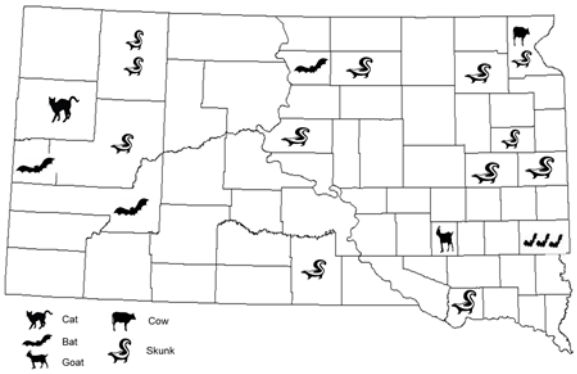
SOUTH DAKOTA DEPARTMENT OF HEALTH

PUBLIC HEALTH BULLETIN

VOLUME 27 NUMBER 2 **MARCH 2015**

Rabies Surveillance, South Dakota, 2014

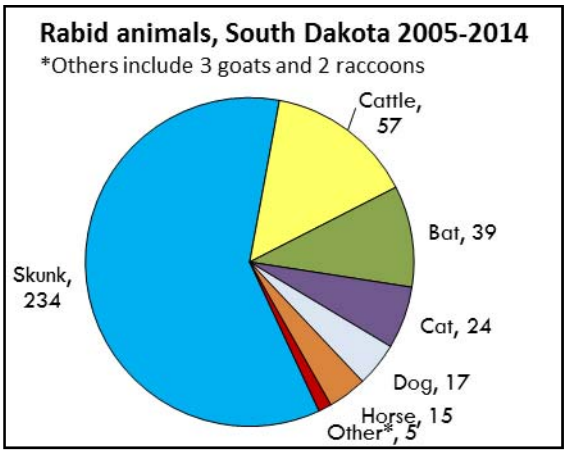
Animal rabies, South Dakota 2014



Rabies is an enzootic, nearly-always fatal, viral disease and a serious public health concern in South Dakota. In 2014, 588 animals were tested for rabies with 21 testing positive, 3.6%, a -25% decrease from the previous year. The 21 rabid animals included 3 domestic animals (1 bovine, 1 cat and 1 goat), and 18 wild animals (12 skunks and 6 bats). 2014 had the fewest rabid animals reported since 1960. No human rabies was reported. South Dakota's last human rabies case was in 1970 when a 3 year old Brule County child was bitten by a rabid skunk. Four years earlier, in 1966, a 10 year old Hamlin County boy also died from skunk rabies.

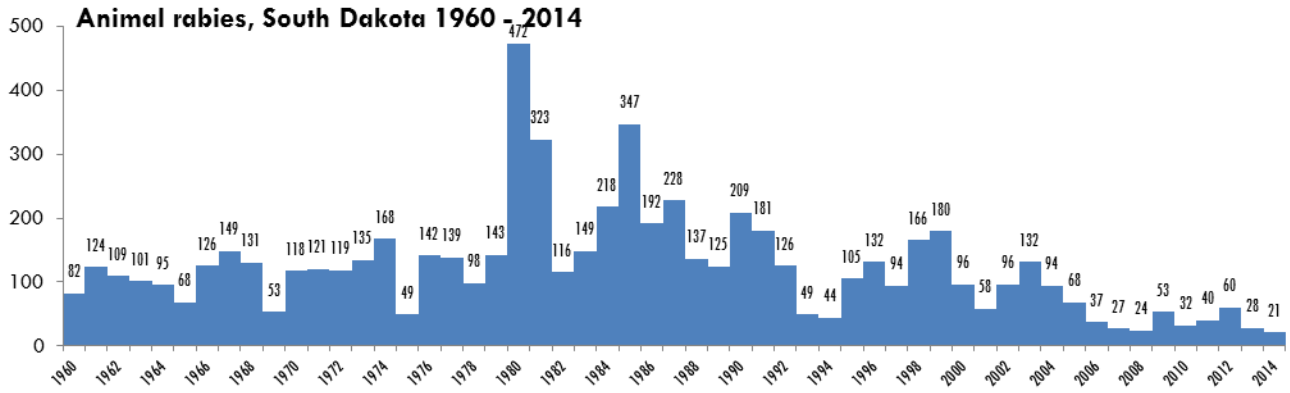
During 2014, 567 animals tested negative for rabies, including 161 bats, 154 cats, 90 dogs, 80 cattle, 24 raccoons, 13 skunks, 10 horses, 9 deer, 4 mice, 3 each coyotes, goats and opossums, 2 each woodchucks, muskrats, rabbits and squirrels, and 1 each llama, rat, sheep, shrew and weasel.

During 2014 animals were submitted for testing from 55 of South Dakota's 66 counties, and 17 counties reported rabid animals. Over the past decade, 2005-2014, rabid animals were reported from 61 of the state's counties, with every county, except Ziebach, submitting animals for testing. Over the decade 6,817 animals were tested and 391 (5.7%) were rabid.



During the past decade 30% of our 391 South Dakota rabies cases were domestic animals. The domestic animals included 24 rabid cats and 17 rabid dogs, many of which were unvaccinated strays or barn cats. Rabid livestock included 57 cattle, 15 horses and 3 goats.

Skunks (*Mephitis mephitis*) are the primary rabies reservoir in South Dakota. Over the past decade 51% of skunks tested have been rabid. Bat rabies is also enzootic in South Dakota with 3% bats testing positive. The bats tested were not speciated. Although rabies is not enzootic in other South Dakota animals, during the past 10 years rabies was detected in 2 raccoons, likely spillover infections following exposure to rabid skunks.



Since 1960, 6,729 rabid animals have been reported in South Dakota. The most cases were reported in 1980 with 472 and the fewest in 2014 with 21 rabid animals.

The most recent national animal rabies surveillance data are reported for 2013 (Dyer, et al.). Nationally, there was a 4.8% decrease from the previous year with 5,865 rabid animals rabies reported (8% domestic and 92% wild animals). Nationally, rabid domestic animals included 247 cats, 89 dogs, 86 cattle, 31 horses/mules, 9 goats/sheep, 3 hogs and 2 llamas. Wild animals testing positive for rabies included 1,898 raccoons, 1,598 bats, 1,447 skunks, 344 foxes, 37 groundhogs, 16 bobcats, 5 coyotes, 4 deer, 3 otters 2 marmots, 2 opossums, 2 wolves, 1 fisher and 1 rabbit.

1966 rabies death in South Dakota *(archives)*

"A Bryant youth, who was bitten by a rabid skunk August 3 (1966), died at a Sioux Falls hospital Monday. CS, 10 (years), seemed to be recovering from the bites until Saturday when he began suffering headaches and was rushed to Sioux Falls. CS was bitten while sleeping out with friends. The skunk entered the sleeping bag which CS had received a week before as a birthday gift. He was bitten on about 6 places on the ear, arm, hand and leg. The animal was found 5 blocks away and was killed and sent to Brookings for tests. The lad underwent treatment at the DeSmet Hospital for rabies before being transferred to Sioux Valley Hospital." (Argus Leader, 6 Sept 1966)

"The skunk was chased down and killed with a baseball bat 5 blocks away. The animal's brain was brought to the veterinary science department at SDSU where fears were confirmed; it was rabid. CS was treated at DeSmet Hospital, received 21 rabies shots, and returned home, then later returned to the hospital. He died over a month after he was bitten. Dr. Keith Van Steenberg (SDSU) tested the skunk. The skunk's brain contained "negri bodies" . . . ." (Brookings Register, 10 Sept 1966)

Animals tested and confirmed rabid cases, South Dakota

Animal	2014		2005 - 2014		
	Positive	Total tested	Positive	Total tested	Percent Positive
Skunk	**12**	25	**234**	455	51.4%
Cattle	**1**	81	**57**	815	7.0%
Bat	**6**	167	**39**	1,214	3.2%
Cat	**1**	155	**24**	2,100	1.1%
Dog	**0**	90	**17**	1,343	1.3%
Horse	**0**	10	**15**	134	11.2%
Goat	**1**	4	**3**	26	11.5%
Raccoon	**0**	24	**2**	327	0.6%
Deer, elk, moose	**0**	10	**0**	88	0%
Rodents*	**0**	5	**0**	60	0%
Squirrel	**0**	2	**0**	45	0%
Muskrat	**0**	2	**0**	44	0%
Sheep	**0**	1	**0**	37	0%
Opossum	**0**	3	**0**	25	0%
Ferret/Weasel	**0**	1	**0**	22	0%
Coyote	**0**	3	**0**	21	0%
Fox	**0**	0	**0**	19	0%
Woodchuck	**0**	2	**0**	15	0%
Rabbit	**0**	2	**0**	7	0%
Badger	**0**	0	**0**	6	0%
Shrew, mole	**0**	1	**0**	5	0%
Beaver	**0**	0	**0**	3	0%
Donkey	**0**	0	**0**	3	0%
Pig	**0**	0	**0**	3	0%
Kangaroo	**0**	0	**0**	2	0%
Mountain lion	**0**	0	**0**	2	0%
Other animals*	**0**	0	**0**	4	0%
TOTAL	**21**	**588**	**391**	**6,825**	5.7%

*mice 24, rats 16, gopher 11, porcupine 2,prairie dog 2, gerbil 1, ground squirrel 1, guinea pig 1, hamster 1, vole 1.
**bison, llama, otter, tiger, wolf.

Thirty-four human rabies cases were reported nationally since 2003, including 31 deaths and 3 survivals, which is a 91% case fatality rate. Five of the human cases were attributed to organ transplantation. Twenty of the human cases (59%) were associated with bat-rabies virus, 9 (26%) had dog rabies virus (all foreign imports), 3 raccoon 1, fox, and 1 unknown. The 34 human rabies cases were from Texas (6), California (6), Indiana (2), Massachusetts (2), Wisconsin (2), Virginia (2) and 1 case each in Arkansas, Florida, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, South Carolina and Puerto Rico.

Rabid animals reported by county, South Dakota 1993-2014

County	Positive	Total tested	Rabid animals reported: 438 domestic. 1,201 wild.
South Dakota	**1,639**	**17,451**	190 bovine, 89 dogs, 88 cats, 59 horses, 6 sheep, 5 goats, 1 pig. 1,085 skunks, 101 bats, 6 fox, 4 raccoons, 2 badgers, 2 bison, 1 woodchuck.
Aurora	20	117	1 bovine, 2 dogs, 1 cat. 15 skunks, 1 fox.
Beadle	42	322	5 bovine, 6 dogs, 2 cats, 2 horses, 1 sheep. 25 skunks, 1 raccoon.
Bennett	5	28	5 skunks.
BonHomme	16	127	1 horse. 14 skunks, 1 bat.
Brookings	64	903	9 bovine, 5 dogs, 1 horse. 47 skunks, 1 bat, 1 raccoon.
Brown	74	682	5 bovine, 1 dog, 5 cats, 6 horses, 1 goat. 55 skunks, 1 bat.
Brule	16	184	1 horse. 15 skunks.
Buffalo	3	25	1 cat. 2 skunks.
Butte	42	394	4 bovine, 1 dog, 4 cats, 3 sheep. 29 skunks, 1 bat.
Campbell	15	61	2 bovine, 1 horse. 12 skunks.
CharlesMix	40	328	5 bovine, 4 cats, 4 horses. 27 skunks.
Clark	32	173	6 bovine, 2 dogs, 5 cats, 2 horses. 16 skunks, 1 bat.
Clay	10	191	1 bovine, 1 horse. 5 skunks, 3 bats.
Codington	48	509	7 bovine, 2 dogs, 2 cats, 1 horse. 36 skunks.
Corson	9	38	1 bovine, 1 dog, 1 cat, 1 horse, 5 skunks.
Custer	4	56	2 bovine, 1 cat, 1 bat.
Davison	36	605	6 bovine, 3 dogs, 3 cats, 1 horse, 1 goat. 21 skunks, 1 bat.
Day	44	233	5 bovine, 3 dogs, 1 cat, 2 horses. 31 skunks, 1 badger, 1 woodchuck.
Deuel	32	288	3 bovine, 2 dogs, 1 cat. 26 skunks.
Dewey	16	111	2 bovine, 1 cat, 2 horses. 11 skunks.
Douglas	16	106	3 bovine, 2 dogs, 1 cat, 1 horse. 9 skunks.
Edmunds	18	148	4 bovine, 1 dog, 1 horse. 12 skunks.
Fall River	5	227	1 bovine, 4 bats.
Faulk	21	97	2 bovine, 3 dogs. 16 skunks.
Grant	31	278	6 bovine, 2 dogs, 1 cat. 21skunks, 1 fox.
Gregory	19	155	1 bovine, 1 dog, 1 cat. 16 skunks.
Haakon	12	102	3 bovine, 5 dogs. 4 skunks.
Hamlin	53	263	4 bovine, 2 dogs, 3 cats, 1 horse. 41 skunks, 2 bats.
Hand	25	149	3 bovine, 3 cats, 4 horses. 15 skunks.
Hanson	13	81	1 bovine, 2 dogs, 1 cat. 9 skunks.
Harding	16	53	2 bovine, 2 dogs, 1 cat, 1 sheep. 9 skunks, 1 bat.
Hughes	28	452	1 bovine, 2 dogs, 2 cats. 18 skunks, 3 bats, 1 fox, 1 bison.
Hutchinson	52	452	11 bovine, 3 dogs, 2 horses, 1 pig. 33 skunks, 2 bats.
Hyde	21	141	4 bovine, 2 dogs, 1 cat, 1 horse. 13 skunks.
Jackson	2	105	1 sheep. 1 bat.
Jerauld	13	83	2 bovine. 11 skunks.
Jones	3	34	3 skunks.
Kingsbury	58	356	5 bovine, 2 dogs, 6 cats, 44 skunks, 1 bison.
Lake	40	392	4 bovine, 1 dog, 2 cats, 1 horse. 31 skunks, 1 bat.
Lawrence	22	270	1 dog, 1 cat, 1 goat. 16 skunks, 3 bats.
Lincoln	15	357	1 bovine, 1 dog, 2 cats, 4 horses. 7 skunks.
Lyman	4	78	2 dogs, 1 horse. 1 skunk.
Marshall	34	191	6 bovine, 1 cat, 3 horses. 24 skunks.
McCook	35	278	4 bovine, 2 dogs, 1 cat, 1 horse. 27 skunks.
McPherson	29	159	5 bovine, 2 cats, 1 goat. 21 skunks.
Meade	40	391	6 bovine, 1 dog, 1 cat. 28 skunks, 4 bats.
Mellette	4	21	2 bovine. 1 skunk, 1 bat.
Miner	23	160	3 bovine, 1 dog. 18 skunks, 1 bat.
Minnehaha	109	3846	7 bovine, 3 dogs, 3 cats, 2 horses. 40 skunks, 54 bats.
Moody	36	255	3 bovine, 1 dog, 1 cat, 1 goat. 28 skunks, 1 bat, 1 raccoon.
Oglala Lakota	0	62	None
Pennington	45	1408	3 bovine, 2 dogs, 6 cats, 2 horses. 24 skunks, 7 bats, 1 raccoon.
Perkins	11	61	5 bovine, 1 dog, 1 cat. 4 skunks.
Potter	7	50	2 cats, 2 horses. 3 skunks.
Roberts	27	336	4 bovine, 1 dog, 2 cats. 20 skunks.
Sanborn	18	121	3 bovine, 2 dogs, 1 cat. 12 skunks.
Spink	25	203	3 bovine, 2 dogs, 1 cat, 14 skunks, 2 fox.
Stanley	6	57	1 bovine, 1 cat. 4 skunks.
Sully	4	17	1 dog. 3 skunks.
Todd	1	90	1 skunk.
Tripp	34	251	1 dog, 4 cats, 2 horses. 27 skunks.
Turner	33	417	2 bovine, 1 dog, 1 cat, 1 horse. 27 skunks, 1 bat.
Union	6	190	1 dog, 1 cat. 3 skunks, 1 bat.
Walworth	45	504	11 bovine, 4 dogs, 1 cat, 3 horses. 23 skunks, 1 bat, 1 fox, 1 badger.
Yankton	12	264	2 dogs. 7 skunks, 3 bats.
Ziebach	0	4	None

