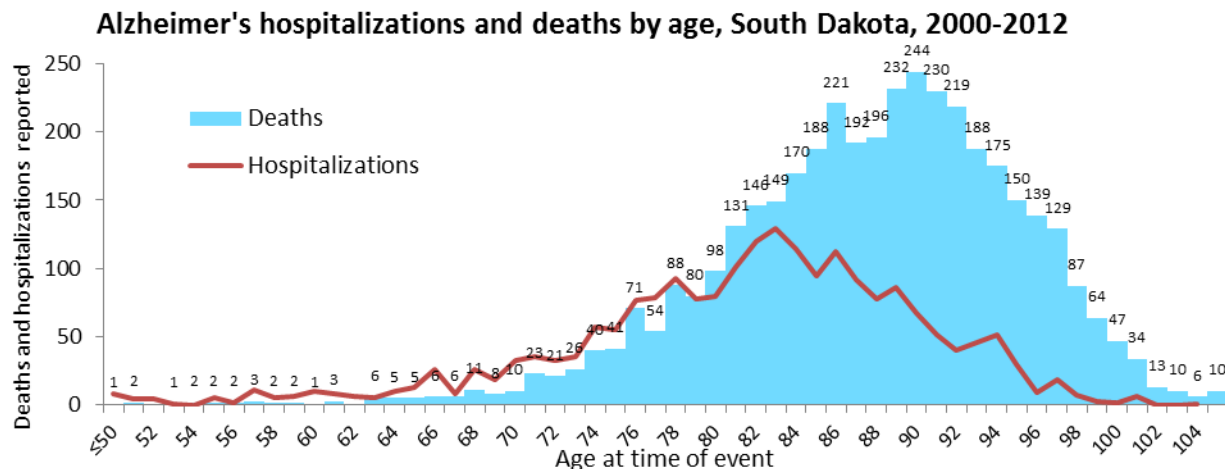
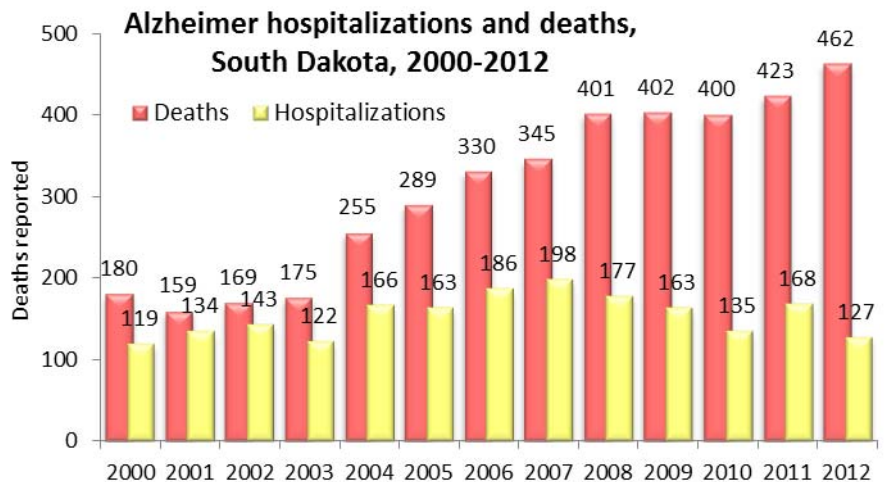


### Alzheimer's Disease in South Dakota: a brief overview

South Dakota had the second highest Alzheimer's disease death rate in the country in 2010.<sup>(1)</sup> The Alzheimer's Association estimates there are currently 19,000 South Dakotans with the disease and the number will increase to 21,000 by 2025.<sup>(2)</sup>

Alzheimer's disease is not a normal part of aging. Alzheimer's disease is an irreversible, progressively fatal, brain disease that slowly erodes memory, behavioral control, language, thinking skills, and eventually steals the ability to conduct basic activities and bodily functions. Although the causes of Alzheimer's disease are unknown, the risk factors include: age, family history, ε4 apolipoprotein gene, hypertension, low folate levels and head injury.<sup>(3)</sup>

Nationally, as many as 5 million Americans suffer from Alzheimer's disease. The disease usually begins after age 60; thereafter risk increases with age. According to the Centers for Disease Control and Prevention about 5% of individuals 65 to 74 years of age have Alzheimer's disease, and nearly half of those aged 85 and older may have the disease.<sup>(4)</sup>



<sup>1</sup> National Vital Statistics Report, 8 May 2013, 61(4) p142. [www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_04.pdf)

<sup>2</sup> Alzheimer's Association. 2012. [www.alz.org/downloads/facts\\_figures\\_2012.pdf](http://www.alz.org/downloads/facts_figures_2012.pdf)

<sup>3</sup> Alzheimer's Disease Fact Sheet. 2011. Alzheimer's Disease Education and Referral Center, National Institutes of Health. [www.nia.nih.gov/sites/default/files/alzheimers\\_disease\\_fact\\_sheet\\_0.pdf](http://www.nia.nih.gov/sites/default/files/alzheimers_disease_fact_sheet_0.pdf)

<sup>4</sup> CDC [www.cdc.gov/aging/aginginfo/alzheimers.htm](http://www.cdc.gov/aging/aginginfo/alzheimers.htm) (accessed 14 Nov 2013)

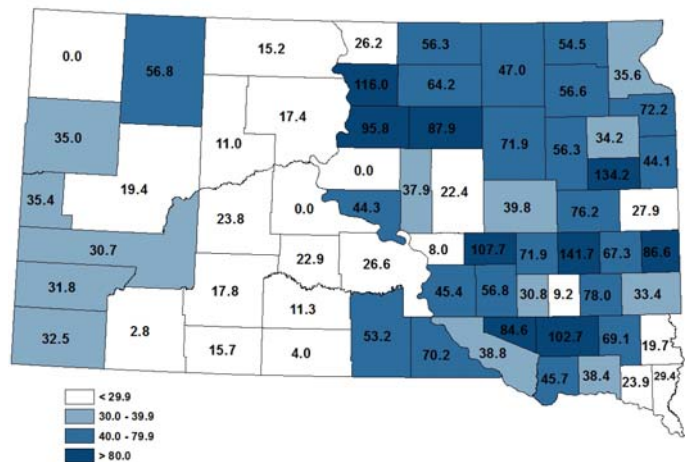
In South Dakota, according to hospital discharge data and death certificate data, there were 2,118 hospitalizations with the principal diagnosis of Alzheimer’s disease and 3990 Alzheimer’s deaths during the 13-year period 2000 - 2012.<sup>(5)</sup> In 2001 Alzheimer’s disease was the eighth leading cause of death in South Dakota. By 2012 the number of Alzheimer’s deaths nearly tripled to 462 deaths and was the fourth leading cause of death, behind heart disease, cancer and chronic lower respiratory diseases, but ahead of accidents and stroke. While deaths have increased rapidly, hospitalizations due to Alzheimer’s disease neither increased nor decreased during the 13 years since 2000.

