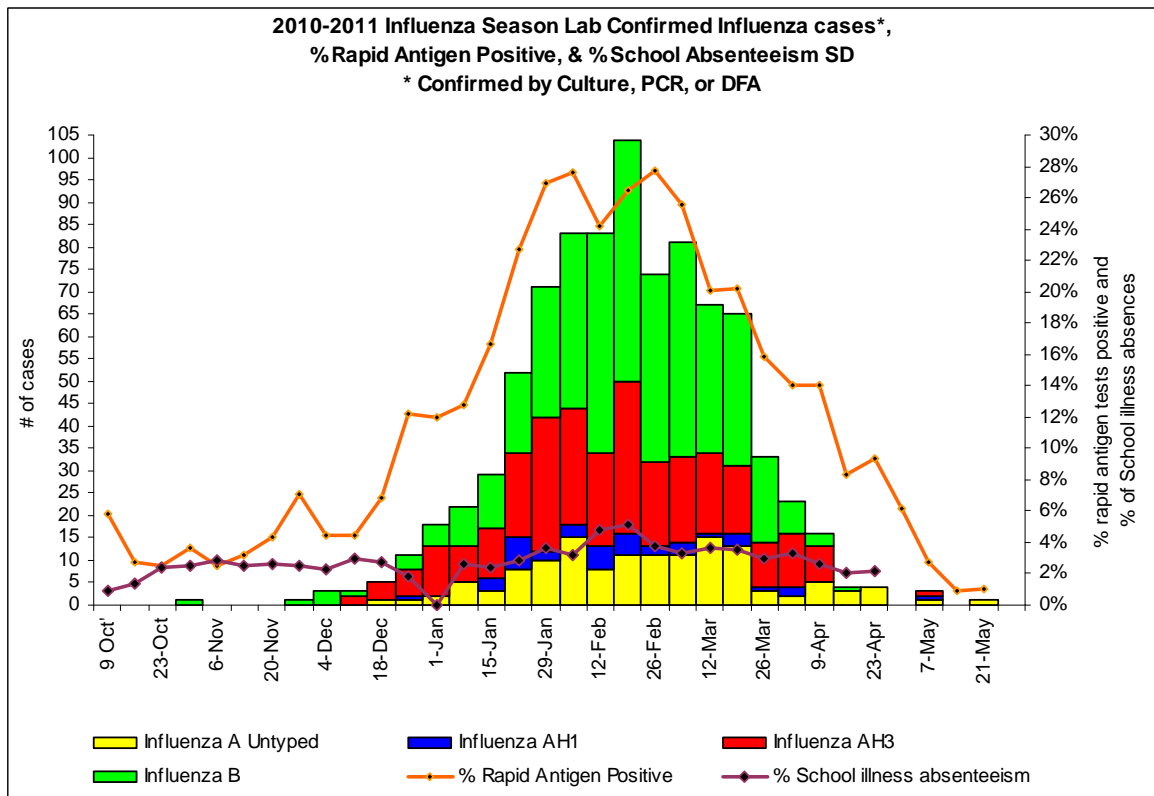


South Dakota Influenza Epidemiology and Laboratory Surveillance, 2010-2011 Season
 (Vickie Horan, Influenza Surveillance Coordinator)

The South Dakota Department of Health (SD DOH) and SD Public Health Laboratory (SDPHL) conduct surveillance for influenza year-round, and intensifies activities October through May. The components of South Dakota’s influenza surveillance program for the 2010-2011 season included 66 laboratory sentinel sites; 21 Influenza Like Illness Network (ILINet) providers); viral culture and PCR testing (SDPHL); DFA testing (Pine Ridge, Rapid City Regional, and Sanford Laboratories); reporting of aggregate rapid antigen results; confirmed influenza, influenza hospitalizations and deaths, and institutional outbreaks. During the influenza season, weekly summary reports are posted on the SD DOH website at: www.doh.sd.gov/Flu/.

A total of 860 confirmed influenza cases, A(H3N2) 274 (32%), A(H1N1) 40 (5%), A-not subtyped 133 (15%) and 412 (48%) influenza B, were reported to SD DOH. Additionally, 33,799 rapid antigen influenza tests were accomplished with 6,893 positive (20%), 3,219 (10%) positive for influenza A and 3,674 (11%) positive for influenza B. Other viral respiratory pathogen reports included 119 adenovirus, 218 hMPV, 4 parainfluenza-1, 30 parainfluenza-2, 203 parainfluenza-3, 18 parainfluenza-4, and 315 respiratory syncytial virus.



