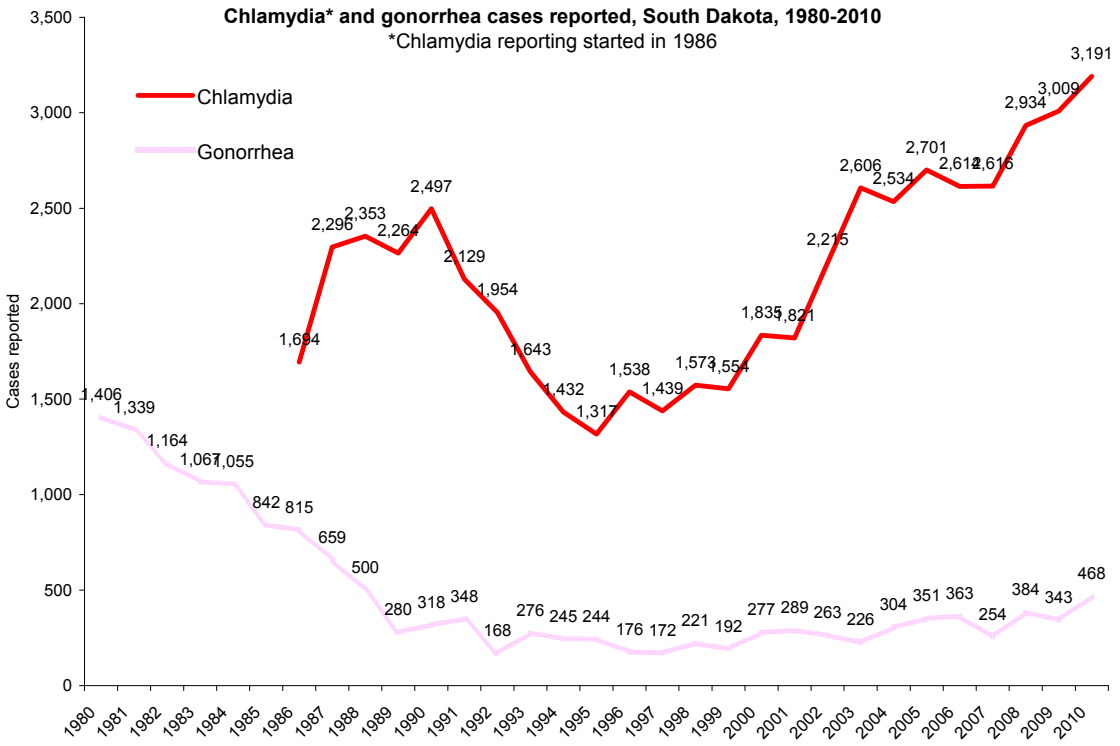
SOUTH DAKOTA DEPARTMENT OF HEALTH

PUBLIC HEALTH BULLETIN

VOLUME 23 NUMBER 3 **JULY 2011**

Gonorrhea, Chalmydia and Other Sexually Transmitted Diseases, South Dakota 2006-2010

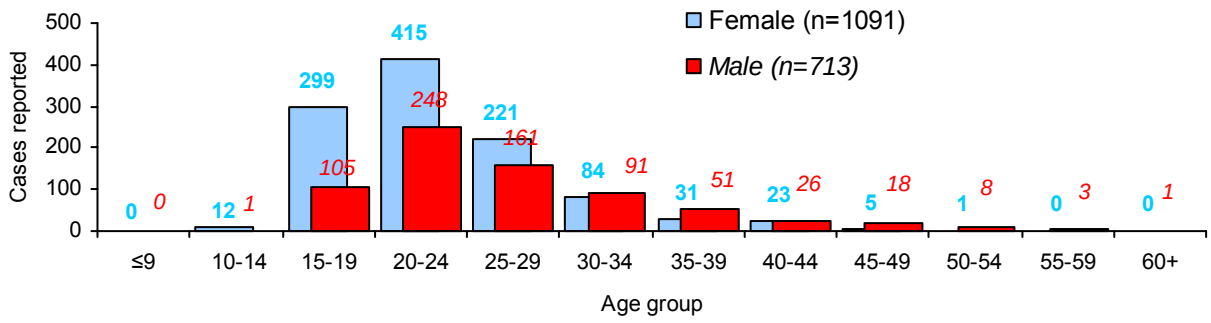
Chlamydia and gonorrhea are the most commonly reported infectious diseases in South Dakota and both diseases are increasing. Gonorrhea cases have doubled since 2003 and reported chlamydia cases have nearly tripled since 1995. Although these increases are partially explained by better clinical screening programs and more sensitive laboratory technologies, the upward trend is real and concerning.



