SOUTH DAKOTA DEPARTMENT OF HEALTH

PUBLIC HEALTH BULLETIN

VOLUME 29 NUMBER 2 **MARCH / APRIL 2017**

Colorectal Cancer in South Dakota

The 2014 colorectal cancer data has been released. For 2010-2014, the average number of new colorectal cancer cases per year is 441 and the average number of annual deaths due to colorectal cancer is 164.

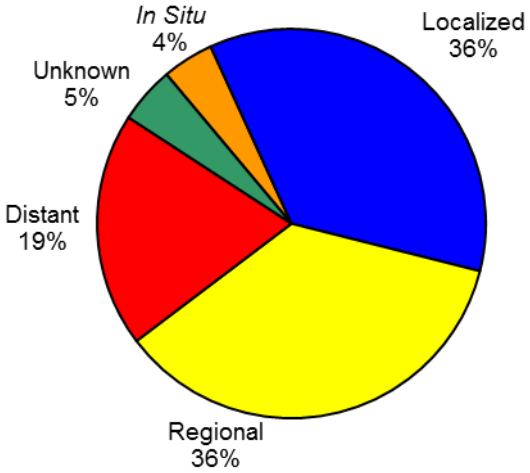
Incidence 2014		**Mortality 2014**	
Number of cases		Number of deaths	
Total	447	Total	188
Males	247	Males	110
Females	200	Females	78
White	415	White	176
American Indian	25	American Indian	10
Median age at diagnosis	70 yrs	Median age at death	78 yrs
Mode	58 yrs	Mode	87 yrs
Age range at diagnosis	23-96 yrs	Age range at death	38-103 yrs
SD age-adjusted incidence rate	44.2	SD age-adjusted death rate	17.6
US SEER age-adjusted incidence rate (2013)	*38.5	US SEER age-adjusted death rate (2013)	*14.5

Rates per 100,000 US 2000 Standard Population and SD 2014 Estimated Population
*2014 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 2014 colorectal cancer cases in South Dakota. As shown, over 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 2006-2012.

Stage at Diagnosis	5-Year Relative Survival, 2006-2012
Localized	90.1%
Regional	71.2%
Distant	13.5%
Unknown	35.5%

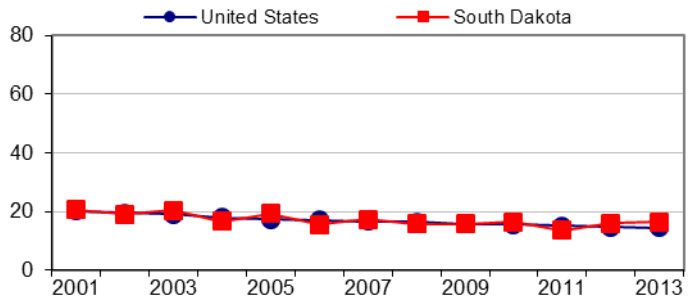
Source: SEER www.seer.cancer.gov



Source: South Dakota Department of Health

As more South Dakotans participate in recommended colorectal cancer screenings, the mortality rates will 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 2001-2013.

Colorectal Cancer Mortality Rates, US and SD

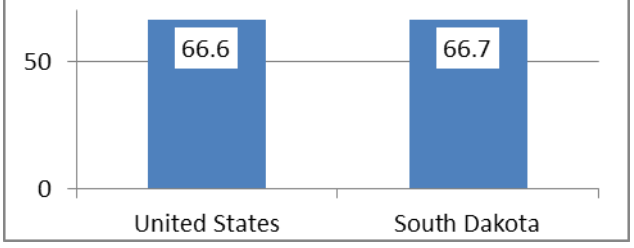


Rates per 100,000 US 2000 Standard Population and SD Estimated Population
US rates are provided by SEER www.seer.cancer.gov
Source: South Dakota Department of Health