**Alzheimer’s disease deaths, death rates and age-adjusted death rates (ranked by death rates), United States 2010<sup>(1)</sup>**

| State                | Deaths        | Rate*       | Age-adjusted rate* |
|----------------------|---------------|-------------|--------------------|
| North Dakota         | 361           | 53.7        | 37.2               |
| <b>South Dakota</b>  | <b>398</b>    | <b>48.9</b> | <b>35.9</b>        |
| Iowa                 | 1,411         | 46.3        | 32.9               |
| Washington           | 3,025         | 45.0        | 43.6               |
| Tennessee            | 2,440         | 38.4        | 38.5               |
| Vermont              | 238           | 38.0        | 30.8               |
| Maine                | 502           | 37.8        | 28.5               |
| Arizona              | 2,327         | 36.4        | 35.3               |
| Ohio                 | 4,109         | 35.6        | 29.7               |
| Oregon               | 1,300         | 33.9        | 28.5               |
| South Carolina       | 1,570         | 33.9        | 34.7               |
| Kentucky             | 1,464         | 33.7        | 33.5               |
| Missouri             | 1,986         | 33.2        | 28.8               |
| Arkansas             | 955           | 32.8        | 29.6               |
| Rhode Island         | 338           | 32.1        | 22.6               |
| West Virginia        | 594           | 32.1        | 26.0               |
| Alabama              | 1,523         | 31.9        | 31.2               |
| Mississippi          | 927           | 31.2        | 32.6               |
| Wisconsin            | 1,762         | 31.0        | 25.3               |
| Nebraska             | 565           | 30.9        | 24.9               |
| Montana              | 302           | 30.5        | 25.2               |
| New Hampshire        | 396           | 30.1        | 26.9               |
| Indiana              | 1,940         | 29.9        | 27.8               |
| North Carolina       | 2,817         | 29.5        | 30.3               |
| California           | 10,856        | 29.1        | 30.1               |
| Kansas               | 825           | 28.9        | 24.2               |
| Louisiana            | 1,295         | 28.6        | 30.7               |
| Pennsylvania         | 3,591         | 28.3        | 20.0               |
| Michigan             | 2,736         | 27.7        | 24.0               |
| Minnesota            | 1,451         | 27.4        | 23.4               |
| Massachusetts        | 1,773         | 27.1        | 21.2               |
| Oklahoma             | 1,015         | 27.1        | 26.1               |
| <b>United States</b> | <b>83,494</b> | <b>27.0</b> | <b>25.1</b>        |
| Colorado             | 1,334         | 26.5        | 31.1               |
| Idaho                | 410           | 26.2        | 26.8               |
| Wyoming              | 146           | 25.9        | 27.2               |
| Florida              | 4,831         | 25.7        | 18.1               |
| Delaware             | 215           | 23.9        | 21.9               |
| Virginia             | 1,848         | 23.1        | 24.4               |
| Connecticut          | 820           | 22.9        | 17.1               |
| Illinois             | 2,927         | 22.8        | 20.9               |
| Georgia              | 2,080         | 21.5        | 28.3               |
| New Jersey           | 1,878         | 21.4        | 17.7               |
| Texas                | 5,209         | 20.7        | 26.8               |
| Maryland             | 986           | 17.1        | 16.8               |
| New Mexico           | 343           | 16.7        | 16.8               |
| Hawaii               | 189           | 13.9        | 10.5               |
| Utah                 | 375           | 13.6        | 19.3               |
| New York             | 2,616         | 13.5        | 11.3               |
| Alaska               | 85            | 12.0        | 25.9               |
| Nevada               | 296           | 11.0        | 14.2               |

\*Rates per 100,000 population

**Alzheimer’s average annual death rate, South Dakota counties, 2000-2012. State rate 37.7 deaths per 100,000 population per year<sup>(5)</sup>**



Alzheimer’s disease afflicts the elderly. The median age of South Dakota Alzheimer’s deaths was 88 years (range 45-113 years), while the median age of hospitalizations was 82 years (range 39-104 years). During 2012 the median age of Alzheimer’s deaths was 89 years, the oldest for any of the top ten leading causes of death. The years of potential life lost (YPLL) was 172 years per 100,000 population for Alzheimer’s disease, which were the fewest years for any of the leading causes of death. This compares to 10,816 YPLL for cancer deaths, 10,111 YPLL for accidental deaths, and 7,401 YPLL for heart disease deaths.

Women have a higher rate of Alzheimer’s disease than men. In South Dakota 58.0% of hospitalizations and 71.2% of Alzheimer’s deaths were females. White race individuals accounted for 95.8% of hospitalizations and 98.8% of Alzheimer’s deaths, whereas American Indians accounted for 0.9% and 3.1%, respectively. During the past five years, 2008-2012, 89% of Alzheimer’s deaths occurred in long-term care facilities or hospices, 8% in hospitals and 4% occurred at home.

The increasing number of Alzheimer’s cases and deaths in South Dakota, and the expectation that there will be a 24% increase in the disease by 2025, suggest challenges in coming years.