Gonorrhea is a bacterial disease caused by *Neisseria gonorrhoeae* infections of the urinary and reproductive tracts. The bacterium can also infect the mouth, throat, eyes and anus, and may spread to the blood or joints. Classic gonorrhea symptoms in women include burning during urination and increased vaginal discharge. Symptoms appear 2-5 days after infection, but can take as long as 30 days to develop. Although gonorrhea infections in women are sometimes asymptomatic or mild, severe and permanent complications may result. Untreated infections can lead to chronic pelvic pain, internal abscesses, damaged fallopian tubes, infertility or ectopic pregnancy. In men gonorrhea is sometimes asymptomatic, but often causes stinging while urinating and a whitish-greenish urethral discharge. In men epididymitis may cause infertility. Gonorrhea infection increases the risk of contracting and transmitting HIV.

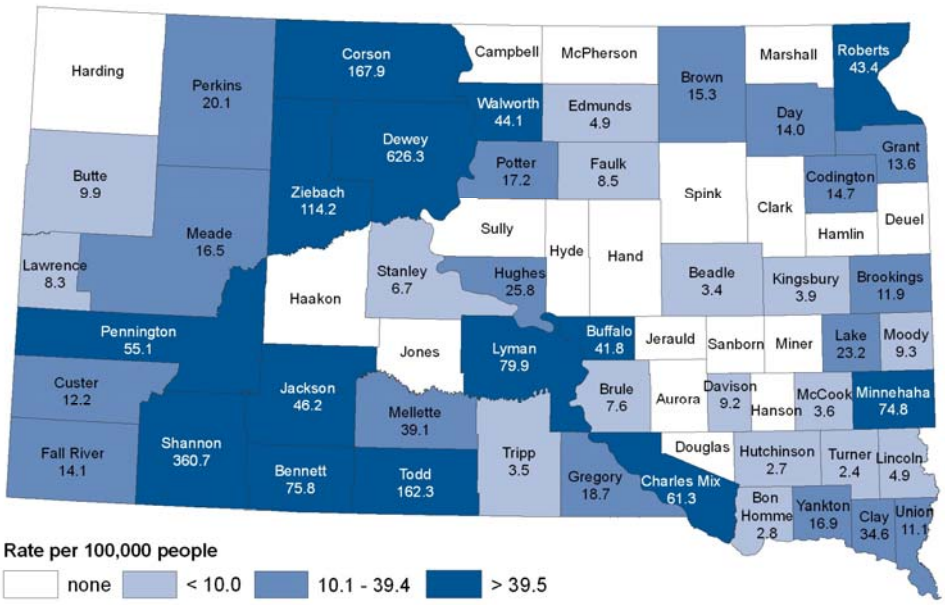
Over the past 25 years the number of gonorrhea cases in South Dakota has decreased dramatically from over 1,000 cases per year in the early 1980's to less than 200 cases in the 1990's. Since 2000, however, gonorrhea has been increasing. In 2009 South Dakota had the 37th highest gonorrhea rate in the United States(1). Over the past 5 years 60% of South Dakota's reported cases were female and 40% male; 56% of cases were American Indian, 29% white, and 15% were from other or unknown race groups. Females 15 – 24 years old were at highest risk.

Gonorrhea cases reported by gender and age, South Dakota 2006-2010



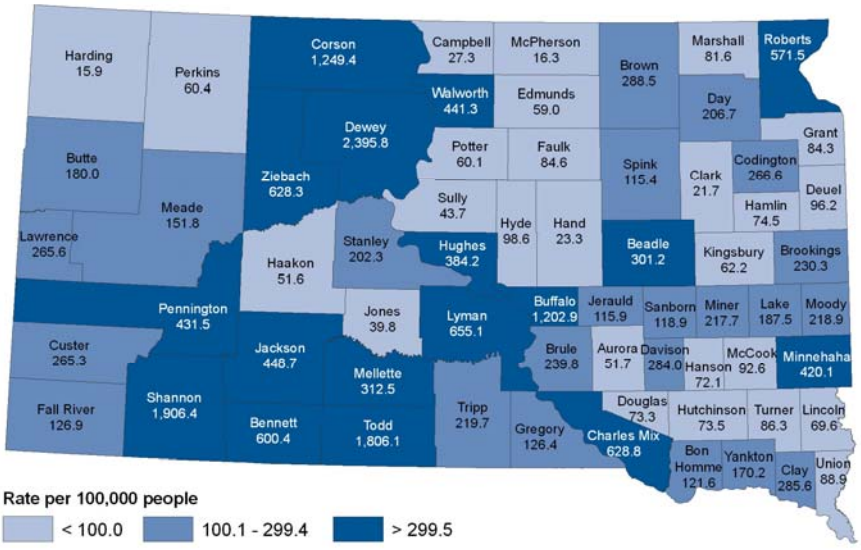
In 2010 South Dakota reported 468 cases of gonorrhea, which is a rate of 57.5 cases per 100,000 population. During the past 5 years, 2006-2010, 47 of South Dakota's 66 counties have reported cases of gonorrhea. The map below shows that 14 counties had average annual rates of greater than 39.5 cases per 100,000 population. Five counties had average annual rates higher than 100 cases per 100,000 population (Dewey, Shannon, Corson, Todd and Ziebach).