Source: South Dakota Department of Health, Office of Disease Prevention

The 2010-2011 influenza viruses had a substantial impact on all age groups. The median age of confirmed influenza cases was 14 years with an age range of 3 weeks to 97 years.

The first confirmed case of influenza was reported the last week of October 2010 and the last case reported mid-May 2011. The predominant virus in South Dakota was influenza B. The

peak of the season was mid-February 2011 with AH1N1, AH3N2 and Influenza B viruses co-circulating.

There were 290 individuals reported hospitalized during 2010-2011 influenza season. first hospitalization was identified mid-October 2010 the last was reported mid May. Hospitalizations peaked mid-March. For patients who were hospitalized with influenza, the range was 1 month to 95 years a median age of 49 years.

Age Distribution of Reported Influenza Cases, South Dakota, 3 Oct 2010-31 Jul 2011 Influenza Season			
Lab Confirmed Influenza Cases (by DFA, PCR, or culture)		Influenza Associated Hospitalizations	Influenza Associated Deaths
Age Group	# Cases (%)	# Hosp (%)	# Deaths
0-4 yr	226 (26%)	75 (26%)	1
5-24 yr	329 (38%)	39 (13%)	3
25-49 yr	136 (16%)	33 (11%)	1
50-64 yr	60 (7%)	34 (12%)	1
>64 yr	109 (13%)	109 (38%)	14
Total	860	290	20

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Twenty individuals died due to influenza and its complications during the 2010-2011 season. Gender breakdown was 40% male and 60% female. The median age was 87 years, with an age range of 1 - 105 years. 80% of the influenza-associated deaths were White, 15% were American Indian, and 5% were Asian.

National Influenza Surveillance Data for the 2010-2011 Influenza Season.

In comparison the last three seasons, the 2010-2011 influenza season was less severe than both the pandemic year (2009-2010) and the 2007-2008 season, but more severe than the 2008-2009 influenza season, as determined by the percentage of deaths resulting from pneumonia or influenza, the number of influenza-associated pediatric deaths reported, adult and pediatric hospitalization rates, and the percentage of visits to outpatient clinics for influenza-like illness (ILI).

Flu seasons are unpredictable in a number of ways, including when they begin, how severe they are, how long they last, which viruses will spread, and whether the viruses in the vaccine match flu viruses that are circulating. During the 2010-2011 influenza season, the most commonly reported viruses were influenza A(H3N2), but 2009 influenza A (H1N1) viruses and influenza B viruses circulated as well. The 2010-2011 influenza season had a substantial health effect on every age group.

During the 2010-2011 influenza season, overall influenza activity peaked in early February. Flu seasons most often peaks in January or February in the United States.

The weekly percentage of outpatient visits for influenza-like illness (ILI), as reported by the U.S. Outpatient ILI Surveillance Network (ILINet), peaked in mid-February 2011 at 4.6%. This is comparable to the peaks seen in the two seasons prior to the 2009 H1N1 pandemic, which ranged from 3.5% to 6.0% and occurred in mid-to-late February 2011. During the pandemic year, ILI peaked in late October at 7.7%. The number of states reporting widespread or regional influenza activity peaked at 49 at the end of February 2011 and decreased to zero by the middle of April.

The influenza vaccine for the 2010-2011 influenza season was considered to be a good match. Almost all of the 2,494 influenza viruses submitted to CDC for antigenic characterization were found to be similar to the components of the 2010-2011 influenza vaccine. Of the viruses tested, 99.8% of the influenza A (H1N1) viruses, 96.8% of the influenza A (H3N2) viruses, and 94% of the influenza B viruses were similar to the components of the 2010-2011 season's vaccine.

CDC routinely collects viruses through a domestic and global surveillance system to monitor for changes in influenza viruses and to check for antiviral resistance. By the end of the 2010-2011 season, almost all (99.1%) of the 2009 A(H1N1) influenza viruses tested for antiviral resistance were susceptible to oseltamivir (Tamiflu), and 99.8% of the A(H3N2) viruses tested were susceptible to Tamiflu. All of the influenza B viruses tested were susceptible to Tamiflu. All virus types and subtypes were susceptible to Zanamivir (Relenza) by the end of the 2010-2011 season.

There were five reports of human infections with swine origin influenza A (H3N2) viruses that occurred during the 2010-2011 influenza season. These cases were identified in Minnesota, Pennsylvania, and Wisconsin. No epidemiologic links between these cases have been identified and the viruses from all five cases have genetic differences indicating different sources of infection. All five patients have fully recovered from their illnesses.

CDC publishes a weekly influenza summary at: <http://www.cdc.gov/flu/weekly/>