Authors: Lon Kightlinger and Nato Tarkhashvili, South Dakota Department of Health

<sup>5</sup> South Dakota department of Health Vital Statistics Reports. <http://doh.sd.gov/statistics/>

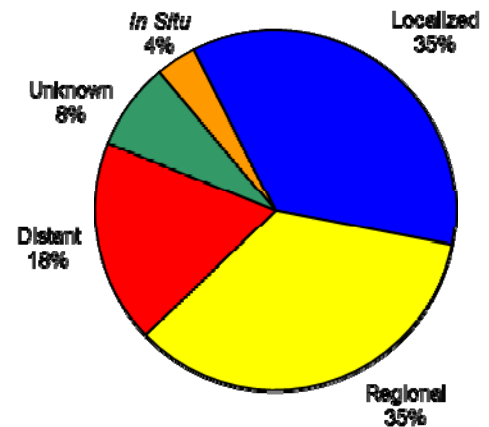
## Colorectal Cancer in South Dakota

For 2007-2011, the average number of new colorectal cancer cases per year in South Dakota was 452 and the average number of annual deaths due to colorectal cancer was 156.

| Incidence 2011                               |           | Mortality 2011                           |           |
|--|-----------|--|-----------|
| Number of cases                              |           | Number of deaths                         |           |
| Total  | 421       | Total                                    | 136       |
| Males  | 230       | Males                                    | 68        |
| Females                                      | 191       | Females                                  | 68        |
| White  | 386       | White                                    | 124       |
| American Indian                              | 31        | American Indian                          | 11        |
| Median age at diagnosis                      | 70 yrs    | Median age at death                      | 78 yrs    |
| Mode   | 62 yrs    | Mode                                     | 84 yrs    |
| Age range at diagnosis                       | 27-98 yrs | Age range at death                       | 47-99 yrs |
| SD age-adjusted incidence rate               | 43.8      | SD age-adjusted death rate               | 13.7      |
| US SEER age-adjusted incidence rate (2010) * | 41.3      | US SEER age-adjusted death rate (2010) * | 15.5      |

Rates per 100,000 US 2000 Standard Population and SD 2011 Estimated Population  
 \*2011 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 2011 colorectal cancer cases in South Dakota. As shown, more than 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 2002-2009.



Source: South Dakota Department of Health

| Stage at Diagnosis | 5-Year Relative Survival, 2002-2009 |
|--------------------|-------------------------------------|
| Localized          | 90.1%                               |
| Regional           | 70.1%                               |
| Distant            | 12.2%                               |
| Unknown            | 34.2%                               |

Source: SEER [www.seer.cancer.gov](http://www.seer.cancer.gov)

**GET SCREENED SD**  
 Stop Colorectal Cancer.

### South Dakota's Colorectal Cancer Screening Program 2010-2013

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

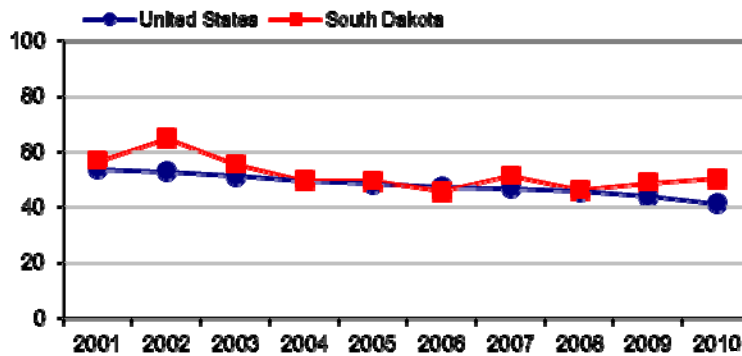
Colorectal Cancer Screen Program eligibility criteria are based on the following:

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

During the first four years of the program, 2,208 patients were screened and **329 patients had potential cancers prevented.**

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 2001-2010. Except for 2002, South Dakota rates have been close to the national rates.

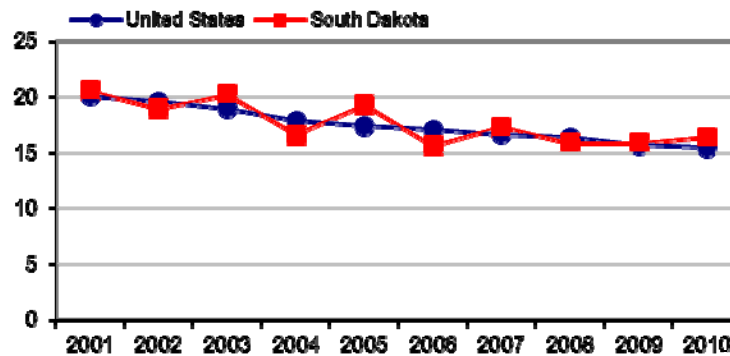
### Colorectal Cancer Incidence Rates, US and SD



Rates per 100,000 US 2000 Standard Population and SD Estimated Population  
 US rates are provided by SEER [www.seer.cancer.gov](http://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 2001-2010.

### 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](http://www.seer.cancer.gov)  
 Source: South Dakota Department of Health

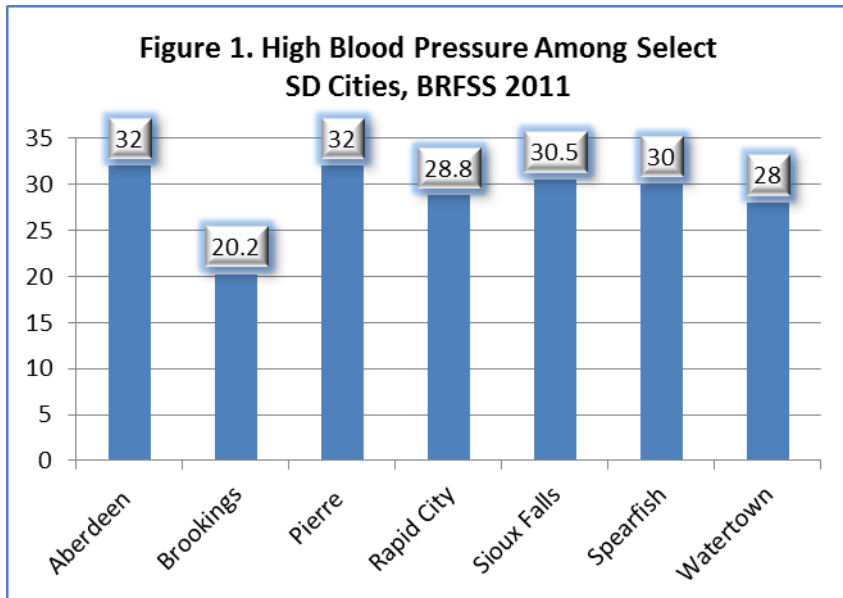
For additional information, please contact Kay Dosch, SD Cancer Registry Coordinator, at 605-773-6345 or 800-592-1861 or see the website at <http://getscreened.sd.gov/registry/> under the Data & Publications tab for the entire colorectal cancer monograph.