Gonorrhea rates by county, South Dakota 2006 - 2010 (average annual cases reported per 100,000 population)



Chlamydia is a bacterial disease caused by *Chlamydia trachomatis*. Although symptoms are often mild or absent, chlamydia infection can cause serious complications such as ectopic pregnancy or infertility in women. Men with chlamydia infection may experience epididymitis and urethral discharge. Chlamydia infection puts people at higher risk of contracting and transmitting HIV.

Chlamydia rates by county, South Dakota, 2006-2010 (average annual cases per 100,000 populations)

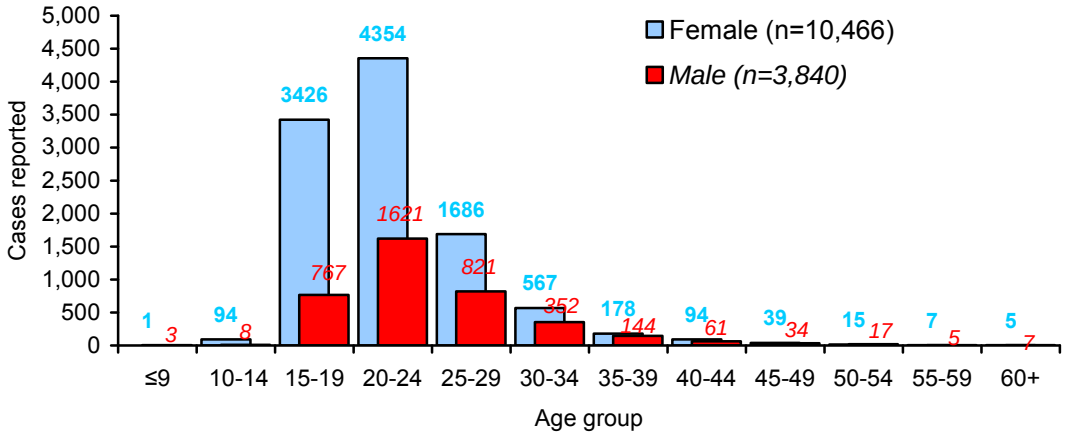


Chlamydia cases over the past five years were 73% female and 27% male; 44% of cases were white race, 42% American Indian and 14% were from other or unknown race groups. Females in the 15-24 year age group were at highest risk.

In 2010 South Dakota reported 3,192 chlamydia cases, which is a rate of 392 cases per 100,000 population. In 2009 South Dakota had the 28th highest chlamydia rate in the United States(1).

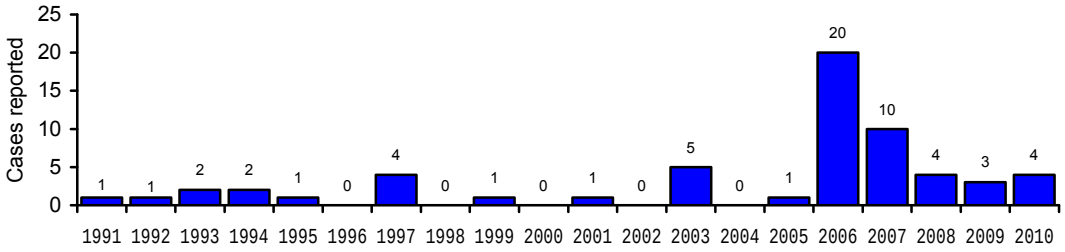
Since 2005 all South Dakota counties have reported chlamydia cases, with 90% of cases occurring in 21 counties. The map shows 17 counties had average annual rates of greater than 300 chlamydia cases per 100,000 population.

