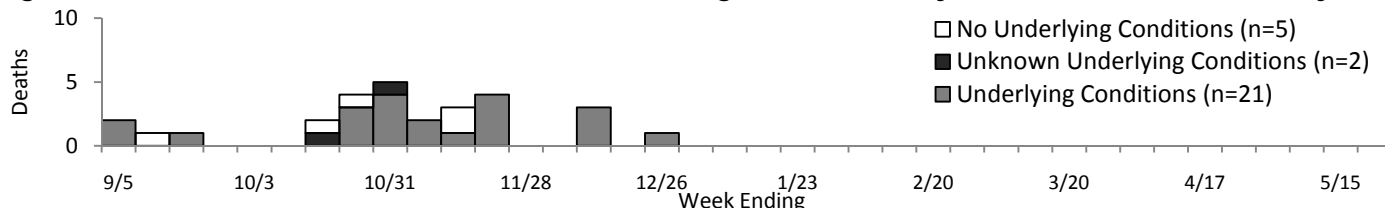


Table 3.1 Counts Inﬂuenza Cases by Type, Hospitalizations by Type, and Deaths, Most Recent Week and Season to Date (From August 30, 2009)

Age Group	Reported Week Ending January 16, 2010					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	1	1	2	0	1	0	1	332	532	864	0	40	8	48
5 to 9	5	0	5	0	0	0	0	294	612	906	1	9	2	11
10 to 14	5	0	5	0	0	0	0	266	562	828	0	7	2	9
15 to 19	2	1	3	0	0	0	0	140	354	494	1	13	4	17
20 to 24	0	2	2	0	0	0	0	67	227	294	2	24	5	29
25 to 29	0	1	1	0	0	0	0	70	179	249	3	18	7	25
30 to 34	0	1	1	0	0	0	0	53	190	243	2	20	5	25
35 to 39	1	3	4	0	0	1	1	47	161	208	1	12	5	17
40 to 44	0	2	2	0	0	1	1	25	147	172	5	12	10	22
45 to 49	0	3	3	0	1	0	1	38	149	187	2	27	8	35
50 to 54	0	0	0	0	0	0	0	21	127	148	5	19	15	34
55 to 59	0	0	0	0	1	0	1	28	94	122	3	26	10	36
60 to 64	0	1	1	0	0	0	0	17	51	68	2	15	9	24
65 to 69	0	0	0	0	0	0	0	14	28	42	1	9	4	13
70 to 74	0	1	1	0	0	0	0	8	16	24	0	7	3	10
75 to 79	0	0	0	0	0	0	0	5	9	14	0	5	2	7
80 to 84	0	0	0	0	0	0	0	6	4	10	0	3	1	4
85+	0	0	0	0	0	0	0	1	5	6	0	0	0	0
Total	14	16	30	0	3	2	5	1,432	3,447	4,879	28	266	100	366

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.