Author: South Dakota Cancer Registry, South Dakota Department of Health

## High Blood Pressure in South Dakota and One Community's Effort to Raise Awareness

By Ashley Miller, Chronic Disease Epidemiologist, South Dakota Department of Health and Jennifer Johnson, Sioux Falls City Health Department, Live Well Sioux Falls Project Lead

High blood pressure is often called “The Silent Killer” because it can come with no symptoms. It is also one of the primary risk factors for heart disease, which is the number one killer of men and women in our country and the number one cause of death in South Dakota (SD Vital Statistics 2012). Nearly 76 million people in the United States live with high blood pressure – also called hypertension. That means one in three adults has high blood pressure. Similarly, in South Dakota, 31% of adults were aware they had high blood pressure in 2011 (BRFSS, 2011). This equates to 193,000 adults with high blood pressure in the state; however, these are just the adults aware of their condition. Among select cities within



the state, adults with high blood pressure ranged from 20.2% (Brookings) to 32% (Aberdeen and Pierre).

What is more concerning is that of all adults in the U.S. with high blood pressure, more than 20 percent are unaware of their condition. Even among those who are being treated, more than half are still not reaching recommended levels. In order to offset this trend, Sioux Falls introduced *The Big Squeeze* initiative, a broad-based community partnership. The primary goals of the annual month-long project are to raise awareness of high blood pressure and encourage Sioux Falls residents to get a blood pressure check.

During *The Big Squeeze* project, individuals are encouraged to get a blood pressure check through their primary care provider, or they can participate in a number of free screenings throughout Sioux Falls. In 2013, more than 70 sites participated in the Big Squeeze, including pharmacies, churches, dental offices and many area employers. During the inaugural year of *The Big Squeeze* in 2011, 2,500 participants were screened. Since then, the numbers have increased every year to 5,350 in 2012 and 7,944 people in 2013. To accommodate the increased number of screenings in 2013, *The Big Squeeze* organizers enlisted the help of nursing, public health, and pharmacy students from Augustana College, Globe University, South Dakota State University, Southeast Technical Institute and the University of Sioux Falls.

Figure 2 shows the age breakdown of participants in 2013. The smallest percentage of participants came from those 80 or older while the largest percentage came from the 50-59 year old age category. The majority (55%) were female (data not shown).

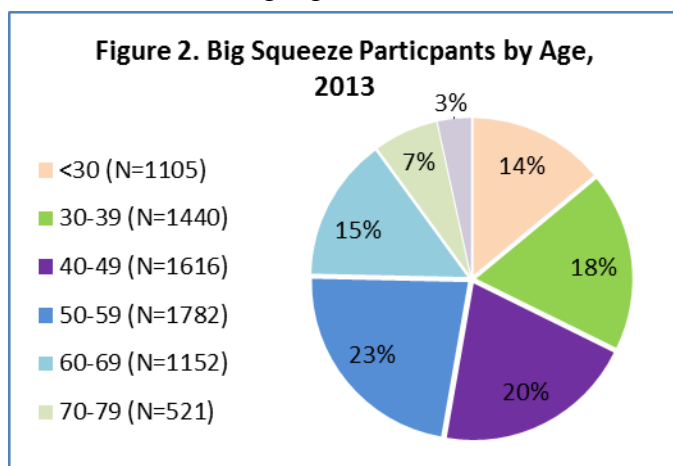


Figure 3 shows that of those screened in 2013, 17% had high blood pressure at the time of the screening. It is important to note that this is not an estimate of high blood pressure within the city, but a snapshot of those individuals who have been screened through the Big Squeeze Initiative. Those deemed high risk are those with a blood pressure reading  $\geq 140/90$ .