Two South Dakota laboratories provide rabies testing services: (1) Animal Disease Research Diagnostic Laboratory (ADRDL) in Brookings; (2) State Public Health Laboratory (SDPHL) in Pierre. During 2014, 67% of rabies tests were done at ADRDL and 33% at SDPHL. Both laboratories use the direct fluorescent antibody (DFA) technique. Human serum rabies antibody titers may be ordered through SDPHL.

The case definition of a confirmed animal rabies case is a positive DFA test, performed preferably on central nervous system tissue, or isolation of the rabies virus in cell culture or in a laboratory animal.

Rabies consultations by the South Dakota Department of Health are available seven days a week. Consultations are based on Centers for Disease Control and Prevention (CDC) recommendations*. We strive to recommend appropriate rabies prevention measures and to minimize unnecessary and inappropriate testing and post-exposure prophylactic treatment.

Addresses, telephone numbers and websites

Department of Health (rabies consultations)
615 East Fourth Street
Pierre, SD 57501-1700
Phone: 800-592-1861 or 605-773-3737;
after hours 800-592-1861 or 605-773-3737
doh.sd.gov/diseases/infectious/diseasefacts/rabies.aspx

Department of Health, Public Health Laboratory (rabies testing)
615 East Fourth Street
Pierre, SD 57501-1700
Phone: 800-592-1861 or 605-773-3368
doh.sd.gov/Lab/rabies.aspx

South Dakota Bat Group sdbwg.org

Animal Disease Research and Diagnostic Laboratory (rabies testing)
North Campus Drive
South Dakota State University
Brookings, SD 57007-1396
Phone: 605-688-5171
www.sdstate.edu/vs/adrdl

SD Animal Industry Board (livestock and animal veterinary and regulatory issues)
441 S. Fort Street, Pierre, SD 57501
Phone: 605-773-3321
aib.sd.gov

CDC Rabies: www.cdc.gov/rabies

Rabies Prevention
Pet rabies prevention:

- Vaccinate pet dogs, cats and ferrets.
- Keep pets away from wildlife so they won´t be bitten by a rabid animal.
- Call local Animal Control to remove wild or stray animals, especially if acting strangely.
- If an animal bites your pet, take it to a veterinarian for a rabies booster vaccination.

Human rabies prevention:

- Never touch stray, unfamiliar or wild animals, especially skunks and bats.
- Don't adopt wild animals or bring them into your home.
- Keep your trash cans tightly closed and don´t leave pet food out to attract skunks.
- If you are bitten by an animal, consult your physician.
- Post-exposure prophylaxis: rabies immune globulin and 4 doses of rabies vaccine over 14 days.

Post-exposure Prophylaxis for Non-immunized Individuals www.cdc.gov/rabies/medical_care/index.html	
Treatment	**Regimen**
Wound cleansing	All postexposure prophylaxis should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent such as povidine-iodine solution should be used to irrigate the wounds.
RIG	If possible, the **full dose** should be infiltrated around any wound(s) and any remaining volume should be administered IM at an anatomical site distant from vaccine administration. Also, RIG should not be administered in the same syringe as vaccine. Because RIG might partially suppress active production of antibody, no more than the recommended dose should be given.
Vaccine	HDCV or PCECV 1.0 mL, IM (deltoid area), one each on days 0 , 3, 7, and 14.

Post-exposure Prophylaxis for Previously Immunized Individuals	
Treatment	**Regimen**
Wound cleansing	All postexposure prophylaxis should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent such as povidine-iodine solution should be used to irrigate the wounds.
RIG	RIG should **not** be administered.
Vaccine	HDCV or PCECV 1.0 mL, IM (deltoid area), one each on days 0 and 3.

Rabies Vaccines and Immunoglobulin Available in the United States			
Type	**Name**	**Route**	**Indications**
Human Diploid Cell Vaccine (HDCV)	Imovax® Rabies	Intramuscular	Pre-exposure or Post-exposure
Purified Chick Embryo Cell Vaccine (PCEC)	RabAvert®	Intramuscular	Pre-exposure or Post-exposure
Human Rabies Immune Globulin (RIG)	Imogam® Rabies-HT	Local infusion at wound site, with additional amount intramuscular at site distant from vaccine	Post-exposure
Human Rabies Immune Globulin (RIG)	HyperRab TM S/D	Local infusion at wound site, with additional amount intramuscular at site distant from vaccine	Post-exposure

References and resources

*CDC. Human rabies prevention – United States, 2008 (ACIP). MMWR 2008; 57 (RR-3). www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm

CDC. Compendium of animal rabies prevention and control, 2011. National Association of State Public Health Veterinarians. www.cdc.gov/mmwr/pdf/rr/rr6006.pdf

Compendium of measures to prevent disease associated with animals in public settings, 2013: National Assoc of State Public Health Veterinarians. Journal of the American Veterinary Medical Association 243: 1270-1288. http://avmajournals.avma.org/doi/pdf/10.2460/javma.243.9.1270

Dyer J, P. Yager, L. Orciari, L. Greenberg, R. Wallace, C. Hanlon, and J. Blanton. 2014. Rabies surveillance in the United States during 2013. Journal of the American Veterinary Medical Assoc 245: 1111-1123. http://avmajournals.avma.org/doi/pdf/10.2460/javma.245.10.1111

Colorectal Cancer in South Dakota

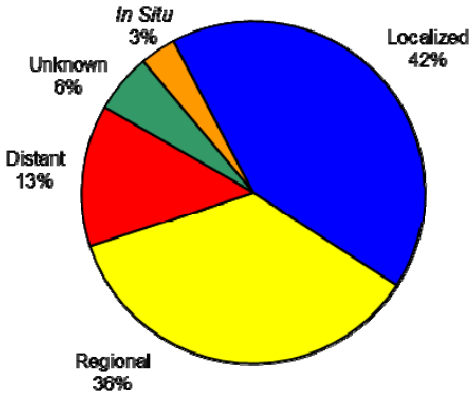
By the South Dakota Cancer Registry, South Dakota Department of Health

The 2012 colorectal cancer data has been released. For 2008-2012, the average number of new colorectal cancer cases per year is 440 and the average number of annual deaths due to colorectal cancer is 155.

Incidence 2012		**Mortality 2012**	
Number of cases		Number of deaths	
Total	397	Total	164
Males	194	Males	84
Females	203	Females	80
White	367	White	152
American Indian	28	American Indian	9
Median age at diagnosis	71 yrs	Median age at death	77 yrs
Mode	74 yrs	Mode	89 yrs
Age range at diagnosis	17-102 yrs	Age range at death	26-102 yrs
SD age-adjusted incidence rate	40.0	SD age-adjusted death rate	15.9
US SEER age-adjusted incidence rate (2011)	*40.3	US SEER age-adjusted death rate (2011)	*15.1

Rates per 100,000 US 2000 Standard Population and SD 2012 Estimated Population
*2012 US SEER age-adjusted rates not available.
Source: South Dakota Department of Health

The graph at the right displays the Surveillance Epidemiology and End Results (SEER) Summary Stage at diagnosis for 2012 colorectal cancer cases in South Dakota. As shown, nearly half of the cases were diagnosed at the more advanced stages of regional and distant. Patient survival rates decline when diagnosed at a more advanced stage as illustrated in the table below for cases diagnosed nationally in years 2004-2010.



Source: South Dakota Department of Health

Stage at Diagnosis	5-Year Relative Survival, 2004-2010
Localized	89.8%
Regional	70.5%
Distant	12.9%
Unknown	33.2%

Source: SEER www.seer.cancer.gov

GETSCREENEDSD
Stop Colorectal Cancer.

South Dakota's Colorectal Cancer Screening Program 2010-2014

To increase colorectal cancer screening, the South Dakota Department of Health implemented a colorectal screening program June 1, 2010. While the focus is to raise awareness for all South Dakotans, the program provides direct colorectal screening services through participating medical providers for patients that qualify.

Colorectal Cancer Screen Program eligibility criteria are based on the following:

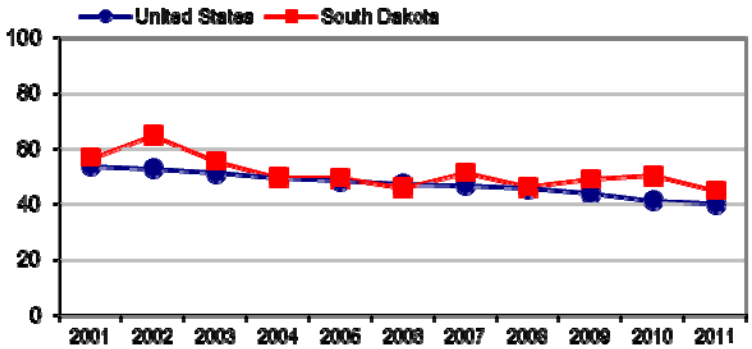
Age: 50 and older
Income: 200% of the Federal Poverty Guideline
Insurance: Underinsured or uninsured for colorectal cancer screening

During the first five years of the program, 3,209 patients were screened and **427 patients had potential cancers prevented!**

To view a provider video that discusses the recommendations for colorectal cancer screening, please see **http://www.getscreenedsd.org/provider**

Diet and physical activity are the most important environmental influences on colorectal cancer. Without behavior modification to reduce the risk of developing colorectal cancer, the incidence rates will not decline without recommended colorectal cancer screenings. See below for the age-adjusted colorectal cancer incidence rates for the United States and South Dakota for 2001-2011. Except for 2002, South Dakota rates have been close to the national rates.

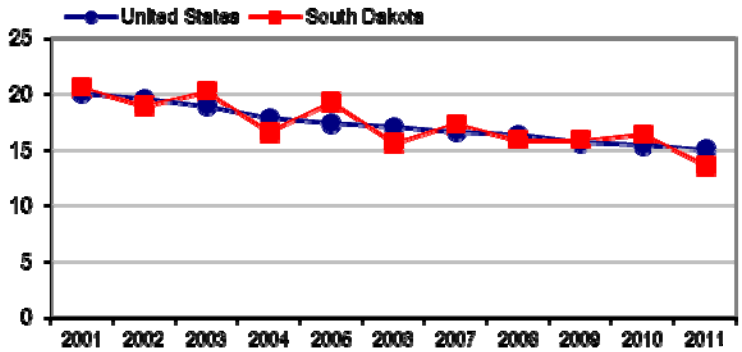
Colorectal Cancer Incidence Rates, US and SD



Rates per 100,000 US 2000 Standard Population and SD Estimated Population
US rates are provided by SEER www.seer.cancer.gov
Source: South Dakota Department of Health

As more South Dakotans participate in recommended colorectal cancer screenings, the mortality rates will continue to decrease. During screenings, precancerous polyps are removed to prevent cancer. The age-adjusted colorectal cancer mortality rates are shown below for the United States and South Dakota for 2001-2011.

Colorectal Cancer Mortality Rates, US and SD



Rates per 100,000 US 2000 Standard Population and SD Estimated Population
US rates are provided by SEER www.seer.cancer.gov
Source: South Dakota Department of Health

For additional information, please contact Kay Dosch, South Dakota Cancer Registry Coordinator, at 605-773-6345 or 800-592-1861 or see the website at http://getscreened.sd.gov/registry/ under the Data & Publications tab for the entire colorectal cancer monograph.

South Dakota HIV/AIDS Surveillance Report

JANUARY 2015

31 new HIV/AIDS cases were reported in 2014.

12 Females
19 Males

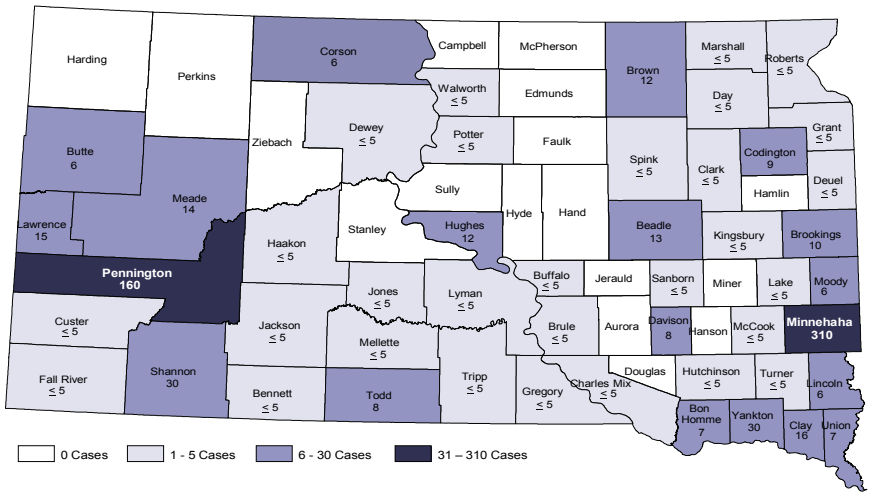
550 people are estimated to be living with HIV/AIDS in South Dakota.