Working Toward the Shared Goal of 80% Screened for Colorectal Cancer by 2018

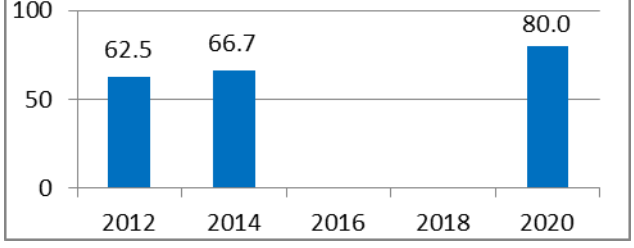
"80% by 2018" is a National Colorectal Cancer Roundtable initiative to increase the use of recommended colorectal cancer (CRC) screening tests. Over 1,200 organizations have pledged to make this goal a priority. These organizations are working toward the shared goal of 80% of adults aged 50 and older being regularly screened for colorectal cancer by 2018. Visit www.nccrt.org/80by2018 for tools and resources. Figures 7 and 8 illustrate South Dakota's progress.

Figure 7
Percent of US and South Dakota Adults Up-to-date With Recommended Colorectal Cancer Screening, 2014



Source: South Dakota Department of Health

Figure 8
South Dakota Current CRC Screening Rates and the SD DOH 2020 Goal of 80%



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 and Publications tab for the entire colorectal cancer monograph.

Author: South Dakota Cancer Registry

South Dakota HIV/AIDS Surveillance Report

FEBRUARY 2017

47 new HIV/AIDS cases were reported in 2016

12 Females
35 Males

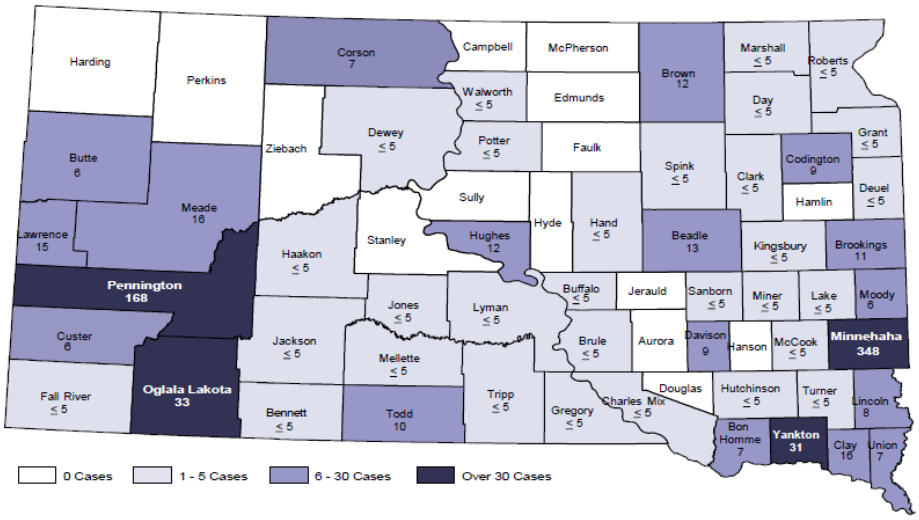
594 people estimated to be living with HIV/AIDS in South Dakota.

