

## South Dakota Influenza Surveillance Report, 2009-2010 Season

The 2009 influenza season was the most unusual in the past 40 years; unusual in length, intensity and age groups afflicted. The 2009 influenza activity continuously spanned a full year with confirmed cases of influenza reported every week between 14 December 2008 and 12 December 2009 in South Dakota. Between December 2008 and April 2009 we experienced a “normal” seasonal influenza outbreak, but a new influenza virus emerged in April 2009 causing a global pandemic (A/California/2009-H1N1). The 2009 influenza seasons peaked during March 2009 and again during the 3rd week of October 2009 when the pandemic H1N1 virus peaked. Although the pandemic emerged in April 2009 this reports covers the period of 30 August 2009 through 2 October 2010. During this period 2,302 laboratory confirmed influenza cases, 430 influenza-associated hospitalizations and 24 influenza deaths were reported to the South Dakota Department of Health (SD DOH).

**Table 85,**  
**Age Distribution of Reported Influenza Cases, South Dakota, 30 Aug 2009-2 Oct 2010 Influenza Season**

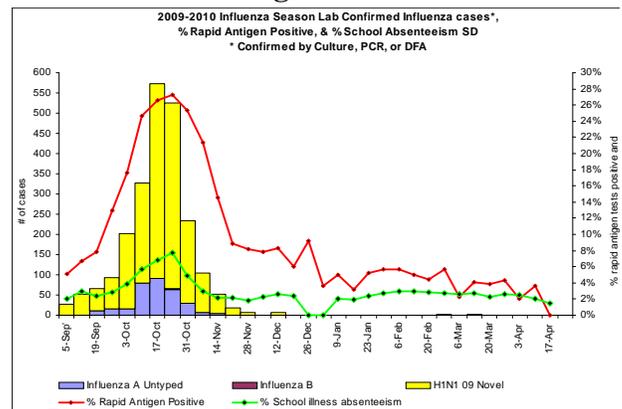
Age Group	Lab Confirmed Influenza Cases (by DFA, PCR, or culture)		Influenza Associated Hospitalizations		Influenza Associated Deaths
	# Cases	%	# Hosp	%	# Deaths
0-9	1,031	45%	175	41%	1
10-18	548	24%	37	9%	1
19-29	313	14%	44	10%	2
30-39	135	6%	25	6%	2
40-49	110	5%	38	9%	5
50-59	97	4%	49	11%	3
60-69	42	2%	34	8%	6
70+	26	1%	28	7%	4
<b>Total</b>	<b>2,302</b>		<b>430</b>		<b>24</b>

### 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 2009-2010 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/](http://www.doh.sd.gov/Flu/).

**Figure 48**



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

A total of 2,302 confirmed influenza cases, A-H1N1 1,981 (86%), A-not subtyped 318 (14%) and 3 (<1%) influenza B, were reported to SD DOH. Additionally, 46,004 rapid antigen influenza tests were accomplished with 8,395 positive, (18%) positive for influenza A and 100 (<1%) positive for influenza B. Other viral respiratory pathogen reports included 103 adenovirus, 50 enterovirus, 183, hMPV, 161, parainfluenza - 1, 31 parainfluenza - 2, 100 parainfluenza - 3, 66 parainfluenza - 4, and 596, respiratory syncytial virus (RSV).

The pandemic A-H1N1 virus hit children and younger adults harder than the elderly. The median age of confirmed influenza cases (Table 85) was 11 years with an age range of 2 months to 98 years.

There were 430 individuals reported hospitalized during the 2009-10 influenza season. The first hospitalization was identified during the week ending 5 September 2009. Hospitalizations peaked during week ending October 24 when 114 patients were hospitalized for influenza. For patients who were hospitalized with influenza, the age range was 1 month to 96 years with a median age of 19 years.

Twenty-four individuals died due to influenza and its complications during the 2009-10 influenza season. Gender breakdown was 71% male and 29% female. The median age was 56 years, with an age range of 8 - 85 years. Seventy-five percent of the influenza-associated deaths were White people and 25% were American Indian.

#### **H1N1 in South Dakota 2009-2010**

April 2009 CDC reported Swine Influenza A(H1N1) infection in two children in Southern California. There was also widespread respiratory disease in Mexico at the same time. South Dakota saw its first case of H1N1 in mid March 2009. In May 2009, South Dakota Public Health Laboratory became certified on a new testing platform (ABI7500); allowing confirmatory testing to be done at SDPHL rather than sending all unsubtypeable specimens to CDC for confirmatory testing. In June 2009 World Health Organization (WHO) declared a global pandemic. July 2009 Department of Health and Human Services decided to offer mass vaccination for this new novel A(H1N1) virus. Sporadic H1N1 activity occurred in South Dakota from June through August 2009. Confirmed cases and hospitalizations began to increase once children and college students returned to school. October 2009 the first pandemic influenza death was reported. October 2009 a vaccine became available for the novel H1N1 virus and vaccination began with the highest risk groups. The pandemic peaked during the third week of October. In

November 2009 vaccinations were offered to moderate-high risk groups and confirmed cases continue to decline. In December 2009 vaccinations were offered to the full population. August 2010, WHO declares the end of H1N1 global pandemic and CDC stated that this virus was no longer to be reported a novel influenza virus.

#### **National Influenza Surveillance Data**

The United States experienced its first wave of 2009 H1N1 activity in the spring of 2009, followed by a second, larger wave of 2009 H1N1 activity in the fall and winter, during typical “flu season” time for the U.S. For information about 2009 H1N1 flu, visit the [CDC 2009 H1N1 website](#).

The 2009-2010 flu season began very early, with 2009 H1N1 viruses predominating and causing high levels of flu activity much earlier in the year than during most regular flu seasons. Activity peaked in October and then declined quickly to below baseline levels by January. While activity was low and continuing to decline, 2009 H1N1 viruses were still reported in small numbers through the spring and summer of 2010.