Disproportionately impacted by HIV/AIDS:

- Blacks: 23% of living cases, 1% of the population.
- Native Americans: 16% of living cases, 9% of the population.

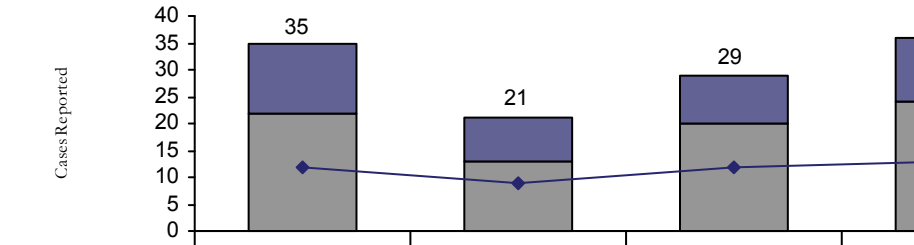
Late Testers: Persons who are diagnosed with AIDS within 12 months of their initial HIV diagnosis, were 28% of all cases, 2010 through 2014.

South Dakota Residents Reported Infected with HIV/AIDS: Cumulative Cases by County, 1985 - 2014



South Dakota Residents Infected with HIV and AIDS, by Gender , 2010 – 2014

152 South Dakota residents had been reported as infected with HIV (98 male, 54 female) and 54 were diagnosed with AIDS.



	2010	2011	2012	2013	2014
HIV (female)	13	8	9	12	12
HIV (male)	22	13	20	24	19
AIDS	12	9	12	13	8
Total	35	21	29	36	31

HIV Co-infection with Chlamydia, Gonorrhea, Hepatitis C, Syphilis and TB, by Sex and Age 2010-2014

	Total	Sex		13-24 Years	25-44 Years	45-65 Years
		Female	Male			
Chlamydia	18	10	8	5	9	4
Gonorrhea	11	5	6	2	8	1
Hepatitis C	26	11	15	1	13	12
Syphilis	20	1	19	1	8	11
TB	4	4	0	0	2	2
Total	79	31	48	9	40	30

Characteristics of South Dakota HIV/AIDS Infected Persons as of December 31, 2014

	Total HIV/AIDS Diagnoses *Total number of persons diagnosed with HIV or AIDS (2010-2014)*		Persons Living with HIV/AIDS *Minimum estimate of persons living with HIV or AIDS as of December 31, 2014*	
	Cases	**Percent**	**Cases**	**Percent**
TOTAL	152	100%	550	100%
Sex				
Female	54	36%	162	29%
Male	98	64%	388	71%
Race and Ethnicity				
American Indian	36	24%	88	16%
Black	40	26%	126	23%
Hispanic and Other *	13	9%	31	6%
White	63	41%	305	55%
Country of Origin				
United States	113	74%	444	81%
Other	39	26%	106	19%
Age Group				
< 2 years	0	0%	1	1%
2-12 years	3	2%	6	1%
13-24 years	11	7%	10	1%
25-44 years	86	57%	193	35%
45-65 years	51	34%	310	56%
>65 years	1	1%	30	5%
Exposure Category				
Heterosexual	62	41%	163	30%
IDU (Injection Drug User)	22	14%	83	15%
MSM (Men who have Sex with Men)	44	29%	194	35%
MSM & IDU	9	6%	22	4%
Perinatal/Pediatric	3	2%	10	2%
Transfusion/Hemophilia	0	0	10	2%
Unspecified	12	8%	68	12%
HIV Prevention Region				
Central	3	2%	20	4%
Northeast	15	10%	50	9%
Southeast	90	59%	332	60%
West	44	29%	148	27%

*Hispanic and Other denotes cases that are Asian, Hispanic, or Multi-race.
Due to rounding totals may not equal 100.
Questions regarding the surveillance report may be directed to Christine Olson 605-773-3737 or Christine.Olson@state.sd.us.

Department of Health Confidential HIV Testing Centers
Call Toll Free
1-800-592-1861

Aberdeen
402 South Main Street
Aberdeen, SD 57401
605-626-2373
1-866-805-1007

Pierre
740 East Sioux Avenue
Suite 107
Pierre, SD 57501
605-773-5348
1-866-229-4927

Rapid City
909 East Saint Patrick Street
Suite 9
Rapid City, SD 57701
605-394-2289
1-866-474-8221

Sioux Falls
1200 North West Avenue
Sioux Falls, SD 57104
605-367-5365
1-866-315-9214

Watertown
2001 9th Avenue South West
Suite 500
Watertown, SD 57201
605-882-5096
1-866-817-4090

Webster
711 West 1st Street
Webster, SD 57274
605-345-2340

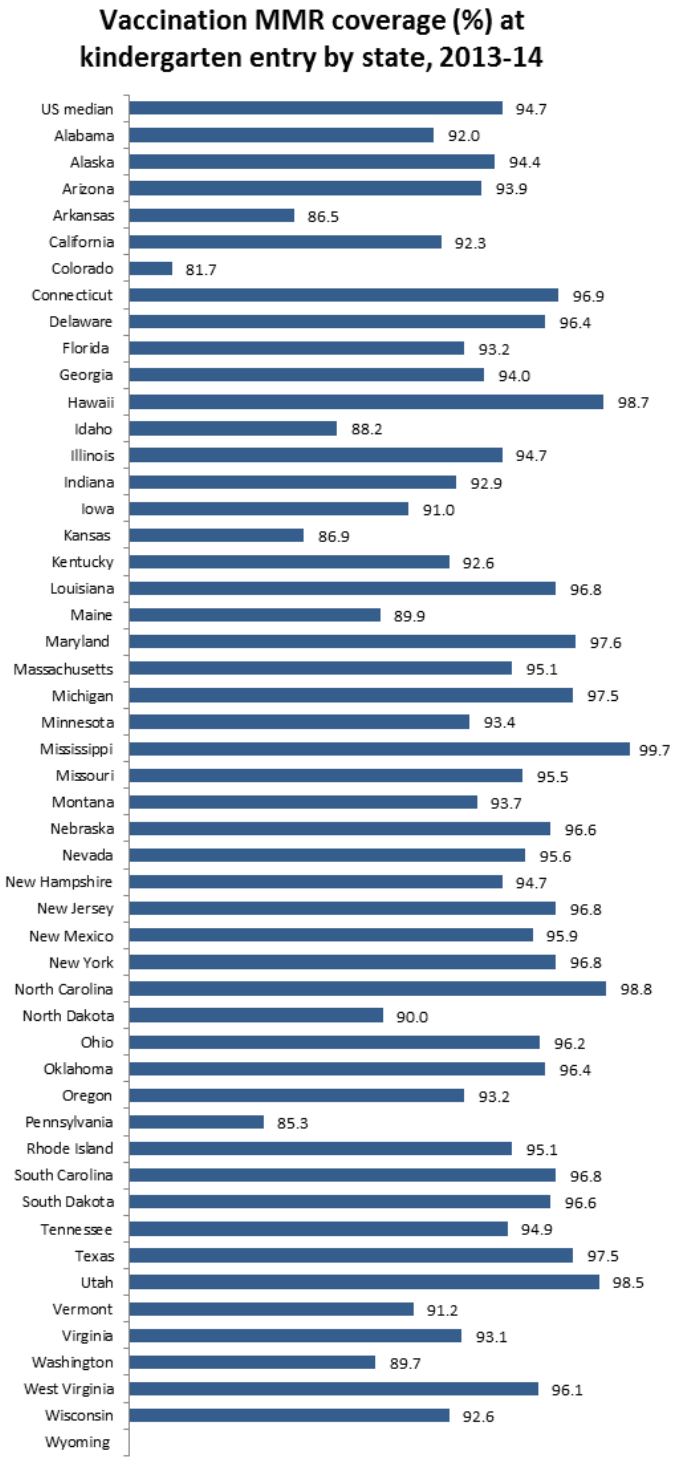
CDC HOTLINE
1-800-232-4636

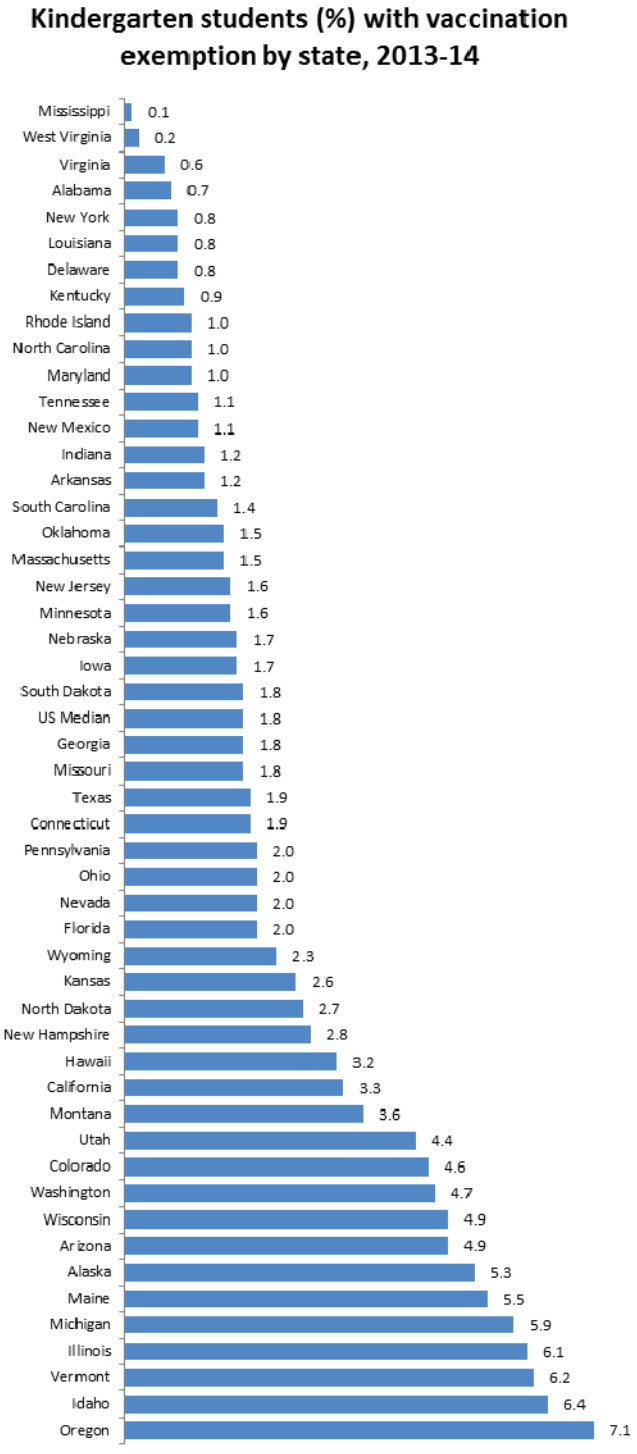
The South Dakota Department of Health is authorized by SDCL 34-22-12 and ARSD 44:20 to collect and process mandatory reports of communicable diseases.
How to report:
Secure Website:
http://doh.sd.gov/HIV/

Telephone: 1-800-592-1804 (Confidential answering device) or 1-800-592-1861 or 605-773-3737

Kindergarten vaccination: healthy kids, healthy families, healthy schools, healthy communities

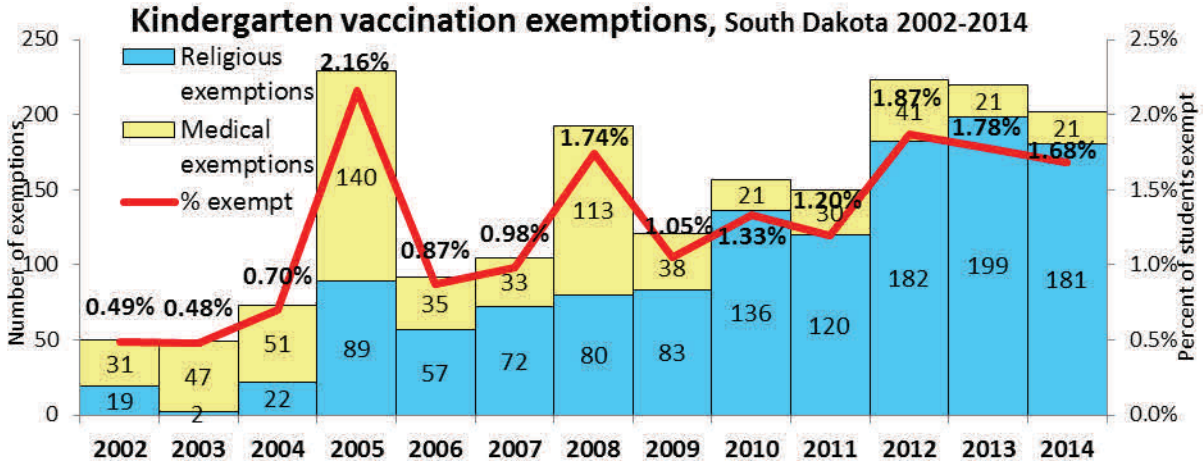
Places where children gather, like schools and child daycares, are ideal places for diseases transmission. Diseases such as measles, whooping cough, mumps, polio, chicken pox, rubella, hepatitis A and diphtheria were once common childhood scourges in South Dakota. Today vaccines prevent these diseases and protect the public's health. An historical look at disease cases reported in South Dakota since 1950 documents infectious diseases before and after vaccines were licensed (Table 1).





For the 2013-2014 school year South Dakota's overall kindergarten coverage rate for the MMR (measles, mumps, rubella) vaccine was 96.6% (see graphic), DTaP (diphtheria, tetanus, pertussis) coverage rate was 96.7%, and varicella (chicken pox) coverage was at 95.3%, all South Dakota coverage rates were above the national median and better than the 95% goal. (CDC. 2014. Vaccination coverage among children in kindergarten – United States, 2013-2014 school year. MMWR 63(41)913-920)

A total of 370 South Dakota kindergartens submitted vaccination data for the 2014-2015 school year (see Table 2). For the 2 MMR shots 77% of schools achieved the goal of ≥95% coverage, which is outstanding, however 5% of schools had <80% MMR coverage, which is precarious.