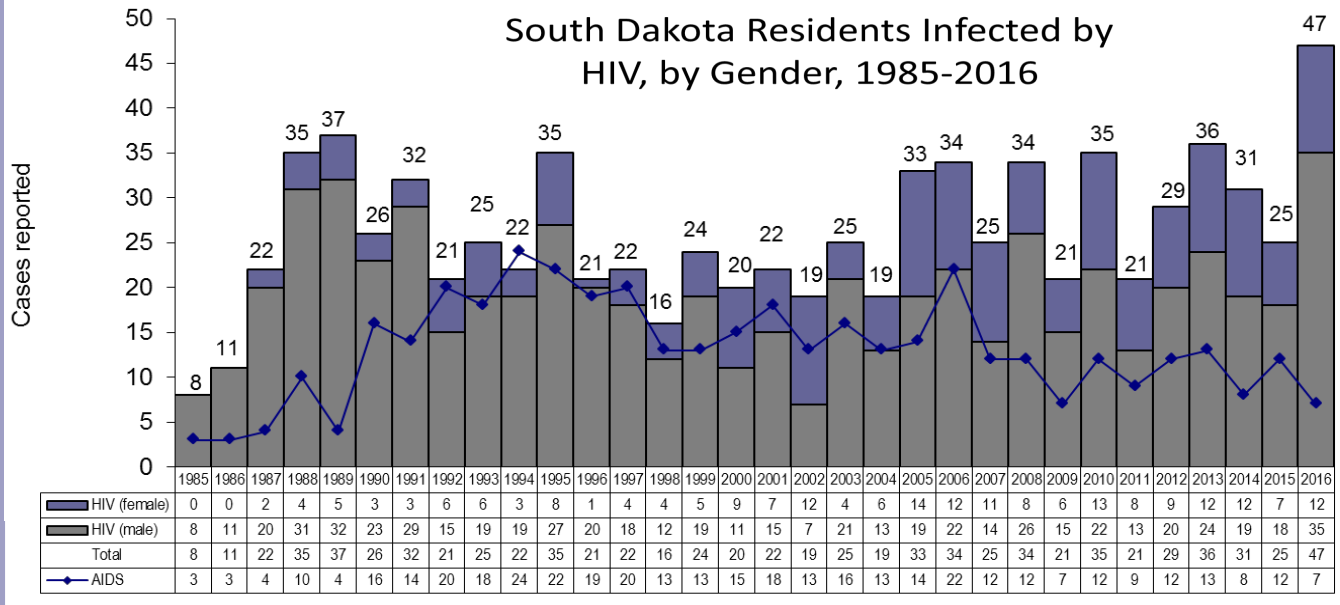
Disproportionately impacted by HIV/AIDS:

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

Late Testers: Person who are diagnosed with AIDS within 12 months of their initial HIV diagnosis were 30% of all cases,2010-2016.

South Dakota Residents Reported Infected with HIV/AIDS: Cumulative Cases by County, 1985 - 2016





	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
HIV (female)	0	0	2	4	5	3	3	6	6	3	8	1	4	4	5	9	7	12	4	6	14	12	11	8	6	13	8	9	12	12	7	12
HIV (male)	8	11	20	31	32	23	29	15	19	19	27	20	18	12	19	11	15	7	21	13	19	22	14	26	15	22	13	20	24	19	18	35
Total	8	11	22	35	37	26	32	21	25	22	35	21	22	16	24	20	22	19	25	19	33	34	25	34	21	35	21	29	36	31	25	47
AIDS	3	3	4	10	4	16	14	20	18	24	22	19	20	13	13	15	18	13	16	13	14	22	12	12	7	12	9	12	13	8	12	7

HIV Co-infection with Chlamydia, Gonorrhea, Hepatitis C, Syphilis & TB,

		Sex		13-24	25-44	45-65
	Total	Female	Male	Years	Years	Years
Chlamydia	42	20	22	8	26	8
Gonorrhea	24	8	16	3	16	5
Hepatitis C	35	11	24	1	17	17
Syphilis	35	1	34	2	18	15
TB	5	4	1	0	3	2
Total	141	44	97	14	80	47

Characteristics of South Dakota HIV/AIDS Infected Persons as of December 31, 2016