Chlamydia cases reported by gender and age, South Dakota 2006-2010



Syphilis, caused by *Treponema pallidum*, is a highly infectious genital-ulcerative disease that is curable in its primary and secondary stages. If syphilis is untreated it can lead to long-term complications, such as bone, skin and soft tissue lesions, stroke, heart disease, neuropsychiatric problems and death. Untreated syphilis can spread from mother to fetus leading to stillbirth and congenital deformities. Syphilis increases the rate of HIV transmission.

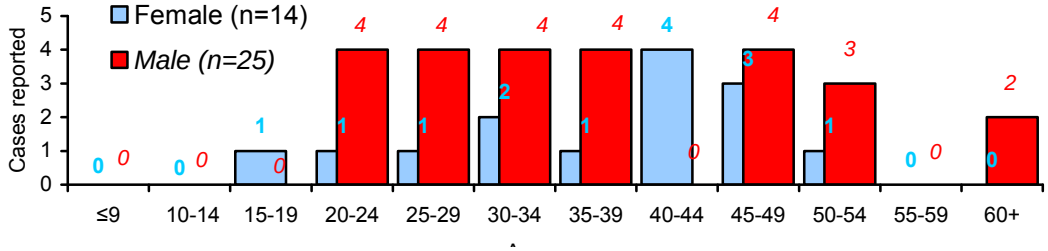
Early syphilis cases, South Dakota, 1991-2010



Although syphilis has declined in South Dakota during the past 50 years from over 100 cases annually in the 1960's to 0 – 2 annual cases during the 1990's and early 2000's, we experienced a outbreak during 2006 – 2007. During the 5-year period, 2006 – 2010, South Dakota reported cases of early syphilis from the following 12 counties: Minnehaha 23 cases, Shannon 5 cases and ≤3 cases in Brookings, Codington, Davison, Day, Dewey, Jerauld, Lawrence, Meade, Pennington and Todd counties.

During 2006-2010, 64% of early syphilis cases were male and 36% were female. Thirty-eight percent of early syphilis cases were white race, 64% were American Indian and 5% were black race. Syphilis cases in South Dakota were older than people with gonorrhea or chlamydia.

Early syphilis cases (primary, secondary, early latent) **reported by gender and age, South Dakota 2006-2010**



Prevention. The best way to avoid gonorrhea, chlamydia and syphilis is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is uninfected. Latex male condoms, when used consistently and correctly, can reduce the risk of transmission

Symptoms such as pain during urination, discharge, or unusual genital sore should be a signal to stop having sex and to consult a health care provider immediately. If a person is diagnosed with gonorrhea, chlamydia or syphilis, all recent sex partners should be notified so they can seek treatment. The patient and all their sex partners must avoid sex until their treatment has been completed.

Chlamydia screening is recommended annually for all sexually active women 25 years of age and younger. Annual screening test also is recommended for older women with risk factors for chlamydia (a new sex partner or multiple sex partners). All pregnant women should be screened for chlamydia.

Treatment Guidelines: Chlamydia, Gonorrhea, Syphilis (CDC, Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR 17 Dec 2010, 59/RR12. www.cdc.gov/std/treatment/2010)

Disease	Recommended Rx: dose and route
Chlamydia infections (for adults, adolescents and children aged ≥8 years)	Azithromycin: 1 gram orally in single dose OR Doxycycline: 100 mg orally 2x/day for 7 days Please see complete CDC guidelines for alternative drugs and for pregnant women and young children.
Gonococcal urogenital or rectal infections (for adults, adolescents and children aged <45 kg years)	Ceftriazone: 250 mg IM in a single dose OR Cefixime: 400 mg orally in a single dose. PLUS Azithromycin: 1 gram orally in single dose OR Doxycycline: 100 mg orally 2x/day for 7 days CDC advises "health-care providers should use ceftraizaone and azithromycin for treatment of gonorrhea, remain vigilant for gonorrhea cephalosporin treatment failures and, and report treatment failure to their state health department" MMWR60; 873-877, 8 July 2011. Please see complete CDC guidelines for alternative drugs and for pregnant women and young children.
Syphilis: primary, secondary or early latent <1 year	Benzathine penicillin G: 2.4 million units IM in single dose. Please see complete CDC guidelines for alternative drugs and for pregnant women and young children.