South Dakota allows medical and religious exemption from school vaccination requirements (see box). For the 2014-2015 school year there were 21 medical exemptions and 188 religious exemptions for the state's kindergarten class. Over the past several years the number of religious exemptions has increased dramatically from 2 exemptions in 2003 to 199 in 2013, but there was no change in state law covering exemptions. Nationally South Dakota fell at the national median of 1.8% exempt.

South Dakota School Entry Vaccination Statue. **13-28-7.1.** Tests and immunizations for communicable diseases required for admission to school or early childhood program--Exceptions--Rules. Any pupil entering school or an early childhood program in this state, shall, prior to admission, be required to present to the appropriate school authorities certification from a licensed physician that the child has received or is in the process of receiving adequate immunization against poliomyelitis, diphtheria, pertussis, rubeola, rubella, mumps, tetanus, and varicella, according to recommendations provided by the Department of Health. The Department of Health may modify or delete any of the required immunizations. As an alternative to the requirement for a physician's certification, the pupil may present:

(1) Certification from a licensed physician stating the physical condition of the child would be such that immunization would endanger the child's life or health; or

(2) A written statement signed by one parent or guardian that the child is an adherent to a religious doctrine whose teachings are opposed to such immunization; or

(3) A written statement signed by one parent or guardian requesting that the local health department give the immunization because the parents or guardians lack the means to pay for such immunization.

The Department of Health may promulgate reasonable rules, in accordance with chapter 1-26, to require compliance and documentation of adequate immunization, to define appropriate certification, and to specify standard procedure.

Source: SL 1971, ch141; SL 1972, ch97; SL 1978, ch114; SL 1992, ch129; SL 2000, ch83, § 1; SL 2005, ch101, § 1.

Table 1. Vaccine-preventable disease cases, South Dakota, 1950-2014.

Highlights indicate year vaccine was licensed in the United States (diphtheria, pertussis, smallpox and tetanus licensed before 1950).

YEAR	Diphtheria	Hib*	Hepatitis A	Hepatitis B (acute)	Measles	Meningo-coccal	Mumps	Pertussis	Polio	Rubella	Smallpox	Tetanus
1950	17	nr	nr	nr	1316	nr	nr	189	298	nr	6	nr
1951	9	nr	nr	nr	731	5	nr	103	127	nr	1	0
1952	5	nr	nr	nr	1016	6	nr	61	1017	nr	2	0
1953	2	nr	nr	nr	532	27	nr	44	225	nr	0	1
1954	13	nr	313	nr	765	15	nr	119	114	nr	0	2
1955	45	nr	387	nr	424	18	nr	55	**76**	nr	0	nr
1956	15	nr	177	nr	650	6	nr	30	29	nr	0	nr
1957	10	nr	36	nr	628	18	nr	26	42	nr	0	nr
1958	21	nr	na	nr	na	na	nr	na	15	nr	0	nr
1959	4	nr	na	nr	na	na	nr	na	11	nr	0	nr
1960	10	nr	na	nr	79	9	nr	14	7	nr	0	nr
1961	5	nr	193	nr	153	7	5	15	4	nr	0	3
1962	22	nr	111	nr	462	8	136	14	2	nr	0	0
1963	14	nr	150	nr	**111**	4	24	9	1	nr	0	2
1964	3	nr	135	nr	160	5	31	3	0	0	0	2
1965	8	nr	24	nr	116	4	46	3	0	0	0	0
1966	4	nr	14	0	41	6	26	1	0	2	0	0
1967	1	nr	14	0	59	7	**na**	2	0	3	0	1
1968	0	nr	82	0	4	5	1	9	0	0	0	1
1969	4	nr	88	0	51	1	0	1	0	**0**	0	0
1970	7	nr	24	0	109	1	57	1	0	4	0	1
1971	26	nr	191	2	223	6	313	8	0	98	0	0
1972	17	nr	149	2	12	3	123	3	0	13	0	0
1973	7	nr	233	1	3	6	21	7	0	24	0	0
1974	0	nr	164	4	31	**2**	3	3	0	27	0	0
1975	0	nr	39	8	353	0	6	1	0	17	0	0
1976	3	nr	89	5	5	3	11	4	0	21	0	1
1977	0	nr	34	12	75	6	59	1	0	89	0	0
1978	0	nr	242	14	0	4	11	11	0	112	0	1
1979	0	22	207	19	2	4	11	0	0	5	0	0
1980	0	27	72	8	0	6	3	3	0	2	0	0
1981	0	40	38	**8**	0	10	1	2	0	0	0	0
1982	0	50	14	17	0	11	1	6	0	1	0	0
1983	0	31	187	17	0	4	0	8	0	0	0	0
1984	0	35	206	26	0	6	0	9	0	0	0	1
1985	0	**44**	313	30	0	5	0	11	0	0	0	0
1986	0	31	171	19	0	8	1	14	0	0	0	1
1987	0	48	15	11	0	4	89	4	0	0	0	0
1988	0	32	30	9	0	6	1	5	0	0	0	0
1989	0	54	27	10	0	9	0	4	0	0	0	0
1990	0	54	493	8	23	3	0	2	0	0	0	0
1991	0	7	837	9	0	3	2	1	0	0	0	0
1992	0	4	215	5	0	1	0	17	0	0	0	0
1993	0	2	18	0	0	7	0	8	0	0	0	0
1994	0	2	39	4	0	9	0	26	0	0	0	0
1995	0	1	**99**	2	0	11	0	12	0	0	0	0
1996	0	1	43	5	0	10	0	4	0	0	0	0
1997	1	3	27	1	8	6	0	5	0	0	0	0
1998	0	1	40	4	0	9	0	8	0	0	0	1
1999	0	4	10	1	0	11	0	8	0	0	0	0
2000	0	1	3	2	0	6	0	11	0	0	0	0
2001	0	0	3	1	0	5	0	5	0	0	0	0
2002	0	1	3	3	0	2	0	8	0	0	0	0
2003	0	1	0	4	0	1	0	7	0	0	0	0
2004	0	0	4	1	0	4	0	169	0	0	0	0
2005	0	0	1	8	0	4	0	183	0	0	0	0
2006	0	0	9	5	0	4	296	26	0	0	0	0
2007	0	0	6	7	0	3	6	60	0	0	0	0
2008	0	0	4	0	0	3	1	67	0	0	0	0
2009	0	0	4	2	0	4	1	45	0	0	0	0
2010	0	0	1	2	0	0	2	29	0	0	0	0
2011	0	1	2	2	0	3	0	37	0	0	0	0
2012	0	0	0	2	0	0	0	70	0	0	0	0
2013	0	3	4	5	0	4	0	67	0	0	0	0
2014	0	0	3	3	8	2	0	110	0	0	0	0
Total	**273**	**500**	**6,037**	**308**	**8,150**	**370**	**1,288**	**1,788**	**1,968**	**418**	**9**	**18**

*Hib: *Haemophilus influenzae* type b. na: not available nr: not reported

Table 2. Vaccination* and exemption rates by school kindergarten**, South Dakota 2014-15

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
TOTAL SOUTH DAKOTA		**11,990**	**97%**	**97%**	**97%**	**95%**	**2%**	**92%**	**202**
Aurora	**Full county**	**47**	**98%**	**98%**	**98%**	**98%**	**0%**	**96%**	**1**
Aurora	Stickney Elementary	**<10**	nd	nd	nd	nd	0%	nd	nd
Aurora	White Lake Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Aurora	Plankinton Elementary	**29**	100%	100%	100%	100%	0%	100%	0
Beadle	**Full county**	**326**	**95%**	**96%**	**95%**	**92%**	**1%**	**96%**	**3**
Beadle	Huron Colony Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Beadle	Pearl Creek Colony	**<10**	nd	nd	nd	nd	nd	100%	0
Beadle	Riverside Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Beadle	Iroquois School	**14**	100%	100%	100%	100%	0%	100%	0
Beadle	James Valley Christian	**20**	90%	90%	85%	85%	0%	95%	1
Beadle	Hitchcock-Tulare Elementary	**24**	92%	92%	88%	88%	0%	96%	0
Beadle	Holy Trinity Elementary	**24**	100%	100%	100%	96%	0%	100%	0
Beadle	Wolsey-Wessington Elem	**29**	93%	93%	93%	93%	0%	100%	0
Beadle	Buchanan Elementary	**208**	96%	98%	97%	92%	1%	95%	2
Beadle	Sunny Plains Christian	No Kindergarten							
Bennett	**Full county**	**95**	**100%**	**95%**	**98%**	**96%**	**2%**	**100%**	**0**
Bennett	Batesland Elementary	**29**	100%	97%	100%	97%	3%	100%	0
Bennett	American Horse	**30**	100%	87%	93%	90%	3%	100%	0
Bennett	Martin Elementary	**36**	100%	100%	100%	100%	0%	100%	0
BonHomme	**Full county**	**77**	**99%**	**99%**	**99%**	**99%**	**0%**	**100%**	**0**
BonHomme	Hutterische Colony	**<10**	100%	100%	100%	100%	0%	100%	0
BonHomme	Tabor Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
BonHomme	Springfield Elementary	**12**	100%	100%	100%	100%	0%	100%	0
BonHomme	Avon Elementary	**14**	93%	93%	93%	93%	0%	100%	0
BonHomme	Scotland Elementary	**17**	100%	100%	100%	100%	0%	100%	0
BonHomme	Tyndall Elementary	**22**	100%	100%	100%	100%	0%	100%	0
Brookings	**Full county**	**220**	**90%**	**88%**	**93%**	**91%**	**2%**	**94%**	**12**
Brookings	Red Willow Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Brookings	Rolland Colony	**<10**	nd	nd	nd	nd	0%	nd	0
Brookings	Newdale Colony	**<10**	nd	nd	nd	nd	0%	nd	nd
Brookings	Norfeld Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Brookings	Duebrook Elem (Astoria)	**22**	100%	95%	100%	100%	0%	91%	0
Brookings	Elkton Elementary	**22**	100%	95%	100%	100%	0%	100%	0
Brookings	Sioux Valley Elementary	**47**	94%	94%	96%	94%	0%	91%	3
Brookings	Medary Elementary	**116**	87%	86%	93%	91%	3%	98%	5
Brookings	Hillcrest Elementary	Failed to submit school vaccination data							
Brookings	Volga Christian Elementary	Failed to submit school vaccination data							
Brown	**Full county**	**496**	**98%**	**98%**	**98%**	**96%**	**1%**	**98%**	**7**
Brown	Huttervill Colony	**<10**	100%	nd	100%	nd	50%	100%	0
Brown	Trinity Luthern Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Brown	Frederick Area Elem	**<10**	nd	nd	nd	nd	0%	100%	0
Brown	Aberdeen Christian School	**18**	72%	72%	67%	67%	0%	67%	6
Brown	Warner	**24**	100%	100%	100%	96%	0%	100%	0
Brown	Groton Elementary	**38**	100%	100%	100%	97%	3%	100%	0
Brown	Roncalli Primary Elm	**44**	98%	98%	95%	89%	0%	98%	1
Brown	Lincoln Elementary	**63**	100%	100%	100%	98%	0%	100%	0
Brown	Simmons Elementary	**65**	100%	100%	100%	97%	2%	100%	0
Brown	May Overby Elementary	**71**	100%	100%	100%	99%	1%	100%	0
Brown	CC Lee Elementary	**76**	100%	100%	100%	100%	0%	100%	0
Brown	OM Tiffany Elementary	**78**	99%	99%	100%	97%	1%	99%	0
Brule	**Full county**	**98**	98%	100%	99%	99%	1%	100%	0
Brule	Grass Ranch Colony	**<10**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Brule	Kimball Elementary	**12**	100%	100%	100%	100%	0%	100%	0
Brule	Chamberlain Elementary	**81**	98%	100%	99%	99%	1%	100%	0
Brule	St Joseph Elem	No Kindergarten							
Buffalo	**Crow Creek**(Ft Thompson) Ele	**33**	**97%**	**97%**	**97%**	**97%**	**0%**	**97%**	**0**
Butte	**Full county**	**152**	**95%**	**94%**	**95%**	**96%**	**0%**	**84%**	**3**
Butte	Newell Elementary	**22**	95%	91%	95%	95%	0%	91%	0