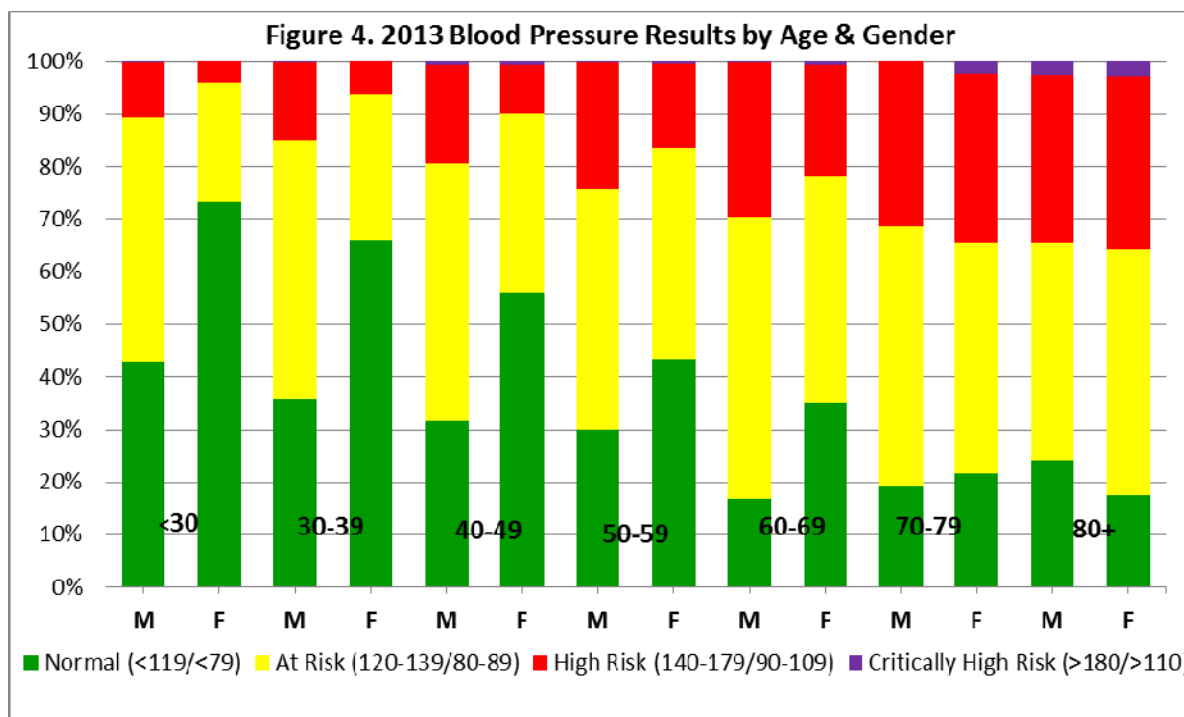
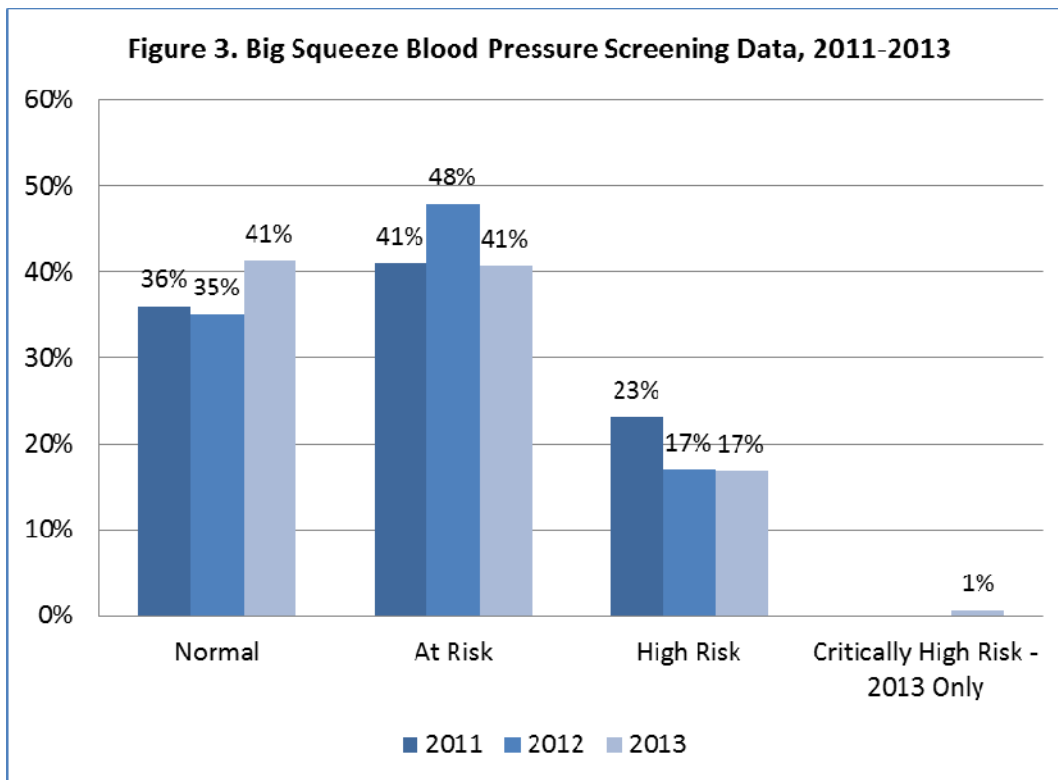


Figure 4 shows the blood pressure screening results by age and gender. As would be expected, the percent with high blood pressure increased as age increased.

The Big Squeeze will kick off again in April in Sioux Falls. Goals for The Big Squeeze 2014 include:

- Increase awareness of high blood pressure and the need for screening
- Provide screenings to 10,000 area residents during the month of April
- Encourage people with high blood pressure readings to follow up with their primary care provider; and
- Encourage healthcare providers to manage patients with high blood pressure aggressively, following established community standards.

Authors: Ashley Miller, Chronic Disease Epidemiologist, South Dakota Department of Health, and Jennifer Johnson, Live Well Sioux Falls Project Lead, Sioux Falls City Health Department

## Rabies surveillance, South Dakota, 2013

Rabies is an enzootic, nearly-always fatal, viral disease and a serious public health concern in South Dakota. In 2013, 635 animals were tested for rabies with 28 animals testing positive, 4.4%, which is a -53% decrease from the previous year. The 28 rabid animals included 7 domestic animals (5 cattle, 1 dog and 1 cat), and 21 wild animals (16 skunks and 5 bats). No human rabies was reported. South Dakota's last human rabies case was in 1970.

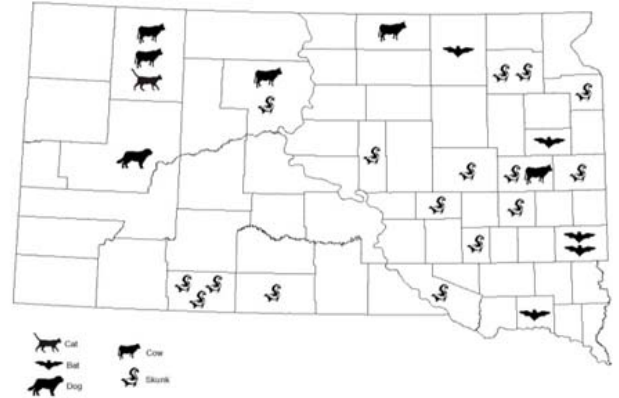
During 2013, 607 animals tested negative for rabies, including 206 cats, 143 bats, 111 dogs, 66 cattle, 28 raccoons, 12 skunks, 11 horses, 6 deer, 5 sheep, 2 each goats, fox, mice, opossums and woodchucks, and 1 each bison, coyote, elk, gopher, mink, mountain lion, muskrat, porcupine and prairie dog.