Resources:

- South Dakota Department of Health http://doh.sd.gov/STD
- Centers for Disease Control and Prevention: www.cdc.gov/std
- Treatment guidelines: www.cdc.gov/std/treatment/
- For testing and counseling for sexually transmitted diseases and HIV/AIDS, contact one of the following Department of Health sites or call 1-800-592-1861
    - **Aberdeen** (605) 626-2373 or toll free 1-866-805-1007
    - **Dupree** 605-365-5164 or toll free 1-866-778-5157
    - **Pierre** (605) 773-5348 or toll free 1-866-229-4927
    - **Rapid City** (605) 394-2289 or toll free 1-866-474-8221
    - **Sioux Falls** (605) 367-5363 or toll free 1-866-315-9214
    - **Watertown** (605) 882-5096 or toll free 1-866-817-4090

1. CDC. Sexually Transmitted Diseases Surveillance 2009. US Dept of Health and Human Services, 2010.

Gonorrhea and Chlamydia reported cases and rates per 100,000 population, South Dakota, 2006-2010

	Gonorrhea							Chlamydia						
County	2006	2007	2008	2009	2010	TOTAL	Rate	2006	2007	2008	2009	2010	Total	Rate
Aurora	0	0	0	0	0	**0**	**0.0**	≤3	≤3	0	≤3	≤3	**7**	**52**
Beadle	≤3	0	0	≤3	0	**≤3**	**3.4**	34	47	46	62	73	**262**	**301**
Bennett	≤3	0	≤3	≤3	8	**13**	**75.8**	27	15	25	17	19	**103**	**600**
BonHomme	0	≤3	0	0	0	**≤3**	**2.8**	7	7	6	11	12	**43**	**122**
Brookings	6	≤3	≤3	5	5	**19**	**11.9**	76	49	83	76	84	**368**	**230**
Brown	6	5	10	0	7	**28**	**15.3**	111	85	84	88	159	**527**	**289**
Brule	≤3	0	≤3	0	0	**≤3**	**7.6**	8	15	9	13	18	**63**	**240**
Buffalo	≤3	0	0	0	≤3	**4**	**41.8**	16	14	28	32	25	**115**	**1,203**
Butte	≤3	≤3	0	≤3	0	**5**	**9.9**	9	15	23	24	20	**91**	**180**
Campbell	0	0	0	0	0	**0**	**0.0**	0	≤3	0	≤3	0	**≤3**	**27**
CharlesMix	16	6	≤3	≤3	0	**28**	**61.3**	59	57	58	66	47	**287**	**629**
Clark	0	0	0	0	0	**0**	**0.0**	0	≤3	≤3	0	0	**4**	**22**
Clay	12	6	0	≤3	4	**24**	**34.6**	33	39	50	35	41	**198**	**286**
Codington	≤3	4	9	≤3	4	**20**	**14.7**	52	63	69	78	100	**362**	**266**
Corson	5	6	5	6	12	**34**	**167.9**	40	62	48	43	60	**253**	**1,249**
Custer	0	≤3	0	≤3	≤3	**5**	**12.2**	16	14	16	28	35	**109**	**265**
Davison	≤3	4	0	≤3	≤3	**9**	**9.2**	46	55	53	55	68	**277**	**284**
Day	≤3	0	≤3	≤3	0	**4**	**14.0**	16	10	16	7	10	**59**	**207**
Deuel	0	0	0	0	0	**0**	**0.0**	5	8	≤3	≤3	4	**21**	**96**
Dewey	44	22	32	51	17	**166**	**626.3**	127	114	132	143	119	**635**	**2,396**
Douglas	0	0	0	0	0	**0**	**0.0**	≤3	0	≤3	≤3	5	**11**	**73**
Edmunds	0	0	0	≤3	0	**≤3**	**4.9**	≤3	2	≤3	4	≤3	**12**	**59**
Fall River	0	0	≤3	≤3	≤3	**5**	**14.1**	10	7	11	9	8	**45**	**127**
Faulk	0	≤3	0	0	0	**≤3**	**8.5**	≤3	≤3		≤3	≤3	**10**	**85**
Grant	≤3	0	≤3	≤3	0	**5**	**13.6**	4	≤3	11	9	5	**31**	**84**
Gregory	≤3	≤3	≤3	0	0	**4**	**18.7**	6	≤3	6	5	7	**27**	**126**