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Butte	**North Park Elementary**	**130**	**95%**	**95%**	**95%**	**96%**	**0%**	**82%**	**3**
Campbell	**Herreid Elementary**	**<10**	**nd**	**nd**	**nd**	**nd**	**0%**	**nd**	**nd**
CharlesMix	**Full county**	**176**	**98%**	**98%**	**97%**	**97%**	**1%**	**97%**	**2**
CharlesMix	Lakeview Colony School	**<10**	100%	100%	100%	100%	0%	100%	0
CharlesMix	Cedar Grove Colony	**<10**	100%	100%	100%	100%	0%	100%	0
CharlesMix	Platte Colony Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
CharlesMix	Marty Elementary	**12**	100%	100%	100%	100%	0%	100%	0
CharlesMix	Andes Central Elementary	**25**	100%	100%	100%	100%	0%	100%	0
CharlesMix	Platte/Geddes Elementary	**34**	91%	91%	91%	91%	0%	91%	2
CharlesMix	Wagner Elementary	**87**	100%	99%	98%	98%	2%	98%	0
Clark	**Full county**	**50**	**92%**	**92%**	**92%**	**92%**	**0%**	**92%**	**0**
Clark	Collins Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Clark	Fordham Elementary	**<10**	nd	nd	nd	nd	0%	nd	0
Clark	Mayfield Colony	**<10**	nd	nd	nd	nd	0%	nd	0
Clark	Shamrock Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Clark	Hillcrest Colony School	**<10**	100%	100%	100%	100%	0%	100%	0
Clark	Silver Lake Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Clark	Willow Lake Elementary	**12**	100%	100%	100%	100%	0%	100%	0
Clark	Clark Elementary	**20**	95%	95%	95%	95%	0%	95%	0
Clay	**Full county**	**137**	**99%**	**99%**	**98%**	**96%**	**0%**	**99%**	**2**
Clay	Irene/Wakonda Elementary	**20**	100%	100%	95%	95%	0%	100%	1
Clay	St Agnes Elementary	**22**	95%	95%	95%	95%	0%	95%	0
Clay	Austin Elementary	**95**	99%	99%	99%	97%	0%	99%	1
Codington	**Full county**	**413**	**98%**	**98%**	**99%**	**98%**	**0%**	**95%**	**1**
Codington	St Martins Elementary	**15**	100%	100%	100%	100%	0%	100%	0
Codington	Waverly Elem/South Shore	**15**	93%	93%	100%	100%	0%	100%	0
Codington	Watertown Christian	**19**	100%	95%	95%	95%	0%	100%	0
Codington	Henry Elementary	**21**	76%	81%	81%	81%	0%	100%	0
Codington	Florence Elementary	**22**	100%	100%	100%	95%	5%	100%	0
Codington	Immaculate Conception	**30**	100%	100%	100%	100%	0%	100%	0
Codington	McKinley Elementary	**43**	95%	95%	100%	100%	0%	65%	0
Codington	Mellette Elementary	**45**	100%	100%	100%	100%	0%	98%	0
Codington	Roosevelt Elementary	**46**	98%	100%	100%	100%	0%	100%	0
Codington	Lincoln Elementary	**72**	100%	100%	100%	99%	1%	99%	0
Codington	Jefferson Elementary	**85**	99%	99%	99%	99%	0%	95%	1
Corson	**Full county**	**85**	**100%**	**100%**	**100%**	**100%**	**0%**	**78%**	**0**
Corson	McIntosh Elementary	**17**	100%	100%	100%	100%	0%	94%	0
Corson	Sitting Bull (Little Eagle) Elem	**18**	100%	100%	100%	100%	0%	0%	0
Corson	Wakpala	**19**	100%	100%	100%	100%	0%	100%	0
Corson	McLaughlin Elementary	**31**	100%	100%	100%	100%	0%	100%	0
Corson	Bullhead (Rock Creek) Elem	Failed to submit school vaccination data							
Custer	**Full county**	**72**	**93%**	**93%**	**93%**	**92%**	**0%**	**86%**	**4**
Custer	Hermosa Elementary	**31**	87%	87%	87%	87%	0%	77%	4
Custer	Custer Elementary	**41**	98%	98%	98%	95%	0%	93%	0
Custer	Spring Creek/Elk Mountain	No Kindergarten							
Davison	**Full county**	**281**	**98%**	**98%**	**98%**	**96%**	**1%**	**99%**	**3**
Davison	Mitchell Christian	**<10**	nd	nd	nd	nd	0%	nd	1
Davison	Mt Vernon Elementary	**10**	80%	80%	80%	80%	0%	100%	0
Davison	Ethan Elementary	**15**	93%	93%	93%	93%	0%	100%	0
Davison	John Paul II	**23**	100%	100%	100%	100%	0%	100%	0
Davison	Longfellow Elementary	**57**	100%	100%	100%	100%	0%	100%	0
Davison	Gertie Belle Rogers	**68**	100%	100%	100%	99%	1%	100%	0
Davison	LB Williams Elementary	**99**	99%	99%	99%	96%	2%	99%	2
Day	**Full county**	**73**	**97%**	**97%**	**99%**	**99%**	**0%**	**100%**	**1**
Day	Waubay Elementary	**14**	100%	100%	100%	100%	0%	100%	0
Day	Enemy Swim Day School	**22**	95%	95%	100%	100%	0%	100%	0
Day	Webster Elementary	**37**	97%	97%	97%	97%	0%	100%	1
Deuel	**Deuel/Clear Lake School**	**47**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Dewey	**Full county**	**132**	**98%**	**98%**	**98%**	**98%**	**0%**	**98%**	**0**
Dewey	Timber Lake Elementary	**27**	100%	100%	100%	100%	0%	96%	0

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Dewey	**Eagle Butte Primary**	**105**	**98%**	**98%**	**98%**	**98%**	**0%**	**99%**	**0**
Dewey	Tiospaye Topa Elementary	Failed to submit school vaccination data							
Douglas	**Full county**	**27**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Douglas	Dakota Christian Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Douglas	Corsica Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Douglas	Armour Elementary	**12**	100%	100%	100%	100%	0%	100%	0
Edmunds	**Full county**	**48**	**98%**	**98%**	**98%**	**98%**	**0%**	**98%**	**0**
Edmunds	Deerfield Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Edmunds	Plainview/Rosette Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Edmunds	Holy Cross Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Edmunds	Pembrook Colony	**<10**	nd	nd	nd	nd	0%	nd	0
Edmunds	Bowdle Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Edmunds	Ipswich Elementary	**14**	100%	100%	100%	100%	0%	100%	0
Edmunds	Edmunds Central	**15**	100%	100%	100%	100%	0%	100%	0
Fall River	**Full county**	**59**	**95%**	**95%**	**95%**	**93%**	**2%**	**93%**	**4**
Fall River	Edgemont Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Fall River	Oelrichs Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Fall River	Bethesda Lutheran	**<10**	nd	nd	nd	nd	nd	nd	3
Fall River	Hot Springs Elementary	**45**	98%	98%	98%	98%	0%	98%	1
Faulk	**Full county**	**20**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Faulk	Thunderbird Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Faulk	Blumengard Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Faulk	Faulkton Elementary	**14**	100%	100%	100%	100%	0%	100%	0
Faulk	Brentwood Colony	No Kindergarten							
Faulk	Evergreen Colony	No Kindergarten							
Grant	**Full county**	**90**	**97%**	**96%**	**96%**	**93%**	**3%**	**97%**	**2**
Grant	Grant-Deuel Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Grant	Big Stone City Elementary	**<10**	nd	nd	nd	nd	0%	100%	0
Grant	St Lawrence Elementary	**16**	88%	88%	88%	88%	6%	88%	2
Grant	Koch Elementary	**61**	100%	98%	98%	95%	3%	98%	0
Gregory	**Full county**	**58**	**98%**	**98%**	**97%**	**93%**	**0%**	**100%**	**0**
Gregory	South Central- Bonesteel-Fairfax	**13**	100%	100%	100%	100%	0%	100%	0
Gregory	Burke Elementary	**18**	94%	94%	94%	83%	0%	100%	0
Gregory	Gregory Elementary	**27**	100%	100%	96%	96%	0%	100%	0
Haakon	**Full county**	**24**	**96%**	**96%**	**96%**	**96%**	**0%**	**88%**	**1**
Haakon	Deep Creek	**0**							
Haakon	King (Milesville) Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Haakon	Midland Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Haakon	Philip Elementary	**19**	95%	95%	95%	95%	0%	84%	1
Hamlin	**Full county**	**120**	**97%**	**95%**	**97%**	**93%**	**4%**	**93%**	**2**
Hamlin	Claremont Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hamlin	Estelline Elementary	**20**	100%	90%	90%	90%	0%	95%	0
Hamlin	Castlewood Elementary	**22**	100%	100%	100%	100%	0%	100%	0
Hamlin	Hamlin Elementary	**77**	95%	95%	97%	91%	6%	91%	2
Hamlin	Poinsett Colony	No Kindergarten							
Hand	**Full county**	**31**	**100%**	**100%**	**100%**	**97%**	**3%**	**100%**	**0**
Hand	Millerdale Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hand	Sunshine Bible Academy	**<10**	100%	100%	100%	100%	0%	100%	0
Hand	Miller Elementary	**29**	100%	100%	100%	97%	3%	100%	0
Hanson	**Full county**	**55**	**100%**	**100%**	**100%**	**98%**	**2%**	**98%**	**0**
Hanson	Rockport Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hanson	Oaklane Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Hanson	Rosedale Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hanson	Emery Elementary	**15**	100%	100%	100%	93%	7%	93%	0
Hanson	Hanson Elementary	**33**	100%	100%	100%	100%	0%	100%	0
Hanson	Millbrook Colony	No Kindergarten							
Harding	**Full county**	**14**	**100%**	**100%**	**86%**	**93%**	**7%**	**100%**	**1**
Harding	Reva Elementary	**0**							
Harding	Ludlow Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Harding	Camp Crook Elementary	**<10**	100%	100%	0%	100%	0%	100%	0

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Harding	**Buffalo Elementary**	**11**	**100%**	**100%**	**100%**	**91%**	**9%**	**100%**	**1**
Hughes	**Full county**	**254**	**99%**	**96%**	**98%**	**98%**	**0%**	**100%**	**3**
Hughes	Blunt Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Hughes	McKinley Elementary	**26**	100%	100%	100%	100%	0%	100%	0
Hughes	St Joseph Elementary	**35**	97%	97%	100%	100%	0%	100%	0
Hughes	Washington Elementary	**45**	100%	100%	100%	100%	0%	100%	1
Hughes	Buchanan Elementary	**73**	99%	89%	93%	93%	0%	99%	0
Hughes	Jefferson Elementary	**73**	100%	100%	100%	100%	0%	100%	2
Hutchinson	**Full county**	**122**	**99%**	**99%**	**98%**	**98%**	**0%**	**97%**	**0**
Hutchinson	Greenwood Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	New Elm Spring Col Elemen	**<10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Old Elm Spring Col Elemen	**<10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Jamesville Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Tschetter Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Tripp-Delmont Elementary	**<10**	100%	100%	nd	nd	0%	100%	0
Hutchinson	Wolf Creek Colony	**<10**	100%	100%	100%	100%	0%	nd	0
Hutchinson	Maxwell Colony	**10**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Menno Elementary	**17**	100%	100%	100%	100%	0%	100%	0
Hutchinson	Freeman Elementary	**27**	96%	96%	96%	96%	0%	89%	0
Hutchinson	Parkston Elementary	**43**	100%	100%	98%	98%	0%	100%	0
Hutchinson	Clearfield Colony	No Kindergarten							
Hutchinson	Freeman Academy	No Kindergarten							
Hyde	**Highmore-Harrold Elemen**	**14**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Jackson	**Full county**	**44**	**98%**	**91%**	**98%**	**93%**	**5%**	**98%**	**1**
Jackson	Interior Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Jackson	Longvalley Elementary	**<10**	100%	nd	100%	100%	0%	100%	0
Jackson	Kadoka Elementary	**16**	94%	94%	94%	88%	6%	94%	1
Jackson	Crazy Horse Elementary	**18**	100%	100%	100%	94%	6%	100%	0
Jerauld	**Full county**	**26**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**1**
Jerauld	Spring Valley Colony	**<10**	100%	100%	100%	100%	0%	100%	nd
Jerauld	Wessington Springs	**21**	100%	100%	100%	100%	0%	100%	0
Jones	**Murdo Elementary**	**13**	**100%**	**85%**	**92%**	**85%**	**0%**	**100%**	**0**
Kingsbury	**Full county**	**69**	**99%**	**97%**	**94%**	**88%**	**4%**	**99%**	**2**
Kingsbury	Lake Preston Elementary	**12**	100%	92%	92%	75%	17%	100%	0
Kingsbury	Arlington Elementary	**28**	96%	96%	89%	89%	0%	96%	2
Kingsbury	Laura Ingalls Wilder	**29**	100%	100%	100%	93%	3%	100%	0
Lake	**Full county**	**149**	**98%**	**97%**	**97%**	**97%**	**0%**	**98%**	**4**
Lake	Gracevale Colony	**<10**	100%	nd	nd	nd	0%	100%	0
Lake	Rustic Acres	**<10**	100%	100%	100%	100%	0%	100%	0
Lake	Madison Christian School	**<10**	100%	100%	100%	100%	0%	100%	0
Lake	Spring Lake Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Lake	St Thomas Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Lake	Oldham-Ramona Elementary	**10**	100%	100%	100%	100%	0%	100%	0
Lake	Rutland Elementary	**17**	100%	100%	100%	88%	0%	100%	2
Lake	Chester Elementary	**19**	100%	100%	100%	100%	0%	95%	0
Lake	Madison Central	**85**	96%	96%	96%	98%	0%	98%	2
Lake	Cambridge Colony	No Kindergarten							
Lawrence	**Full county**	**214**	**93%**	**93%**	**93%**	**92%**	**0%**	**88%**	**7**
Lawrence	Deadwood-Lead	**45**	84%	84%	82%	80%	0%	80%	1
Lawrence	Mountain View Spearfish	**169**	96%	95%	96%	95%	0%	91%	6
Lincoln	**Full county**	**650**	**96%**	**96%**	**95%**	**94%**	**1%**	**96%**	**18**
Lincoln	Baan Dek Montessori	**<10**	100%	100%	nd	nd	0%	100%	0
Lincoln	Worthing Elementary	**17**	94%	94%	94%	94%	0%	88%	1
Lincoln	Harrisburg Explorer	**53**	98%	98%	96%	96%	0%	92%	1
Lincoln	Lennox Elementary	**60**	95%	95%	93%	93%	0%	93%	3
Lincoln	EO Lawrence (Canton)	**61**	93%	93%	90%	92%	0%	97%	2
Lincoln	Harrisburg Liberty	**70**	91%	91%	90%	84%	1%	91%	5
Lincoln	Harrisburg Freedom	**71**	97%	99%	99%	99%	0%	99%	1
Lincoln	Harrisburg Endeavor	**76**	95%	95%	92%	89%	1%	99%	2
Lincoln	Harrisburg Journey	**102**	99%	99%	99%	99%	0%	97%	1