During 2013 rabid animals were detected in 20 South Dakota counties. Animals were submitted for testing from 56 of South Dakota's 66 counties. Over the past 10 years, 2004-2013, rabid animals were reported from 60 of the state's counties, with every county, except Ziebach, submitting animals for testing. Over the decade 7,077 animals were tested and 464 (6.6%) were rabid.

During the past decade 29% of rabies cases in South Dakota were domestic animals. The domestic animals included 28 rabid cats and 20 rabid dogs; many were unvaccinated strays or barn cats. Rabid livestock included 67 cattle, 18 horses and 2 goats.

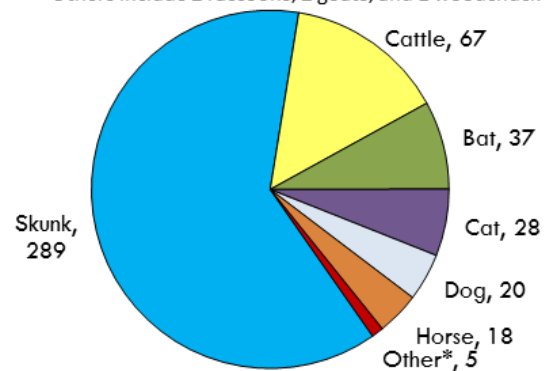
Skunks (*Mephitis mephitis*) are the primary rabies reservoir in South Dakota. Over the past decade 55% of skunks tested have been rabid. Bat rabies is also enzootic in South Dakota with 3% bats testing positive. Although rabies is not enzootic in other South Dakota animals, during the past 10 years rabies has been detected in 2 raccoons and 1 woodchuck, likely spill-over infections following exposure to rabid skunks.

Animal rabies, South Dakota 2013

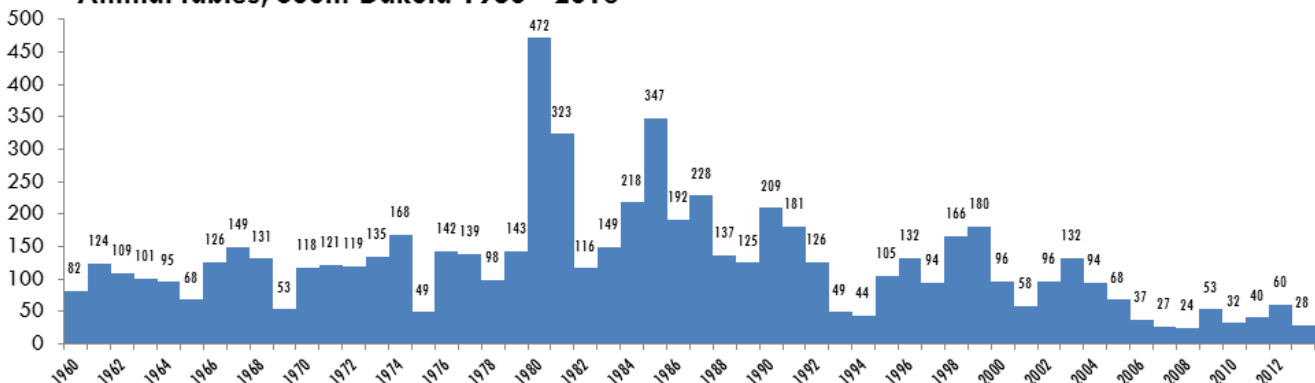


Rabid animals, South Dakota 2004-2013

\*Others include 2 raccoons, 2 goats, and 1 woodchuck



Animal rabies, South Dakota 1960 - 2013



Over the past half-century animal rabies has been reported every year in South Dakota. The most cases were reported in 1980 with 472 rabid animals and the fewest in 2008 with 24 rabid animals.

The most recent national animal rabies surveillance data are reported for 2012 (Dyer, et al.). Nationally, there was a +2% increase from the previous year with 6,612 cases of animal rabies reported (8% domestic and 92% wild animals). Nationally, rabid domestic animals included 257 cats, 115 cattle, 84 dogs, 47 horses/mules, 13 goats/sheep, 2 bison and 1 llama. Wild animals testing positive for rabies included 1,953 raccoons, 1,680 bats, 1,539 skunks, 340 foxes, 42 groundhogs, 16 bobcats, 12 deer, 7 coyotes, 4 beavers, 3 opossums, and 1 each bear, cougar, mink, otter, and ringtail.

Thirty-one human rabies cases were reported nationally, 2004-2013, including 28 deaths and 3 survivals, which is a 90% case fatality rate. Nineteen of the human cases (61%) were associated with bat-rabies virus, 8 (26%) had dog rabies virus (all foreign imports), 1 fox, 2 raccoon and 1 unknown exposure. The 31 human rabies cases were from Texas (6), California (5), Indiana (2), Massachusetts (2), Wisconsin (2) and 1 case each in Arkansas, Florida, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Oklahoma, South Carolina and Virginia.

| Animals tested and confirmed rabid cases, South Dakota 2004 – 2013 |           |              |             |              |             |
|--|-----------|--------------|-------------|--------------|-------------|
| Animal   | 2013      |              | 2004 - 2013 |              |             |
|  | Positive  | Total tested | Positive    | Total tested | Percent Pos |
| Skunk  | 16        | 28           | 289         | 522          | 55%         |
| Cattle   | 5         | 71           | 67          | 837          | 8%          |
| Bat  | 5         | 148          | 37          | 1,169        | 3%          |
| Cat  | 1         | 207          | 28          | 82           | 1%          |
| Dog  | 1         | 112          | 20          | 18           | 1%          |
| Horse/donkey   | 0         | 11           | 18          | 156          | 12%         |
| Raccoon  | 0         | 28           | 2           | 332          | 1%          |
| Goat   | 0         | 2            | 2           | 26           | 8%          |
| Woodchuck  | 0         | 2            | 1           | 17           | 6%          |
| Deer, elk  | 0         | 7            | 0           | 81           | 0%          |
| Rodents  | 0         | 5            | 0           | 68           | 0%          |
| Squirrel, chipmunk   | 0         | 0            | 0           | 55           | 0%          |
| Muskrat  | 0         | 1            | 0           | 43           | 0%          |
| Sheep  | 0         | 5            | 0           | 42           | 0%          |
| Opossum  | 0         | 2            | 0           | 28           | 0%          |
| Fox  | 0         | 2            | 0           | 23           | 0%          |
| Weasel, ferret, mink   | 0         | 1            | 0           | 22           | 0%          |
| Coyote, wolf   | 0         | 1            | 0           | 20           | 0%          |
| Rabbit, hare   | 0         | 0            | 0           | 10           | 0%          |
| Badger   | 0         | 0            | 0           | 6            | 0%          |
| Pig  | 0         | 0            | 0           | 4            | 0%          |
| Shrew, mole  | 0         | 0            | 0           | 4            | 0%          |
| Mountain lion  | 0         | 1            | 0           | 4            | 0%          |
| Bison  | 0         | 1            | 0           | 3            | 0%          |
| Other animals  | 0         | 0            | 0           | 5            | 0%          |
| <b>TOTAL</b>   | <b>28</b> | <b>635</b>   | <b>464</b>  | <b>7,077</b> | <b>6.6%</b> |