	Total HIV/AIDS Diagnoses *Total number of persons diagnosed with HIV or AIDS 2010-2016*		Persons Living with HIV/AIDS *Minimum estimate of persons living with HIV or AIDS as of December 31, 2016*	
	Cases	**Percent**	**Cases**	**Percent**
TOTAL	222	100%	594	100%
Sex				
Female	73	33%	180	30%
Male	149	67%	414	70%
Race and Ethnicity				
American Indian	44	20%	93	16%
Black	63	28%	141	23%
Hispanic and Other *	24	11%	41	7%
White	91	41%	319	54%
Country of Origin				
United States	156	70%	465	78%
Other	66	30%	129	22%
Age Group				
< 2 years	1	1%	1	0%
2-12 years	6	3%	10	2%
13-24 years	20	9%	17	3%
25-44 years	121	54%	209	35%
45-65 years	71	32%	318	53%
>65 years	3	1%	39	7%
Exposure Category				
Heterosexual	97	44%	187	32%
IDU (Injection Drug User)	27	12%	86	15%
MSM (Men who have Sex with Men)	65	29%	207	35%
MSM & IDU	12	6%	24	4%
Perinatal/Pediatric	7	3%	12	2%
Transfusion/Hemophilia	0	0	10	1%
Unspecified	14	6%	68	11%
HIV Prevention Region				
East	37	79%	536	64%
West	10	21%	288	35%
Unknown	0	0%	9	1%

*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 Susan Gannon 605-773-3737 or Susan.Gannon@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 Ave-
nue 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

CDC HOLINE
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://sd.gov/diseasereport

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

South Dakota Strategic Plan 2015-2020—Infant Mortality

Reduce the 5-year infant mortality rate from 6.9 per 1,000 births in 2010-2014 to 6.0 by 2020

South Dakota Rate	South Dakota 2020 Target	U.S. Rate
6.9 *(2011-2015)*	6.0	5.8 *(2014)*

Significance:
Infant mortality is considered a gold standard for measuring the health of a population. Every year since 2000, approximately 12,000 infants were born to residents of South Dakota. Tragically, each year 50 to 100 of these babies die within their first year of life.

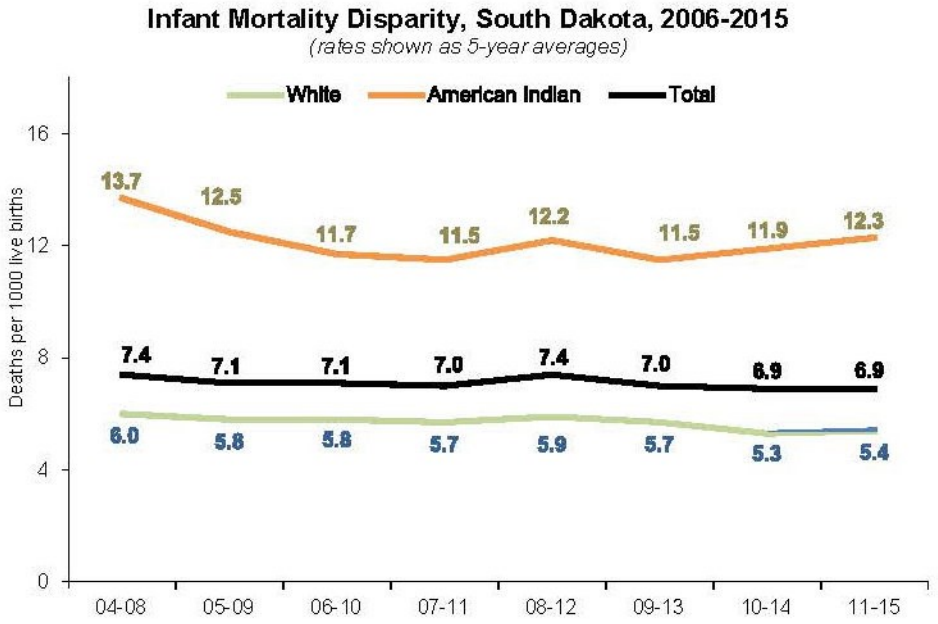
The infant mortality rate among American Indians in South Dakota is twice as high as the white infant mortality rate. Low levels of early prenatal care correlate directly with high infant mortality rates. There are 7 counties in South Dakota that have less than 50% of pregnant women receiving prenatal care in the first trimester. Six of these same counties also have higher infant mortality rates than the state rate. The rate of adult pregnant women smoking in South Dakota in 2015 was 14.0%. Parental smoking is a risk factor for SIDS, complications from prematurity and low birth weight and other pregnancy problems.