Haakon	0	0	0	0	0	**0**	**0.0**	0	≤3	0	0	≤3	**5**	**52**
Hamlin	0	0	0	0	0	**0**	**0.0**	4	≤3	6	≤3	6	**22**	**75**
Hand	0	0	0	0	0	**0**	**0.0**	0	0	≤3	≤3	≤3	**4**	**23**
Hanson	0	0	0	0	0	**0**	**0.0**	0	≤3	4	≤3	≤3	**12**	**72**
Harding	0	0	0	0	0	**0**	**0.0**	0	≤3	0	0	0	**≤3**	**16**
Hughes	4	7	4	4	≤3	**22**	**25.8**	69	54	77	67	60	**327**	**384**
Hutchinson	0	0	≤3	0	0	**≤3**	**2.7**	5	6	8	5	≤3	**27**	**74**
Hyde	0	0	0	0	0	**0**	**0.0**	0	≤3	≤3	≤3	≤3	**7**	**99**
Jackson	≤3	0	≤3	0	4	**7**	**46.2**	12	12	15	14	15	**68**	**449**
Jerauld	0	0	0	0	0	**0**	**0.0**	≤3	≤3	≤3	5	≤3	**12**	**116**
Jones	0	0	0	0	0	**0**	**0.0**	0	0	≤3	≤3	0	**≤3**	**40**
Kingsbury	0	≤3	0	0	0	**≤3**	**3.9**	≤3	6	≤3	≤3	≤3	**16**	**62**
Lake	≤3	9	≤3	0	0	**13**	**23.2**	21	20	21	25	18	**105**	**188**
Lawrence	4	≤3	≤3	≤3	≤3	**10**	**8.3**	62	71	72	57	58	**320**	**266**
Lincoln	0	≤3	≤3	≤3	5	**11**	**4.9**	12	23	30	42	49	**156**	**70**
Lyman	≤3	0	10	≤3	≤3	**15**	**79.9**	13	13	35	34	28	**123**	**655**
Marshall	0	0	0	0	0	**0**	**0.0**	4	4	≤3	≤3	5	**19**	**82**
McCook	0	≤3	0	0	0	**≤3**	**3.6**	5	5	≤3	5	8	**26**	**93**
McPherson	0	0	0	0	0	**0**	**0.0**	0	≤3	0	0	0	**≤3**	**16**
Meade	≤3	≤3	≤3	5	10	**21**	**16.5**	44	35	28	42	44	**193**	**152**
Mellette	≤3	≤3	0	≤3	≤3	**4**	**39.1**	4	9	7	5	7	**32**	**313**
Miner	0	0	0	0	0	**0**	**0.0**	4	4	≤3	8	8	**26**	**218**
Minnehaha	138	86	159	131	120	**634**	**74.8**	620	662	749	802	727	**3560**	**420**
Moody	0	0	≤3	≤3	0	**≤3**	**9.3**	17	8	20	13	13	**71**	**219**
Pennington	36	30	41	53	118	**278**	**55.1**	412	419	414	448	485	**2178**	**432**
Perkins	≤3	≤3	0	0	0	**≤3**	**20.1**	≤3	≤3	≤3	≤3	≤3	**9**	**60**
Potter	≤3	0	0	≤3	0	**≤3**	**17.2**	≤3	≤3	≤3	≤3	≤3	**7**	**60**
Roberts	9	0	≤3	5	6	**22**	**43.4**	73	49	45	52	72	**291**	**574**
Sanborn	0	0	0	0	0	**0**	**0.0**	≤3	≤3	≤3	≤3	7	**14**	**119**
Shannon	34	43	48	23	97	**245**	**360.7**	213	271	293	234	284	**1295**	**1,906**
Spink	0	0	0	0	0	**0**	**0.0**	5	8	7	11	6	**37**	**115**
Stanley	0	≤3	0	0	0	**≤3**	**6.7**	4	7	5	6	8	**30**	**202**
Sully	0	0	0	0	0	**0**	**0.0**	≤3	0	≤3	0	0	**≤3**	**44**
Todd	11	≤3	25	16	23	**78**	**162.3**	203	123	158	187	197	**868**	**1,806**
Tripp	0	0	0	0	≤3	**≤3**	**3.5**	9	9	8	20	16	**62**	**220**
Turner	0	0	0	0	≤3	**≤3**	**2.4**	8	4	9	4	11	**36**	**86**
Union	≤3	≤3	0	≤3	4	**8**	**11.1**	12	8	15	15	14	**64**	**89**
Walworth	≤3	0	≤3	4	≤3	**12**	**44.1**	26	19	27	30	18	**120**	**441**
Yankton	≤3	4	≤3	6	6	**19**	**16.9**	19	38	47	26	61	**191**	**170**
Ziebach	≤3	0	6	7	≤3	**16**	**114.2**	13	16	13	24	22	**88**	**628**
TOTAL	**363**	**254**	**384**	**343**	**468**	**1,810**	**44.5**	**2,595**	**2,581**	**2,887**	**2,986**	**3,166**	**14,341**	**353**