**Distribution of terrestrial rabies virus variants in the United States, 2012** (Dyer, et al.)



In South Dakota two laboratories provide rabies testing services: the Animal Disease Research Diagnostic Laboratory (ADRDL) in Brookings and the State Public Health Laboratory (SDPHL) in Pierre. Both laboratories use the direct fluorescent antibody (DFA) technique. During 2013, 60% of rabies tests were done at ADRDL and 40% at 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. Human serum rabies antibody titers may be ordered through SDPHL.

Rabies consultations by the South Dakota Department of Health are available 7 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.



## Rabies Prevention

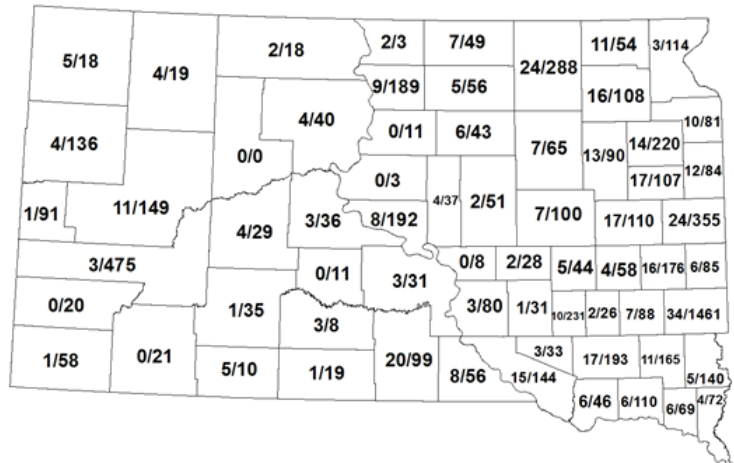
### Pet rabies prevention:

- 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 from city, 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.
- Never 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 or raccoons.
- 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.

Animal rabies tests (positive/total tested),  
South Dakota 2004-2013



## 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  
<http://doh.sd.gov/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  
<http://doh.sd.gov/Lab/rabies.aspx>

South Dakota Bat Group <http://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](http://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  
<http://aib.sd.gov>

CDC Rabies: [www.cdc.gov/rabies](http://www.cdc.gov/rabies)

## References and resources

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

CDC. Compendium of animal rabies prevention and control, 2011. National Assoc of State Public Health Veterinarians. MMWR 2011; 60 (RR-6). [www.cdc.gov/mmwr/preview/mmwrhtml/rr6006a1.htm?s\\_cid=rr6006a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6006a1.htm?s_cid=rr6006a1_w)

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

Dyer J, R. Wallace, L. Orciari, D. Hightower, P. Yager and J. Blanton. 2013. Rabies surveillance in the United States during 2012. Journal of the Am Veterinary Medical Assoc 243: 805-815. <http://avmajournals.avma.org/doi/pdf/10.2460/javma.243.6.805>

## South Dakota Rabies Control Laws

### **RABIES CONTROL STATUTE: Chapter 40-12 (Section 12-1, 2, 3, 4, 5, 6)**

40-12-1. Confinement of animals required in localities where rabies exists -- Neglect as misdemeanor. In localities where rabies exists, the animal industry board may require that any animal deemed likely to spread such disease shall be muzzled, caged, tied or confined in any manner that may be deemed necessary. It is a Class 1 misdemeanor for any owner or person in charge of any animal so ordered to be muzzled, caged, tied or confined, to refuse or neglect to carry out such order.

40-12-2. Destruction of rabid animal required. If the animal industry board determines that rabies exists in any animal, the board may kill such animal and any animal there is reason to believe has been bitten by any animal affected with rabies.

40-12-4. Definition of terms. Terms used in this chapter mean:

- (1) "Department," the department of health;
- (2) "Owner," any person who has a right of property in a pet, keeps or harbors a pet or who has it in his care or acts as its custodian, or permits a pet to remain on or about any premises occupied by him;
- (3) "Pet," any dog, cat or other species of carnivore kept for domestication or display.

40-12-5. Confinement of pet after attack upon person -- Violation as misdemeanor. The department may serve written notice upon the owner of any dog or cat which has attacked or bitten a person to confine the animal at the owner's expense upon his premises or at a city pound or other place designated in the notice for a period of at least ten days after the animal has attacked or bitten any person. The department may examine the animal at any time within the ten-day period of confinement to determine whether such animal shows symptoms of rabies. In the case of any pet other than a dog or cat, which has attacked or bitten a person, the department may serve written notice upon the owner of such animal that the owner shall have the animal euthanized immediately and submit the brain to an approved laboratory for rabies examination. Any owner who fails to comply with a written notice served pursuant to this section is guilty of a Class 1 misdemeanor.

40-12-6. Confinement of pet bitten by animal suspected of having rabies -- Violation as misdemeanor. The department may serve written notice upon the owner of a dog or cat known to have been bitten by an animal known or suspected of being affected by rabies, requiring the owner to confine such dog or cat for a period of not less than six months. However, if such dog or cat had been properly treated with an antirabic vaccine, confinement shall be for a period of not less than three months. In the case of any pet other than a dog or cat, the department may serve written notice upon the owner of such animal that the owner shall have the animal euthanized immediately. Any owner who fails to comply with a written notice served pursuant to this section is guilty of a Class 1 misdemeanor.