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Lincoln	**Tea Elementary (Primary)**	**134**	**98%**	**96%**	**98%**	**96%**	**1%**	**98%**	**2**
Lyman	**Full county**	**54**	**98%**	**98%**	**100%**	**98%**	**0%**	**100%**	**0**
Lyman	Kennebec Elementary	**16**	100%	100%	100%	100%	0%	100%	0
Lyman	Presho Elementary	**18**	100%	100%	100%	100%	0%	100%	0
Lyman	Lower Brule Elementary	**20**	95%	95%	100%	95%	0%	100%	0
Marshall	**Full county**	**46**	**98%**	**98%**	**96%**	**87%**	**9%**	**98%**	**2**
Marshall	Newport Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Marshall	Sunset Colony	**<10**	100%	100%	100%	nd	100%	100%	0
Marshall	Westwood Colony	**<10**	100%	100%	100%	nd	100%	100%	0
Marshall	Langford Elementary	**11**	100%	100%	100%	100%	0%	100%	0
Marshall	Britton-Hecla Elementary	**30**	97%	97%	93%	93%	0%	97%	2
McCook	**Full county**	**73**	**99%**	**97%**	**96%**	**96%**	**1%**	**100%**	**2**
McCook	Orland Colony	**<10**	100%	100%	100%	100%	0%	100%	0
McCook	Golden View Colony	**<10**	100%	100%	100%	100%	0%	100%	0
McCook	St Mary's-Salem	**<10**	100%	100%	nd	nd	nd	100%	nd
McCook	Bridgewater Elementary	**10**	100%	100%	90%	90%	0%	100%	0
McCook	Canistota Elementary	**11**	91%	82%	91%	91%	0%	100%	1
McCook	Montrose School	**17**	100%	100%	100%	100%	0%	100%	0
McCook	McCook Central	**22**	100%	100%	100%	100%	0%	100%	0
McPherson	**Full county**	**34**	**97%**	**97%**	**97%**	**91%**	**0%**	**97%**	**2**
McPherson	Longlake Colony	**<10**	100%	100%	100%	100%	0%	100%	0
McPherson	Spring Creek Colony	**<10**	100%	100%	100%	100%	0%	100%	0
McPherson	Grassland Colony	**<10**	100%	100%	100%	100%	0%	100%	0
McPherson	Leola Elementary	**10**	100%	100%	100%	100%	0%	90%	0
McPherson	Eureka Elementary	**16**	94%	94%	94%	81%	0%	100%	2
Meade	**Full county**	**246**	**97%**	**96%**	**97%**	**96%**	**1%**	**64%**	**6**
Meade	Elm Spring	**<10**	100%	100%	100%	100%	0%	nd	0
Meade	Maurine Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Meade	Opal	**<10**	100%	100%	100%	100%	0%	100%	0
Meade	Atall Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Meade	Hereford Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Meade	Enning/Union Center Elem	**<10**	100%	100%	100%	100%	0%	100%	0
Meade	Faith Elementary	**<10**	100%	100%	100%	nd	0%	nd	0
Meade	Whitewood Elementary	**24**	96%	92%	100%	96%	4%	96%	0
Meade	Piedmont/Stagebarn	**84**	99%	99%	99%	98%	1%	15%	5
Meade	Sturgis/Frances Case	**115**	95%	95%	94%	95%	0%	88%	1
Meade	Takini Elementary	Failed to submit school vaccination data							
Mellette	**Full county**	**41**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Mellette	Wood Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Mellette	Norris Elementary	**10**	100%	100%	100%	100%	0%	100%	0
Mellette	White River Elementary	**30**	100%	100%	100%	100%	0%	100%	0
Miner	**Full county**	**35**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0**
Miner	Shannon Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Miner	Howard Elementary	**31**	100%	100%	100%	100%	0%	100%	0
Minnehaha	**Full county**	**2,993**	**97%**	**97%**	**98%**	**93%**	**4%**	**89%**	**58**
Minnehaha	Bethel Lutheran School	**<10**	100%	100%	100%	100%	0%	100%	0
Minnehaha	Good Shepard Lutheran	**11**	91%	91%	91%	91%	0%	100%	1
Minnehaha	Elementary Immersion Center	**15**	73%	73%	93%	53%	0%	80%	0
Minnehaha	Christ the King Elementary	**18**	94%	94%	89%	100%	0%	94%	0
Minnehaha	St Mary's- Dell Rapids	**20**	90%	90%	90%	85%	5%	95%	2
Minnehaha	Horace Mann Elementary	**21**	95%	95%	95%	95%	0%	100%	0
Minnehaha	Valley Springs Elementary	**21**	100%	100%	100%	100%	0%	100%	0
Minnehaha	SF Lutheran Elementary	**22**	91%	91%	95%	95%	0%	91%	0
Minnehaha	St Katharine Drexel School	**24**	100%	100%	96%	96%	0%	88%	0
Minnehaha	All City Elementary	**26**	96%	96%	96%	96%	0%	92%	1
Minnehaha	Holy Spirit School	**27**	100%	96%	100%	100%	0%	96%	0
Minnehaha	St Lambert Elementary	**27**	100%	100%	100%	100%	0%	100%	0
Minnehaha	Christian Center Elementary	**28**	89%	89%	89%	89%	0%	93%	3
Minnehaha	St Michaels Elementary	**29**	100%	100%	100%	100%	0%	100%	0
Minnehaha	West Central Humboldt	**31**	94%	94%	97%	0%	94%	0%	1

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Minnehaha	**St Mary's**	**35**	**100%**	**100%**	**100%**	**97%**	**3%**	**100%**	**0**
Minnehaha	Garretson Elementary	**39**	92%	92%	92%	92%	0%	92%	2
Minnehaha	Jefferson Elementary	**39**	92%	97%	95%	95%	0%	90%	0
Minnehaha	Mark Twain Elementary	**40**	98%	98%	93%	93%	0%	98%	0
Minnehaha	Baltic Elementary	**41**	98%	98%	98%	95%	2%	98%	1
Minnehaha	Renberg Elementary	**51**	100%	100%	100%	100%	0%	98%	0
Minnehaha	Laura B Anderson	**66**	97%	95%	97%	97%	0%	97%	0
Minnehaha	Tri-Valley Elementary	**68**	99%	99%	99%	99%	0%	100%	1
Minnehaha	Dell Rapids Elementary	**69**	97%	97%	97%	97%	0%	99%	2
Minnehaha	Eugene Field Elementary	**70**	94%	94%	96%	94%	0%	93%	5
Minnehaha	Fred Assam Elementary	**70**	97%	97%	97%	97%	0%	97%	1
Minnehaha	Garfield Elementary	**71**	99%	99%	100%	100%	0%	99%	0
Minnehaha	Longfellow Elementary	**71**	99%	100%	100%	99%	1%	97%	0
Minnehaha	West Central Hartford	**71**	100%	100%	100%	0%	100%	0%	0
Minnehaha	SF Christian School	**76**	95%	93%	91%	89%	1%	95%	7
Minnehaha	Robert Bennis Elem	**82**	99%	99%	100%	98%	2%	96%	0
Minnehaha	Laura Wilder Elementary	**85**	98%	95%	99%	99%	0%	0%	2
Minnehaha	Cleveland Elementary	**87**	97%	97%	99%	98%	1%	77%	0
Minnehaha	Terry Redlin Elementary	**88**	99%	99%	97%	94%	2%	100%	1
Minnehaha	Hawthorne Elementary	**90**	99%	98%	100%	100%	0%	94%	0
Minnehaha	Lowell Elementary	**93**	100%	99%	99%	99%	0%	98%	1
Minnehaha	Anne Sulivan Elementary	**98**	98%	98%	97%	98%	0%	91%	2
Minnehaha	Brandon Elementary	**100**	100%	100%	98%	95%	1%	100%	2
Minnehaha	Harvey Dunn Elementary	**108**	98%	98%	98%	98%	0%	97%	2
Minnehaha	Oscar Howe Elementary	**108**	96%	95%	96%	96%	0%	93%	4
Minnehaha	John Harris Elementary	**110**	97%	97%	97%	97%	1%	97%	3
Minnehaha	John F Kennedy	**117**	100%	99%	100%	99%	0%	100%	0
Minnehaha	Rosa Parks Elementary	**119**	96%	96%	96%	96%	0%	89%	5
Minnehaha	Hayward Elementary	**120**	99%	98%	99%	98%	1%	93%	1
Minnehaha	Discovery Elementary	**121**	99%	99%	99%	98%	0%	96%	1
Minnehaha	Robert Frost Elementary	**131**	95%	95%	95%	95%	1%	92%	6
Minnehaha	RF Pettigrew Elementary	**138**	99%	99%	99%	99%	0%	96%	1
Minnehaha	Central Baptist	No Kindergarten							
Minnehaha	SD School F/T Deaf	No Kindergarten							
Moody	**Full county**	**77**	**100%**	**100%**	**100%**	**96%**	**3%**	**97%**	**1**
Moody	Pleasant Valley Elementary	**<10**	100%	100%	100%	nd	0%	nd	1
Moody	Colman-Egan Elementary	**22**	100%	100%	100%	100%	0%	95%	0
Moody	Flandreau Elementary	**50**	100%	100%	100%	96%	4%	100%	0
Oglala Lakota	**Full county**	**280**	**98%**	**95%**	**96%**	**96%**	**1%**	**93%**	**1**
Oglala Lakota	Red Shirt Table	**12**	100%	100%	100%	100%	0%	100%	0
Oglala Lakota	Wounded Knee Elementary	**12**	100%	100%	100%	100%	0%	100%	0
Oglala Lakota	Our Lady of Lourdes	**13**	100%	62%	69%	69%	0%	0%	0
Oglala Lakota	Red Cloud Elementary	**21**	100%	95%	100%	100%	0%	100%	0
Oglala Lakota	Ogalala Loneman (Isna Wica)	**24**	96%	96%	96%	96%	0%	100%	0
Oglala Lakota	Porcupine Elementary	**25**	84%	88%	88%	88%	0%	100%	0
Oglala Lakota	Little Wound Elementary	**31**	100%	100%	100%	97%	3%	100%	0
Oglala Lakota	Rockyford Elementary	**51**	98%	100%	100%	98%	2%	94%	0
Oglala Lakota	Wolf Creek Elementary	**91**	99%	96%	98%	98%	1%	97%	1
Oglala Lakota	Pine Ridge Elementary	Failed to submit school vaccination data							
Pennington	**Full county**	**1,628**	**98%**	**97%**	**98%**	**97%**	**0%**	**85%**	**29**
Pennington	Big White	**<10**	100%	100%	100%	100%	0%	nd	0
Pennington	Black Hills Children's Home	**<10**	100%	100%	100%	100%	0%	100%	0
Pennington	Children's Home Montessori	**<10**	100%	nd	100%	nd	nd	100%	0
Pennington	St Pauls	**10**	100%	100%	100%	100%	0%	90%	0
Pennington	New Underwood	**18**	94%	94%	94%	94%	0%	100%	0
Pennington	Zion Lutheran	**19**	100%	100%	100%	100%	0%	95%	0
Pennington	Wall Elementary	**26**	100%	100%	100%	100%	0%	100%	0
Pennington	Hill City Elementary	**30**	100%	100%	100%	97%	0%	93%	0
Pennington	Calvary Christian	**31**	87%	87%	87%	84%	0%	87%	3
Pennington	South Canyon Elementary	**48**	94%	90%	92%	92%	0%	85%	1
Pennington	South Park	**50**	96%	96%	96%	96%	0%	96%	2

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Pennington	**St Elizabeth Seton**	**53**	**96%**	**96%**	**96%**	**96%**	**0%**	**87%**	**1**
Pennington	Horace Mann	**59**	98%	98%	98%	98%	0%	92%	1
Pennington	Pinedale Elementary	**64**	97%	97%	97%	97%	0%	84%	1
Pennington	Canyon Lake	**68**	96%	94%	96%	94%	0%	93%	3
Pennington	Woodrow Wilson (Wilson)	**72**	99%	99%	99%	97%	0%	94%	2
Pennington	Black Hawk	**73**	99%	99%	99%	99%	0%	97%	1
Pennington	Corral Drive Elementary	**76**	100%	99%	100%	100%	1%	100%	0
Pennington	Rapid Valley Elementary	**86**	99%	98%	99%	97%	0%	81%	3
Pennington	Knollwood Heights	**92**	99%	98%	100%	98%	1%	64%	1
Pennington	General Beadle	**96**	98%	98%	99%	99%	0%	99%	1
Pennington	Meadowbrook Elementary	**97**	100%	99%	100%	100%	0%	92%	2
Pennington	Robbinsdale Elementary	**97**	97%	97%	98%	96%	1%	96%	2
Pennington	Grandview Elementary	**98**	98%	97%	98%	97%	0%	94%	2
Pennington	Valley View	**100**	98%	98%	99%	98%	1%	99%	1
Pennington	Badger Clarke/Carrousel	**254**	99%	99%	99%	99%	0%	51%	2
Perkins	**Full county**	**48**	**94%**	**94%**	**94%**	**92%**	**0%**	**98%**	**0**
Perkins	Bison Elementary	**15**	93%	93%	93%	87%	0%	100%	0
Perkins	Lemmon Elementary	**33**	94%	94%	94%	94%	0%	97%	0
Potter	**Full county**	**23**	**91%**	**91%**	**91%**	**91%**	**4%**	**91%**	**0**
Potter	Hoven Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Potter	Gettysburg Elementary	**16**	88%	88%	88%	88%	6%	88%	0
Roberts	**Full county**	**168**	**96%**	**96%**	**97%**	**95%**	**3%**	**98%**	**1**
Roberts	White Rock Colony	**<10**	nd	nd	nd	nd	0%	100%	0
Roberts	New Effington Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Roberts	Summit Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Roberts	Wilmot Elementary	**13**	100%	100%	100%	100%	0%	100%	0
Roberts	Rosholt Elementary	**15**	87%	87%	87%	87%	0%	93%	1
Roberts	Tiospa Zina Elementary	**37**	95%	97%	100%	97%	3%	100%	0
Roberts	Sisseton (Westside) Elementary	**86**	99%	99%	99%	95%	5%	98%	0
Sanborn	**Full county**	**18**	**89%**	**89%**	**89%**	**89%**	**0%**	**94%**	**0**
Sanborn	Upland Colony	**<10**	nd	nd	nd	nd	0%	nd	0
Sanborn	Sanborn Central	**<10**	nd	nd	nd	nd	0%	100%	0
Sanborn	Woonsocket Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Spink	**Full county**	**94**	**98%**	**98%**	**98%**	**98%**	**0%**	**99%**	**2**
Spink	Clark Colony Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Spink	Camrose Colony	**<10**	nd	nd	nd	nd	0%	100%	nd
Spink	Glendale Colony	**<10**	nd	nd	nd	nd	0%	nd	nd
Spink	Hillside Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Spink	Spink Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Spink	Doland Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Spink	Northwestern Elementary	**19**	100%	100%	100%	100%	0%	100%	0
Spink	Redfield Elementary	**56**	100%	100%	100%	100%	0%	100%	0
Stanley	**Full county**	**21**	**100%**	**100%**	**95%**	**95%**	**0%**	**100%**	**2**
Stanley	Cheyenne Elementary	**<10**	100%	100%	nd	100%	0%	100%	nd
Stanley	Stanley County Elementary	**19**	100%	100%	100%	95%	0%	100%	0
Sully	**Onida Elementary**	**10**	**80%**	**80%**	**80%**	**80%**	**0%**	**90%**	**2**
Todd	**Full county**	**288**	**97%**	**98%**	**99%**	**98%**	**0%**	**98%**	**0**
Todd	O'Kreek Elementary	**0**							
Todd	Klein Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Todd	Littleburg Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Todd	Lakeview Elementary	**<10**	100%	100%	100%	100%	0%	nd	0
Todd	White Eagle Christian Acade	**<10**	100%	100%	100%	nd	0%	100%	0
Todd	Spring Creek Elementary	**12**	92%	92%	92%	92%	0%	92%	0
Todd	He Dog Elementary	**32**	97%	100%	100%	100%	0%	100%	0
Todd	St Francis Elementary	**52**	90%	92%	96%	94%	0%	92%	0
Todd	Rosebud Elementary	**58**	100%	100%	100%	100%	0%	100%	0
Todd	North Elementary	**117**	99%	99%	99%	99%	0%	100%	0
Tripp	**Full county**	**69**	**99%**	**99%**	**99%**	**99%**	**0%**	**99%**	**1**
Tripp	Colome Elementary	**<10**	nd	nd	nd	nd	0%	100%	nd
Tripp	Winner (Westside) Elem	**61**	100%	100%	100%	100%	0%	98%	0