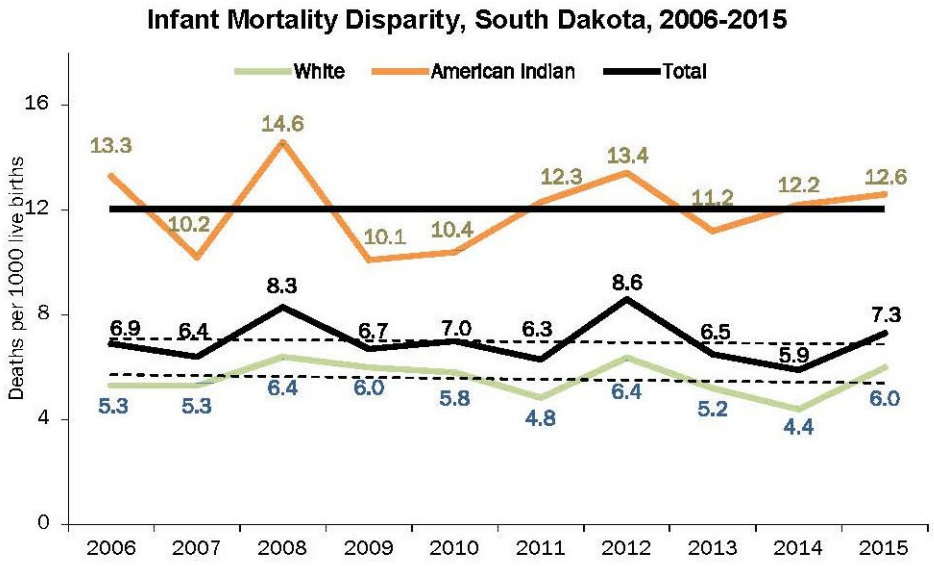
The causes of infant mortality vary widely from case to case and can be attributed to many things including the health of the mother before and during pregnancy, how early the pregnancy was identified, the amount and quality of prenatal care receive, the home environment, and the type of care the baby receives at home. For 2011-2015, the leading causes of infant mortality were: (1) congenital anomalies; (2) short gestation/low birth weight; (3) accidents; and (4) SIDS. Many of these deaths are preventable which means we can make a difference by recognizing the early signs of pregnancy, starting prenatal care as soon as possible, using safe sleep practices, and if using tobacco, quitting.

Definition: Infant deaths per 1,000 live births

Data Source: South Dakota Vital Statistics Data

Statistical Trends:





Date Last Updated: 10/13/2016

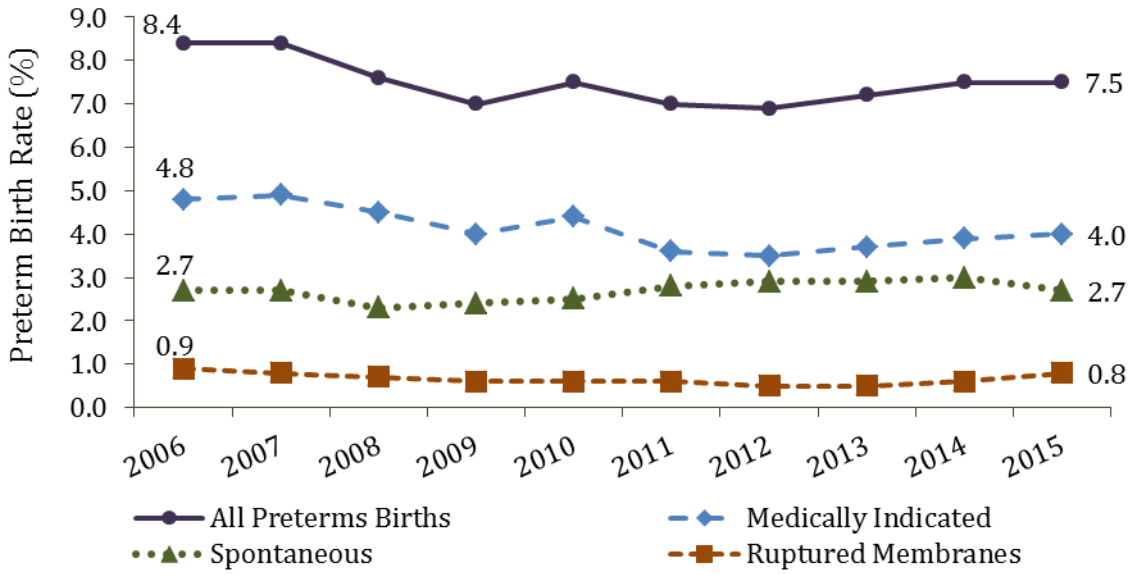
For more information see the Department of Health's strategic plan website at http://doh.sd.gov/strategicplan/.