Note: some cases have missing county data

South Dakota Department of Health – Infectious Disease Surveillance

Selected Morbidity Report, 1 January – 30 June 2011

(provisional numbers) see http://doh.sd.gov/ID/site.aspx

	Disease	2011 year-to-date	5-year median	Percent change
Vaccine-Preventable Diseases	Diphtheria	0	0	n/a
	Tetanus	0	0	n/a
	Pertussis	2	15	-87%
	Poliomyelitis	0	0	n/a
	Measles	0	0	n/a
	Mumps	0	1	n/a
	Rubella	0	0	n/a
	Haemophilus influenza type b	1	0	n/a
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	9	15	-40%
	Hepatitis B, acute	0	0	0%
	Chlamydia	1,600	1,392	15%
	Gonorrhea	272	162	68%
	Syphilis, early	0	2	n/a
Tuberculosis	Tuberculosis	5	5	0%
Invasive Bacterial Diseases	*Meningococcal*, invasive	2	2	n/a
	Invasive Group A *Streptococcus*	18	15	20%
Enteric Diseases	*E. coli*, Shiga toxin-producing	13	14	-7%
	Campylobacteriosis	150	140	7%
	Salmonellosis	79	65	22%
	Shigellosis	3	33	-91%
	Giardiasis	30	35	-14%
	Cryptosporidiosis	67	50	34%
	Hepatitis A	2	2	n/a
Vector-borne Diseases	Animal Rabies	23	16	44%
	Tularemia	1	5	-80%
	Rocky Mountain Spotted Fever	0	0	n/a
	Malaria (imported)	0	1	n/a
	Hantavirus Pulmonary Syndrome	0	0	n/a
	Lyme disease	0	0	n/a
	West Nile Virus disease	0	2	n/a
Other Diseases	Legionellosis	1	2	-50%
	Streptococcus pneumoniae, drug-resistant	0	0	n/a
	Additionally, the following were reported: Chicken Pox (18); Hepatitis B, chronic (16); Hepatitis C, chronic (92); MRSA, invasive (44), Strep B, invasive (12)			

Communicable diseases are obligatorily reportable by physicians, hospitals, laboratories, and institutions.
The **Reportable Diseases List** is found at http://doh.sd.gov/Disease/report.aspx or upon request.
Diseases are reportable by telephone, mail, fax, website or courier.
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". **Secure website:** www.state.sd.us/doh/diseasereport.htm.

What to Tell Your Patients About Smoking

A Report of the Surgeon General: How Tobacco Smoke Causes Disease

Quitting Will Save Your Patients' Lives

Tobacco use remains the leading preventable cause of death and disease in the United States. Recent studies show that brief advice from a clinician about smoking cessation yielded a 66% increase in successful quit rates. Talk to your patients. Tell them that quitting smoking is the most important step they can take to improve their health. They will listen to you.

How to Help Patients Quit*

Assist the tobacco user to:

- Set a quit date, ideally within 2 weeks.
- Remove tobacco products from the environment.
- Get support from family, friends, and coworkers.
- Review past quit attempts—what helped, what led to relapse.
- Anticipate challenges, particularly during the critical first few weeks, including nicotine withdrawal.
- Identify reasons for quitting and benefits of quitting.

Give advice on successful quitting:

- Total abstinence is essential—not even a single puff.
- Drinking alcohol is strongly associated with relapse.
- Allowing others to smoke in the household hinders successful quitting.

Encourage use of medication:

- Recommend use of over-the-counter nicotine patch, gum, or lozenge; or give prescription for varenicline, bupropion SR, nicotine inhaler, or nasal spray, unless contraindicated.

Provide resources:

- Recommend 1-800-QUIT NOW (784-8669), the national access number to state-based quitline services.
- Refer to Web sites for free materials (www.smokefree.gov and www.ahrq.gov/path/tobacco.htm).

*Excerpted from *Helping Smokers Quit: A Guide for Clinicians* (Treating Tobacco Use and Dependence: 2008 Update, A Clinical Practice Guideline) found at www.ahrq.gov/path/tobacco.htm

"You can quit, and I can help."

Summary of Findings from the 2010 *Report of the Surgeon General*

1. **There is no safe level of exposure to tobacco smoke.** Any exposure to tobacco smoke – even an occasional cigarette or exposure to secondhand smoke – is harmful.