County	School	Student certificates	DTaP-4	Polio-4	MMR-2	Varicella-2	Varicella history	HBV-3	Exempts
Turner	**Full county**	**100**	**94%**	**95%**	**93%**	**92%**	**3%**	**97%**	**3**
Turner	Cameron Colony	**<10**	100%	100%	100%	100%	0%	100%	0
Turner	Marion Elementary	**12**	75%	75%	67%	67%	0%	92%	1
Turner	Centerville Elementary	**20**	100%	100%	100%	100%	0%	100%	0
Turner	Viborg/Hurley Elementary	**30**	97%	97%	97%	97%	0%	97%	0
Turner	Parker Elementary	**35**	94%	97%	94%	91%	9%	97%	2
Union	**Full county**	**209**	**99%**	**98%**	**99%**	**99%**	**0%**	**97%**	**4**
Union	Alcester Elementary	**25**	100%	100%	100%	100%	0%	100%	0
Union	Beresford Elementary	**44**	98%	95%	95%	95%	0%	95%	2
Union	Elk Point-Jefferson Elementary	**55**	100%	100%	100%	100%	0%	100%	0
Union	Dakota Valley Elementary	**85**	98%	98%	99%	99%	0%	95%	2
Walworth	**Full county**	**51**	**100%**	**100%**	**100%**	**100%**	**0%**	**98%**	**0**
Walworth	Selby Elementary	**<10**	100%	100%	100%	100%	0%	100%	0
Walworth	Freeman-Davis Elementary	**43**	100%	100%	100%	100%	0%	98%	0
Yankton	**Full county**	**243**	**99%**	**99%**	**100%**	**99%**	**1%**	**99%**	**0**
Yankton	Gayville-Volin Elementary	**23**	100%	100%	100%	96%	4%	100%	0
Yankton	Webster Elementary	**25**	100%	100%	100%	96%	4%	100%	0
Yankton	Sacred Heart (St Bens) Elem	**32**	100%	100%	100%	100%	0%	100%	0
Yankton	Stewart Elementary	**43**	100%	100%	100%	100%	2%	100%	0
Yankton	Beadle Elementary	**60**	100%	100%	100%	100%	0%	98%	0
Yankton	Lincoln Elementary	**60**	97%	97%	98%	98%	0%	98%	0
Ziebach	**Dupree Elementary**	**22**	**100%**	**100%**	**95%**	**91%**	**0%**	**100%**	**0**
TOTAL SOUTH DAKOTA		**11,990**	**97%**	**97%**	**97%**	**95%**	**2%**	**92%**	**202**

*DTaP-4 (Diphtheria-Tetanus-Pertussis x4), Polio-4, MMR-2 (Measles-Mumps-Rubella x2), Varicella x2, Varicella history (history of chicken pox), HBV-3 (Hepatitis B x3); Exempts (medical and religious exemptions).

**For schools with a kindergarten class of less than 10 students, the number of students has been redacted and shown as <10.

nd: Not disclosed: rates less than 100% for schools with <10 kindergarten students.

South Dakota Antimicrobial Stewardship Workgroup Develops Clinical Guidelines for Pediatric Upper Respiratory Infections

The South Dakota Antimicrobial Stewardship Expert Workgroup along with the Department of Health urges parents to be cautious with their use of antibiotics, particularly during the cold and flu season. Officials stress that antibiotics are ineffective treatment for viruses, such as viruses that cause colds and flu, and that inappropriate antibiotic use in children is contributing to an alarming growth of antibiotic resistance.

Taking antibiotics is the most important risk factor for developing *C. difficile* (C. diff) infections. When a person takes antibiotics, beneficial bacteria that are normally present in the human gut and protect against infection can be altered or even eliminated for several weeks to months.

The Centers for Disease Control and Prevention estimates that more than 2 million antibiotic-resistant infections occur annually in the United States. The President recently proposed investments of more than $1.2 billion to combat and prevent antibiotic resistance to preserve the usefulness of antibiotic resources.

The South Dakota Antimicrobial Stewardship Workgroup and the Department of Health have created guidelines to aid clinicians across South Dakota. These guidelines, which promote appropriate antibiotic use, are especially important in frontline outpatient clinics where most of the respiratory illness patients are treated. The guidelines include pediatric acute sinusitis (runny nose, cold), acute otitis media (ear infection) and pharyngitis (sore throat).

Copies of the pediatric upper respiratory infection guidelines are reprinted on the following pages. They can also be found on the Department of Health's healthcare associated infections website, http://doh.sd.gov/diseases/hai/, at the following links:

- Pediatric Acute Bacterial Sinusitis http://doh.sd.gov/documents/diseases/HAI/PediatricAcuteBacterialSinusitis.pdf
- Pediatric acute otitis media: http://doh.sd.gov/documents/diseases/HAI/PediatricAOM.pdf
- Pediatric pharyngitis: http://doh.sd.gov/documents/diseases/HAI/PediatricPharyngitis.pdf

More information about the South Dakota Antimicrobial Stewardship Expert Workgroup, including a list of its members, can be found at http://doh.sd.gov/diseases/hai/Stewardship.aspx.

Centers for Disease Control and Prevention antibiotic stewardship information for healthcare providers: http://www.cdc.gov/getsmart/healthcare/

Pediatric (Age 5-15 Years) Pharyngitis Guideline

EVALUATION AND TREATMENT

Pediatric Patient Presents with Signs/Symptoms of Sore Throat

Sore Throat Suggestive of Streptococcal Pharyngitis

Clinical symptoms **(TABLE A)** suggestive of streptococcal pharyngitis are present (at least five symptoms):

- Age 5-15 years
- Season (late fall, winter, early spring)
- Evidence of acute pharyngitis (erythema, edema, and/or exudates)
- Tender enlarged anterior cervical lymph nodes
- Fever (between 101 ºF/38.3 ºC and 103 ºF/39.4 ºC)
- Absence of cough or other symptoms associated with viral upper respiratory tract infections

< 5 Clinical Symptoms

Sore Throat Suggestive of Viral Origin

Symptoms consistent with an acute sore throat of viral origin:

- Conjunctivitis
- Coryza
- Hoarseness
- Cough
- Diarrhea
- Characteristic exanthems
- Characteristic enanthems

Provide Symptomatic Treatment **(TABLE B)** and Communication **(TABLE C)** for Viral Pharyngitis

≥ 5 Clinical Symptoms

Perform Rapid Strep Antigen Test (RAT)

Negative Rapid Strep Antigen Test

Reflex to GABHS Culture

Await results to determine if antibiotics are indicated

*** Negative** Throat Culture for GABHS

Positive Throat Culture for GABHS

Positive Rapid Strep Antigen Test

Antibiotic Treatment and Communication (TABLE D) IS Indicated

***First Choice* Penicillin (PNC) or Amoxicillin (GABHS resistance 0)**

- Penicillin V drug of choice
  - o 250 mg po two times a day or three times a day for 10 days (< 27 kg)
  - o 500mg po two times a day or three times a day for 10 days (> 27 kg, adolescents and adults)

OR

- Amoxicillin 50 mg/kg/day (max 1-1.2 g/day) for 10 days; once daily dosing is appropriate

OR

- Penicillin G benzathine IM
  - o 600,000 U (< 27 kg) single dose
  - o 1.2 million U (> 27 kg) single dose

Non anaphylactic reaction to PNC:

- First Generation Cephalosporin:
  - o Cephalexin (Keflex) 25-50 mg/kg/day PO divided three times a day (daily adult dose 1-2 grams)

Anaphylactic reaction to PNC:

- Clindamycin (Cleocin) 20 mg/kg per day in three divided doses (max 1.8 g/day)
- Azithromycin (Zithromax) 12 mg/kg/day on day 1 (max 500 mg/dose), followed by 6 mg/kg/day on days 2 to 5 (max 250 mg/dose)
- Erythromycin, clarithromycin (10 days)
  - o Macrolides higher rate of GI adverse effects
  - o Macrolide resistance 5-8%
  - o Clindamycin resistance 6%

* Non-GABHS (group B, C, G) may be part of normal oral flora and typically do not warrant antibiotic treatment. If clinical situation warrants, consider respiratory culture-source throat.

REFERENCE INFORMTION

TABLE A: Clinical Symptoms of Streptococcal Pharyngitis

Features suggestive of GABHS (Group A beta-hemolytic streptococcus) as causative agent:

- Sudden-onset sore throat
- Pain on swallowing
- Fever
- Scarlet fever rash
- Headache
- Tonsillopharyngeal erythema
- Tonsillopharyngeal exudates
- Nausea, vomiting, and abdominal pain
- Soft palate petechiae
- Beefy, red, swollen uvula
- Tender, enlarged anterior cervical nodes
- Patient 5 to 15 years of age
- Presentation in winter or early spring (in temperate climates)
- History of exposure

TABLE B: Symptomatic Treatment of Viral Pharyngitis

- Acetaminophen or ibuprofen
- Oral rinses for oral /throat ulcers-viral. Equal parts of diphenhydramine and Maalox® (magnesium hydroxide, aluminum hydroxide, and simethicone). Children ≥ 6-8 years may swish and spit mixture.
- Salt-water gargles. Most recipes suggest 1/4 to 1/2 teaspoon of salt per cup (8 ounces) of warm water. The water should be gargled and then spit out (not swallowed). Children younger than six to eight years are not able to gargle properly. It is not clear if this treatment is effective, but it is unlikely to be harmful.
- Other interventions - Sipping warm beverages (eg, honey or lemon tea, chicken soup), cold beverages, or eating cold or frozen desserts (eg, ice cream, popsicles). These treatments are safe for children.
- Honey should not be given to children younger than 12 months due to the potential risk of botulism poisoning.
- Alternative therapies - Health food stores, vitamin outlets, and Internet Web sites offer alternative treatments for relief of sore throat pain. We do not recommend these treatments due to the risks of contamination with pesticides/herbicides, inaccurate labeling and dosing information, and a lack of studies showing that these treatments are safe and effective.
- Sprays containing topical anesthetics (benzocaine) - not recommended for children (can cause allergic reactions)
- Lozenges are not recommended for children

TABLE C: Communication for Viral Pharyngitis

- Sore throat caused by viral infections usually last 5-7 days
- Treatments to reduce pain may be helpful but will not help to eliminate the virus
- Antibiotics do not improve throat pain caused by a virus and are not recommended
- A child with a viral infection is usually allowed to return to school when there has been no fever for 24 hours and the child feels well enough to pay attention

TABLE D: Communication for Streptococcal Pharyngitis

Instruct parents to seek medical attention if:

- Difficulty swallowing or breathing
- Excessive drooling in an infant or young child
- Persistent fevers (≥ 101 ºF/38.3 ºC) or symptoms for > 3 days after initiation of therapy
- Swelling of the neck
- Child is unable or unwilling to drink or eat
- Voice sounds muffled
- Child has a stiff neck or difficulty opening the mouth

REFERENCE INFORMTION

Clinical Pearls

- Group A beta-hemolytic streptococcus (GABHS) pharyngitis is uncommon in children ≤ 2-3 years of age
- Repeat testing for GABHS in patients treated for GABHS is not indicated
- In young children, GABHS manifests with prolonged nasal discharge, tender anterior cervical adenopathy, and low-grade fever. Microbiologic testing may be warranted for symptomatic young children, particularly if they have been exposed to contacts with GABHS infection.
- Vesicles in posterior pharynx may indicate Herpangina (Coxsackie virus)
- Patient with buccal or gingival lesions may indicate a differential diagnosis that includes herpetic stomatitis and Stevens Johnson syndrome (rash and multisystemic involvement)
- Rule out infectious mononucleosis and HIV in patient with prominent posterior cervical or diffuse lymphadenopathy
- Consider diphtheria in patient unimmunized with recent travel
- Oral sexual contact: consider gonococcal pharyngitis
- Rule out infectious mononucleosis in patient with persistent fevers
- For acutely ill patient, consider epiglottitis, retropharyngeal abscess, tonsillar hypertrophy secondary to Epstein Barr virus infection, diphtheria and Lemierre's syndrome need to be considered in the differential diagnosis and appropriate care instituted
- Unilateral enlarged tonsil crossing the midline: peritonsillar abscess
- Tetracyclines, sulfonamides, fluoroquinolones should NOT be used for treatment of GABHS
- Children with streptococcal pharyngitis should not return to school or child care until at least 24 hours after beginning appropriate antibiotic therapy

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Pediatric (Age > 2 Months) Acute Otitis Media (AOM) Guideline

EVALUATION AND TREATMENT

Pediatric Patient > 2 Months of Age Presents with Signs/Symptoms Suggestive of Otitis Media

Ear pain, ear drainage, irritability, restlessness, or poor feeding

Exclusion Criteria

- Children < 2 months of age, consider sepsis evaluation
- Immunodeficiences
- Sensory deficits
- Pressure equalizing (PE) tubes
- Neurologic abnormalities
- Craniofacial abnormalities (i.e. Down Syndrome, Cleft Palate)

Do Not Use This Guideline

Individualize patient evaluation for excluded groups

Assess Risk Factors for Acute Otitis Media (AOM)

- < 2 years of age
- Smoke exposure
- Daycare
- Pacifier use
- Bottle propping
- Sub-optimal breast feeding
- Unimmunized or under-immunized
- Past medical history of AOM
- Family history of AOM

*Diagnosis for AOM

AOM requires three components:

1. History of acute onset of symptoms
2. Presence of middle ear effusion indicated by one of the following:
   - A. Bulging tympanic membrane (ear drum)
   - B. Decreased mobility of tympanic membrane confirmed by otoscopy or tympanogram
   - C. Discharge from the ear
3. Presence of middle ear inflammation indicated by one of the following:
   - A. Red tympanic membrane
   - B. Discomfort affecting normal activity and/or sleep (earache or otalgia)

* Consider irrigating the ear canal if cerumen blocks visualization of tympanic membrane

Yes

High Probability of Acute Otitis Media (AOM)

Institute Appropriate Pain Management (TABLE A)

Age consideration of patient

Age 2-6 Months

Treat with high dose Amoxicillin for 10 days **(TABLE B)**

Follow up in 48-72 hours

Age > 6 months

Ill-Appearing After Pain Management

Consider 7-10 days of high dose Amoxicillin for AOM **(TABLE B)**

Well-Appearing

Family Education **(TABLE C)**

Consider SNAP Therapy **(TABLE D)**

No

High Probability of Otitis Media with Effusion (OME) (TABLE E)

Other

Review other causes of acute presentation

Confirmed OME

Follow up with PCP in 3-4 weeks to assess effusion

Refer to ENT for effusions lasting greater than 12 weeks

SOUTH DAKOTA DEPARTMENT OF HEALTH

This guideline is not intended to replace a provider's judgment, but rather to support the decision-making process, which must be individualized for each patient's circumstances.