**SHERIFF: Chapter 7-12 (Section 7-12-29)** Taking and holding animal suspected of being dangerous -- Formal determination -- Disposal of dangerous animal. The sheriff may take possession of any animal suspected of being dangerous. The sheriff may hold such animal until a formal determination can be made of the extent of the danger such animal poses. If the animal has attacked or bitten a human or an animal pet, the formal determination shall include consultation with the Department of Health for the purposes of rabies control. The sheriff may dispose of any animal so determined to be dangerous.

**REPORTABLE DISEASES: Administrative Rule 44:20:01:03** Category I reportable diseases have a potential for epidemic spread or require rapid application of public health measures to prevent a serious threat to public health or safety. Category I reportable diseases include: Rabies, human and animal.

**CONTROL MEASURES: Administrative Rule 44:20:03:10** Application of public health measures to animals. The department may instruct a person who owns or is in possession of an animal known or suspected to be a carrier of an infectious agent in public health measures for preventing infection and spread of disease. If the department knows or has reason to believe, because of testing or epidemiological information, that an animal is infected with an infectious agent and is a threat to the public health, it may issue a public health notice directing the person who owns or is in possession of the animal to take one or more of the following actions:

- (1) To examine or test the animal to determine whether it is infected with an infectious agent capable of causing human disease
- (2) To report to an authorized department representative for counseling on methods for preventing transmission of the infectious agent;
- (3) To confine or quarantine the animal for the duration of the incubation period or contagious period;
- (4) To destroy the animal or provide treatment until it is cured or free from the infection and to follow measures for preventing reinfection;
- (5) To cease from specific activities involving the infected animal that endanger the health of others;
- (6) To cooperate with the department in implementation of reasonable public health measures.

**Health requirements for dogs and cats on exhibit: Administrative Rule 12:02:10:03** All dogs for exhibition must be accompanied by a health certificate signed by a licensed accredited veterinarian within 30 days before entry to the South Dakota State Fair. The health certificate shall indicate the dates of vaccination for rabies, canine distemper, and canine parvovirus. All vaccines must be current. All cats for exhibition must be accompanied by a health certificate signed by a licensed accredited veterinarian within 30 days before entry to the South Dakota State Fair. The health certificate shall indicate the dates of vaccination for rabies and feline distemper. All vaccines must be current.

**Health certificate for imported cats and dogs: Administrative Rule 12:68:06:09** Any cat or dog imported into South Dakota must be accompanied by a health certificate as described in SDCL 40-14-2 issued by a state or federal government veterinary official of the originating state or by a licensed veterinarian. The certificate must state that the animal has not been exposed to rabies, that it is free from signs of any contagious or communicable disease, that it has been currently vaccinated by a licensed veterinarian, the date of vaccination, the type of vaccine used, and the date the animal is due for boosting for rabies immunization.

**South Dakota Department of Health – Infectious Disease Surveillance**

**Selected Morbidity Report, 1 January – 28 February 2014**

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

|   | Disease  | 2014 year-to-date | 5-year median | Percent change |
|---|--|-------------------|---------------|----------------|
| <b>Vaccine-Preventable Diseases</b>                             | Diphtheria   | 0                 | 0             | n/a            |
|   | Tetanus  | 0                 | 0             | n/a            |
|   | Pertussis  | 16                | 6             | +16%           |
|   | Poliomyelitis  | 0                 | 0             | n/a            |
|   | Measles  | 0                 | 2             | n/a            |
|   | Mumps  | 0                 | 2             | n/a            |
|   | Rubella  | 0                 | 0             | n/a            |
|   | <i>Haemophilus influenzae</i> type b   | 0                 | 0             | n/a            |
| <b>Sexually Transmitted Infections and Blood-borne Diseases</b> | HIV infection  | 7                 | 4             | +75%           |
|   | Hepatitis B, acute   | 0                 | 0             | n/a            |
|   | Chlamydia  | 688               | 576           | +19%           |
|   | Gonorrhea  | 106               | 90            | +18%           |
|   | Syphilis, early  | 16                | 0             | +16,000%       |
| <b>Tuberculosis</b>   | Tuberculosis   | 2                 | 2             | 0%             |
| <b>Invasive Bacterial Diseases</b>                              | Meningococcal, invasive  | 1                 | 0             | -50%           |
|   | Invasive Group A <i>Streptococcus</i>  | 0                 | 0             | n/a            |
| <b>Enteric Diseases</b>   | <i>E. coli</i> , Shiga toxin-producing   | 2                 | 2             | 0%             |
|   | Campylobacteriosis   | 9                 | 15            | -40%           |
|   | Salmonellosis  | 17                | 18            | -6%            |
|   | Shigellosis  | 150               | 1             | +14,900%       |
|   | Giardiasis   | 9                 | 13            | -31%           |
|   | Cryptosporidiosis  | 13                | 8             | +63%           |
|   | Hepatitis A  | 0                 | 0             | 0%             |
| <b>Vector-borne Diseases</b>                                    | Animal Rabies  | 3                 | 3             | 0%             |
|   | Tularemia  | 0                 | 0             | 0%             |
|   | Rocky Mountain Spotted Fever   | 0                 | 0             | 0%             |
|   | Malaria  | 0                 | 0             | 0%             |
|   | Hantavirus Pulmonary Syndrome  | 0                 | 0             | n/a            |
|   | Lyme disease   | 0                 | 0             | 0%             |
|   | West Nile Virus disease  | 0                 | 0             | 0%             |
| <b>Other Diseases</b>   | Legionellosis  | 0                 | 0             | 0%             |
|   | <i>Streptococcus pneumoniae</i> , invasive   | 0                 | 0             | 0%             |
|   | Additionally, the following were reported: Chicken Pox (8); Hep B, chronic (5); HUS (1); MRSA, invasive (18) |                   |               |                |

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](http://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".