2. **Damage from tobacco smoke is immediate.** Tobacco smoke contains more than 7,000 chemicals and chemical compounds, which reach your lungs every time you inhale. Your blood then carries the poisons to all parts of your body. These poisons damage DNA, which can lead to cancer; damage blood vessels and cause clotting, which can cause heart attacks and strokes; and damage the lungs, which can cause asthma attacks, emphysema, and chronic bronchitis.

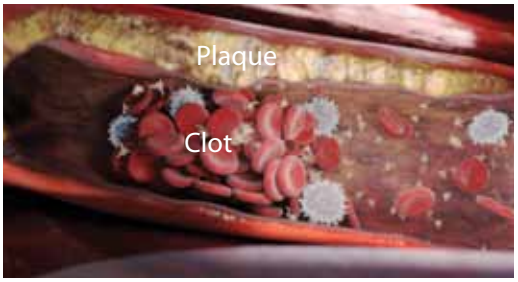
3. **Smoking longer means more damage.** Both the risk and the severity of many diseases caused by smoking are directly related to how long the smoker has smoked and the number of cigarettes smoked per day.

4. **Cigarettes are designed for addiction.** The design and contents of tobacco products make them more attractive and addictive than ever before. Nicotine addiction keeps people smoking even when they want to quit.

5. **Even low levels of exposure, including exposure to secondhand tobacco smoke, are dangerous.** You don't have to be a heavy smoker or a long-time smoker to get a smoking-related disease or have a heart attack or asthma attack triggered by smoke.

6. **There is no safe cigarette.**

What to Tell Your Patients About
Smoking and Chronic Diseases



High Blood Pressure and Heart Disease

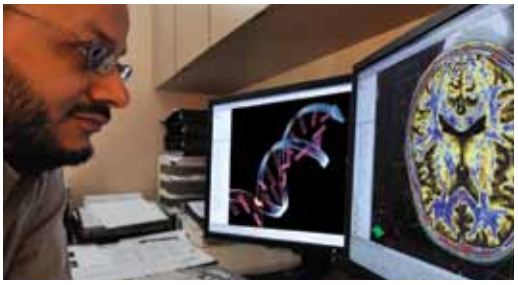
Smoking causes dangerous plaque buildup inside your arteries. Plaque clogs and narrows your arteries. Poisons from tobacco smoke also quickly damage blood vessels and make blood more likely to clot. This can block blood flow and lead to heart attack, stroke, or even sudden death.

Quitting smoking will improve your heart health. After just one year your risk for a heart attack drops sharply, and *even if you've already had a heart attack, you cut your risk of having another one by a third to a half if you quit smoking*. Two to five years after you quit, your risk for stroke falls to about the same as a nonsmoker's.

Diabetes

If you have diabetes and smoke, your risk for kidney disease is 2 to 3 times higher than if you don't smoke. Smokers with diabetes also have higher risk for heart disease and eye disease that can cause blindness; nerve damage that causes numbness, pain, weakness, and poor circulation; and amputations. You will also have more difficulty recovering from surgery.

After you quit smoking, you will have better control over your blood sugar levels. When you quit, you will be less likely to have heart or kidney disease, blindness, or amputations.



Cancer

Tobacco smoke contains toxic chemicals that can damage your DNA and lead to cancer. *Nearly one-third of all cancer deaths are directly linked to smoking*. Continuing to smoke weakens the cancer-fighting systems of your body. It can also interfere with your cancer treatment.

Fertility and Pregnancy

Smoking reduces a woman's chance of getting pregnant and damages DNA in sperm. Damage to sperm could decrease fertility and lead to miscarriage or birth defects. Women who smoke during pregnancy have a higher risk for pregnancy complications, delivering their babies early, and stillbirth. Their babies are more likely to have low birth weight or to die from sudden infant death syndrome, or SIDS. Tobacco smoke also damages the tissues of your unborn baby's growing brain and lungs and could interfere with the growth of the placenta, the organ that feeds the baby in the womb. This could lead to miscarriage, premature delivery, or low birth weight.

Men and women who are planning to have children should not smoke. Pregnant women should avoid exposure to secondhand smoke.

Resources for Quitting

- Call 1-800-QUIT-NOW
- Nicotine replacement or prescription drugs (www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm)
- www.smokefree.gov
- www.women.smokefree.gov

Most people find a combination of resources works best. Many people do not quit on their first attempt. Many smokers need several tries to successfully quit. But the benefits are well worth it. Keep trying.