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EVALUATION AND TREATMENT

TABLE A: Appropriate Pain Management	
Medication	**Dose**
Acetaminophen ***OR***	10-15 mg/kg/dose can be given every 4-6 hours as needed for discomfort
Ibuprofen ***OR***	10 mg/kg/dose can be given every 6-8 hours for discomfort Not recommended for children younger than 6 months of age
Auralgan (Benzocaine and Antipyrine)	Fill external ear canal with 1-2 drops every 1-2 hours as needed for discomfort. Contraindicated if perforated tympanic membrane or PE tubes in place. Local reactions with burning and stinging are common along with hypersensitivity reactions. Risk of benzocaine-induced methemo-globinemia is increased in infants < 3 months of age.

TABLE B: Antibiotic Treatment for Pediatric Patient with Acute Otitis Media (AOM)

First line antibiotic therapy is Amoxicillin 80-90 mg/kg/day divided two times a day for 10 days

Second line therapy is Amoxillicin-clavulanate (Augmentin) and dosing is dependent upon concentration:
At 600 mg/5 ml, give 80-90 mg/kg/day divided two times a day for 7-10 days
At 400 mg/5 ml give 40-45 mg/kg/day divided two times a day for 7-10 days

Antibiotic Treatment for Pediatric Patient with Penicillin Allergy

For patients with penicillin allergy treat for 7-10 days with one of the following:
- Cefdinir (Omnicef)14 mg/kg/day taken once daily or the dose can be divided two times a day
- Cefprozil (Cefzil) 30 mg/kg/day divided two times a day
- Azithromycin (Zithromax) at 10 mg/kg /day for day one and then 5 mg/kg /day given once daily for days 2-5; recent dosing at 20 mg/kg/day given daily for 3 days can also be used, but may show higher GI intolerance. **Please note that the concentration of Azithromycin (Zithromax) within the middle ear is unknown and therefore should be used sparingly.**

TABLE C: Family Education

- Observe for worsening symptoms over the next 48-72 hours
- Pain treatment as appropriate **(TABLE A)**
- Consider Safety Net Antibiotic Prescription therapy (SNAP) or follow up with PCP if symptoms are worsening or not getting better in the next 2-3 days **(TABLE D)**
- Discuss preventable risk factors for recurrence: avoid smoke exposure, stop pacifier use, no bottle propping at night

TABLE D: Safety Net Antibiotic Prescription Therapy (SNAP)

- Prescribe an antibiotic that a parent or caregiver can fill and use if the patient's symptoms are not better or if they worsen in 2-3 days
- Consider this for patients whose access to care is limited

TABLE E: Otitis Media with Effusion (OME)

- Otitis media with effusion (OME) is defined as the presence of middle-ear effusion (MEE) in the absence of acute signs of infection
- The gold standard to make the diagnosis is pneumatic otoscopy
- Tympanometry showing flat line or decreased area under the curve supports the diagnosis as well
- The tympanic membrane in children with OME is usually gray or translucent
- The tympanic membrane is usually in a neutral or retracted position
- The fluid-filled middle ear prevents mobility of the tympanic membrane when positive pressure is applied with the bulb during pneumatic otoscopy; however, some movement may be seen when negative pressure is applied initially to the tympanic membrane by depressing the bulb and then inserting the otoscope tip into the ear canal

SOUTH DAKOTA DEPARTMENT OF HEALTH

Clinical Pearls

- **Goal:** To assist providers to make an accurate diagnosis and appropriately treat pediatric patients with AOM
- **The diagnosis of AOM requires all three criteria:**
    1. Abrupt onset of signs and symptoms
    2. Presence of middle ear effusion which is the most important component
    3. Signs and symptoms of middle ear inflammation
- **High risk groups are excluded from the algorithm,** such as patients with immunodeficiencies, craniofacial abnormalities (i.e. Down Syndrome, Cleft palate), neurological abnormalities, or sensory deficits and those with PE tubes
- Children with a recent (< 1 month) diagnosis of AOM should be examined with caution and treated appropriately
- Remember that viral infections account for 40% of AOM, so providers are encouraged to refrain from antibiotic use when clinical or lab confirmation of a viral illness is made. Close follow up by the patient's PCP is warranted in these patients since they may be at risk for persistent middle ear effusion and therefore later development of AOM and/or hearing loss.
- Treatment includes pain management and prescription for antibiotics where appropriate, especially in children 2 to 6 months of age
- Other therapies such as prophylactic antibiotics, steroids, antihistamines or decongestants are not recommended
- Access to follow up is very important and when not available, Safety Net Antibiotic Prescription (SNAP) (TABLE D) option should be considered
- If diagnosis is unsure and the patient looks well, follow up with the patient's PCP or ENT is appropriate rather than prescribing an antibiotic without a definite diagnosis
- Middle ear effusion should be followed and referred to ENT if persistent beyond 12 weeks
- Audiologic referral should be made when any caregiver is concerned about a child's hearing, speech or language development, or when there are 3 ear infections in 6 months or 4 ear infections within a year
- Be alert to complications of AOM, such as meningitis and mastoiditis, and the clinical signs and symptoms most likely to occur with these diagnoses

References

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Pediatric Acute Bacterial Sinusitis (ABS) Guideline

EVALUATION AND TREATMENT

Pediatric Patient Presents with Signs/Symptoms of Acute Rhinorrhea

Exclusion Criteria

- Under 1 year of age
- Chronic sinusitis
- Ciliary dyskinesia
- Immune deficiencies
- Cystic fibrosis and other chronic lung conditions
- Identified periorbital, orbital, or intracranial abscess

High Risk Patient Exclusion

Do not use this guideline

Individualize patient evaluation for excluded groups

Concerning Complications

Patients with symptoms concerning for complications:

- Periorbital cellulitis
- Subperiosteal abscess
- Intracranial abscess

High Risk Patient Exclusion

Do not use this guideline if complications for ABS are suspected

Consider consult with ENT or Ophthalmology and/or Imaging

Assess Pediatric Patient for Acute Bacterial Sinusitis (ABS)

- Up to 4 weeks of purulent nasal drainage accompanied by nasal obstruction, facial pain-pressure-fullness, or both
- **Radiologic studies (plain films, CT, MRI, or ultrasound) to confirm routine ABS are not recommended or indicated**

Upper Respiratory Symptoms <u>Less Severe</u>

Observe without antibiotics.

Treat as Upper Respiratory Tract Infection (URI) with symptomatic treatment:

- Acetaminophen or ibuprofen
- Nasal steroids if allergic component
- Over the counter (OTC) nasal saline spray

Upper Respiratory Symptoms <u>Persistent</u>

Evaluate patient for either symptom/sign:

- Persistent symptoms lasting > 10-14 days consisting of nasal discharge or persistent cough **without evidence of improvement**
- **Option** for antibiotic therapy ***OR*** additional observation for 3 days
- Reassess if worsening or failure to improve within 72 hours

Upper Respiratory Symptoms <u>More Severe or Worsening</u>

Evaluate patient for either symptom/sign:

- Worsening symptoms after 6 days of symptoms consisting of new-onset fever ≥ 100.4 ^{0}F/38 ^{0}C or increased nasal discharge or cough after initial improvement
- Ill appearing child with symptoms lasting for > 3 consecutive days consisting of documented fever of ≥ 102 ^{0}F/38.9 ^{0}C ***AND*** purulent nasal discharge

Antibiotic Treatment <u>IS NOT</u> Indicated

Antibiotic Treatment <u>IS</u> Indicated for Pediatric Patients Diagnosed With ABS

- First line antibiotic therapy is Amoxicillin 80-90 mg/kg/day PO divided two times a day for 10-14 days. Max daily dose is 750 mg to 1.5 grams/day.

- Second line therapy is Amoxillicin-clavulanate (Augmentin) and dosing is dependent upon concentration:
  At 400 mg/5 ml, give 40-45 mg/kg/day divided two times a day for 10-14 days. Max daily dose for children and adolescent > 40 kg and adult dose: 500 mg every 8 hours using the 500 mg tablet ***ONLY - OR*** 875 mg every 12 hours using the 875 mg tablet.
  At 600 mg/5 ml, give 80-90 mg/kg/day divided two times a day for 10-14 days. Per the manufacturer, the 600 mg/5 mL formulation should only be used for patients weighing <40 kg (max 3.6 grams/day). Children and adolescents ≥ 40 kg and adult dose: 2000 mg (two 1000 mg extended release tablets) every 12 hours.

- Third line antibiotics include the following for 10-14 day therapy:
  Cefdinir (Omnicef) 14 mg/kg/day PO taken once daily or the dose can be divided two times a day. Max daily dose is 600 mg/day. ***OR***
  Cefprozil (Cefzil) 30 mg/kg/day divided two times a day. Max dose is daily adult dose 0.5-1 gram/day. ***OR***
  Clindamycin (Cleocin) 40 mg/kg/day divided three times a day (penicillin allergy). Max dose is daily adult dose 1.8 grams/day.

- Ceftriaxone (Rocephin) 50 mg/kg/single IM dose to initiate therapy in patients unable to initially take PO therapy. Max dose is daily adult dose 1 gram.

SOUTH DAKOTA DEPARTMENT OF HEALTH

This guideline is not intended to replace a provider's judgment, but rather to support the decision-making process, which must be individualized for each patient's circumstances.

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Pediatric Acute Bacterial Sinusitis (ABS) Guideline

Clinical Pearls

- **Only 6.5% of URIs go on to develop ABS**
- Radiologic studies (plain films, CT, MRI, or ultrasound) to confirm ABS are not recommended or indicated
- High risk groups are excluded from the algorithm (see exclusion criteria)
- Be alert to complications of ABS, such as periobital cellulitis and subperiosteal abscess, and the clinical signs and symptoms most likely to occur with these diagnoses (periorbital swelling, chemosis, visual impairment, ophthalmoplegia, facial pain, etc)
- If diagnosis is unsure and the patient looks well, follow up with the patient's PCP or ENT is appropriate rather than prescribing an antibiotic without a definite diagnosis
- Nasal purulence alone is not a reliable indicator for the diagnosis of ABS verses URI
- Patients with persistent symptoms have the option for antibiotic therapy or additional observation for 3 days. This is an opportunity for shared decision-making with the child's family. If observation is offered, a mechanism must be in place to ensure follow-up and begin antibiotics if the child worsens at any time or fails to improve within 3 days of observation.
- Azithromycin is not recommended; Clindamycin or Cefdinir is recommended if patient has a penicillin allergy
- **High dose** recommended for patients with any of the following:
    - Moderate to severe infection, age < 2 years, childcare attendance, or recent antibiotic treatment (per AAP, Wald, 2013) ***OR***
    - Areas with high endemic rates of penicillin-nonsusceptible *S. pneumoniae*, patients with severe infections, daycare attendance, age < 2 years, recent hospitalization, antibiotic use within the past month, or patients who are immunocompromised (per IDSA, Chow, 2012)

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REFERENCE INFORMTION

South Dakota Department of Health – Infectious Disease Surveillance

Selected Morbidity Report, 1 January – 28 February 2015

(provisional numbers) see http://doh.sd.gov/statistics/disease-surveillance/

	Disease	2015 year-to-date	5-year median	Percent change
Vaccine-Preventable Diseases	Diphtheria	0	0	n/a
	Tetanus	0	0	n/a
	Pertussis	1	6	-83%
	Poliomyelitis	0	0	n/a
	Measles	2	0	n/a
	Mumps	0	0	n/a
	Rubella	0	0	n/a
	Haemophilus influenza type b	0	0	n/a
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	0	7	-100%
	Hepatitis B, acute	0	0	0%
	Chlamydia	637	611	+4%
	Gonorrhea	127	97	+31%
	Syphilis, early	13	4	_+>1000%
Tuberculosis	Tuberculosis	2	2	0%
Invasive Bacterial Diseases	Meningococcal, invasive	0	0	0%
	Invasive Group A *Streptococcus*	0	0	n/a
Enteric Diseases	*E. coli*, Shiga toxin-producing	4	2	+100%
	Campylobacteriosis	12	15	-20%
	Salmonellosis	32	17	+88%
	Shigellosis	8	1	+700%
	Giardiasis	10	13	-23%
	Cryptosporidiosis	11	10	+10%
	Hepatitis A	0	0	0%
Vector-borne Diseases	Animal Rabies	1	3	-67%
	Tularemia	0	0	0%
	Rocky Mountain Spotted Fever	0	0	0%
	Malaria (imported)	0	0	0%
	Hantavirus Pulmonary Syndrome	0	0	0%
	Lyme disease	0	0	0%
	West Nile Virus disease	0	0	0%
Other Diseases	Legionellosis	0	0	0%
	Streptococcus pneumoniae, invasive	0	0	0%
	Additionally, the following were reported: Chicken Pox (4); Hep B, chronic (1); Hep C (75); MRSA, invasive (33); Q Fever (5)			

Communicable diseases are obligatorily reportable by physicians, hospitals, laboratories, and institutions. The **Reportable Diseases List** is found at http://doh.sd.gov/diseases/infectious/reporting-communicable-diseases.aspx or upon request. Diseases are reportable by telephone, fax, mail, website, or courier.

Secure website: www.state.sd.us/doh/diseasereport

Telephones: 24 hour answering device 1-800-592-1804; for a live person at any time call 1-800-592-1861; after hours emergency 605-280-4810.

Fax 605-773-5509.

Mail in a sealed envelope addressed to the DOH, Office of Disease Prevention, 615 E. 4th Street, Pierre, SD 57501, marked "Confidential Medical Report".

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