

South Dakota Influenza Surveillance Report, 2008-2009 Season

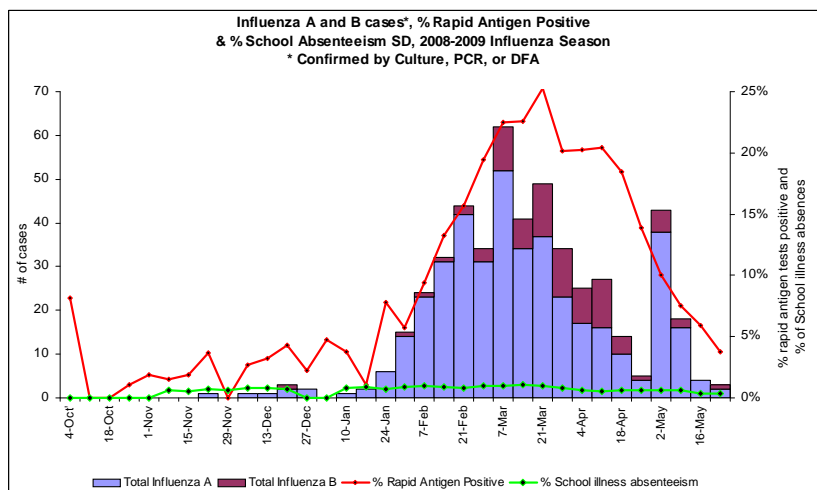
Summary

This report is a summary of MMWR WK 40-25 and does not contain data regarding the spring 2009 AH1N1 Pandemic. The 2008-09 influenza season was of mild severity and 30 week duration. A total of 525 laboratory confirmed influenza cases, 439 influenza A and 86 influenza B, were reported to the South Dakota Department of Health (SD DOH) from the beginning of the influenza season starting October 4th 2008 through season's end on June 27th 2009. The peak of the influenza season occurred during the 1st week of March. There were 131 influenza hospitalizations and 4 influenza deaths reported for the season.

Background

The Centers for Disease Control and Prevention (CDC) guidelines for the 2008-09 season were published in the *Prevention and Control of Influenza* MMWR, July 17, 2008. <http://www.cdc.gov/flu/professionals/acip/index.htm>

Approximately 146 million doses of influenza vaccine were produced for the 2009-09 U.S. influenza season. The doses were produced by six manufacturers in the U.S. and represent the most flu vaccine ever distributed in the U.S. during a single influenza Season. Both LAIV and TIV contain strains of influenza viruses that are antigenically equivalent to the annually recommended strains. Each year, one or more virus strains in the vaccine might be changed on the basis of global surveillance for influenza viruses and the emergence and spread of new strains. All three vaccine virus strains were changed for the recommended vaccine for the 2008--09 influenza season, compared with the 2007--08 season ([Recommendations for Using TIV and LAIV During the 2008--09 Influenza Season](#)). The trivalent vaccine included A/Brisbane/59/2007 (H1N1)-like, A/Brisbane/10/2007 (H3N2)-like, and B/Florida/4/2006-like antigens.



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

Results from the 2008 BRFSS survey showed South Dakota ranking 6th in the nation with 77% of individuals aged ≥ 65 years receiving influenza vaccination. The survey also showed the state ranking 38th in pneumococcal vaccination coverage with 65% of individuals in that age group receiving vaccine.

Influenza Epidemiology and Laboratory Surveillance

The 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 2008-09 season included 36 sentinel sites; seven Influenza Like Illness Network Providers; SDPHL culture and PCR testing; Pine Ridge, Rapid City Regional, and Sanford Laboratories DFA testing; 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/.

South Dakota's first confirmed case of influenza was identified during the third week of November, 2008 (Figure 49). The case, a 59 year-old male from Minnehaha County, was positive for influenza A by DFA at Sanford Laboratories.

Following the first positive detection, influenza activity remained low until mid February. Activity then steadily increased in both percentage of positive rapid antigen tests and laboratory confirmed cases until the peak was reached during the third full week of February. A second peak during early May 2009 occurred due to the heightened public and physician awareness during the early days of the AH1N1 pandemic.

A total of 525 confirmed influenza cases, 439 (84%) influenza A and 86 (16%) influenza B, were reported to SD DOH. Additionally, 32,690 rapid antigen influenza tests were accomplished with 5,269 positive, 3,791 (12%) positive for influenza A and 1,478 (5%) positive for influenza B. Other viral respiratory pathogen reports included 40 adenovirus, 23 enterovirus, 95, hMPV, 16, parainfluenza - 1, 21 parainfluenza - 2, 65 parainfluenza - 3, 5 parainfluenza - 4, and 172, respiratory syncytial virus (RSV).

Age Distribution of Reported Influenza Cases, South Dakota, 2007-2008 Influenza Season					
Lab Confirmed Influenza Cases (by DFA, PCR, or culture)			Influenza Associated Hospitalizations		Influenza Associated Deaths
Age Group	# Cases	%	# Hosp	%	# Deaths
0-9	213	41%	53	40%	0
10-18	95	18%	5	4%	0
19-29	86	16%	7	5%	0
30-39	48	9%	13	10%	0
40-49	41	8%	14	10%	0
50-59	19	4%	12	9%	0
60-69	6	1%	10	7%	0
70+	17	3%	20	15%	4
Total	525		134		4

The median age of confirmed influenza cases (Table 85) was 15 years of age with an age range of 51 days to 93 years. There were 134 individuals reported hospitalized during the 2008-09 influenza season (Table 85). The first hospitalization was identified during the week ending October 5th. Hospitalizations peaked during week ending March 7 when 20 patients were hospitalized for influenza.

For patients who were hospitalized with influenza, the age range was 26 days to 92 years with a median age of 29 years.

Four individuals died due to influenza and its complications (Table 85) during the 2008-09 influenza season. Gender breakdown was 75% male and 25% female. The median age was 85.5, with an age range of 83 - 94 years.

Novel Swine Influenza Investigation January 2009

On January 13, 2009 SD DOH was notified of a case of a human case of novel swine influenza. The case patient was a 19 year old from Brookings County. On December 1st he had onset of fever, cough, runny nose, headache. He was seen in the Brookings Hospital Emergency Department (ED), rapid antigen testing for influenza was positive for influenza A. He was discharged from the ED on oseltamivir and has since fully recovered. His specimen was sent on to the SDPHL for confirmatory testing. The isolate was identified as influenza A/H1 by HI testing but was not sub-typable by PCR. Therefore, the isolate was sent to the CDC for further analysis and found to be AH1N1 swine influenza virus. The CDC assisted the SD DOH Office of Disease Prevention with the investigation. The outcome of the investigation was one confirmed case and eight suspected cases for whom serum samples were collected. This is not the same swine influenza virus associated with the current pandemic.

National Influenza Surveillance Data

During the 2008-09 season, influenza A(H1), A(H3), and B viruses have co-circulated in the United States. Influenza A(H1) viruses have predominated during the season overall; however, the most commonly reported influenza virus has varied by week and by region.

The antiviral medications recommended for chemoprophylaxis or treatment of influenza (oseltamivir or zanamivir) have changed for the 2008-2009 influenza season.

This change is due to AH1N1 resistance to Oseltamivir. The full report can be found at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>