Trends in Preterm Birth: South Dakota, 2006-2015

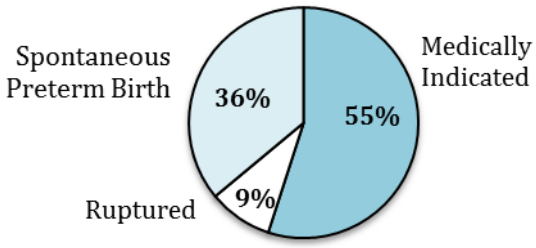
This report summarizes the 2006-2015 preterm deliveries among singleton gestations using birth certificate data from South Dakota Vital Records. Preterm deliveries were limited to births from 24 to 36 weeks of gestation. Preterm deliveries were divided into three types: (1) spontaneous labor with intact membranes (spontaneous preterm birth), (2) preterm premature rupture of the membranes (PPROM), and (3) labor induction or caesarean delivery for maternal or fetal indications (medically indicated).

General Trends

- Preterm birth rates (all types combined) among singleton gestations decreased significantly from 8.4% in 2006 to 7.5% in 2015.
    - Medically indicated and PPROM preterm deliveries had significant downward trends ($p<0.001$and $p=0.03$, respectively).
    - Spontaneous preterm birth showed significant upward trend ($p=0.01$).

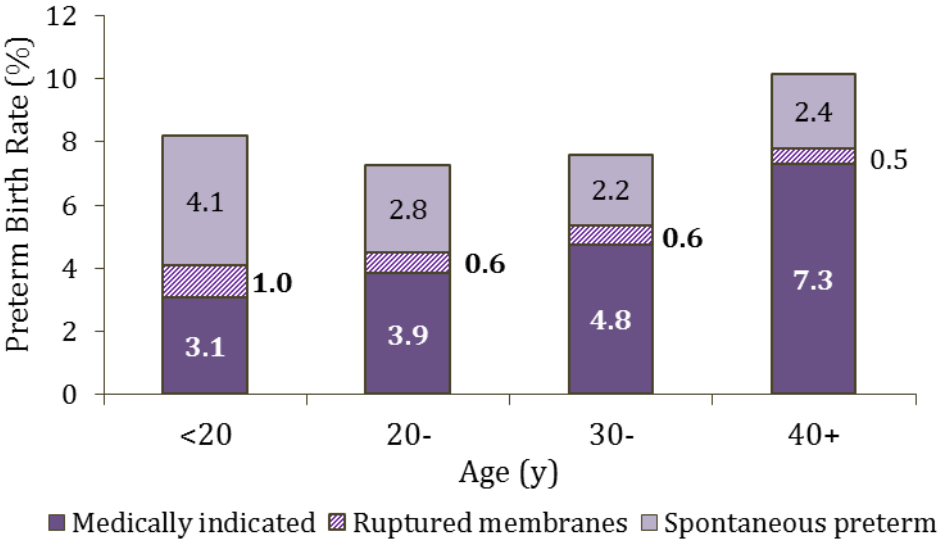


- 55% of singleton preterm deliveries were medically indicated, followed by spontaneous preterm birth (36%) and PPROM (9%).

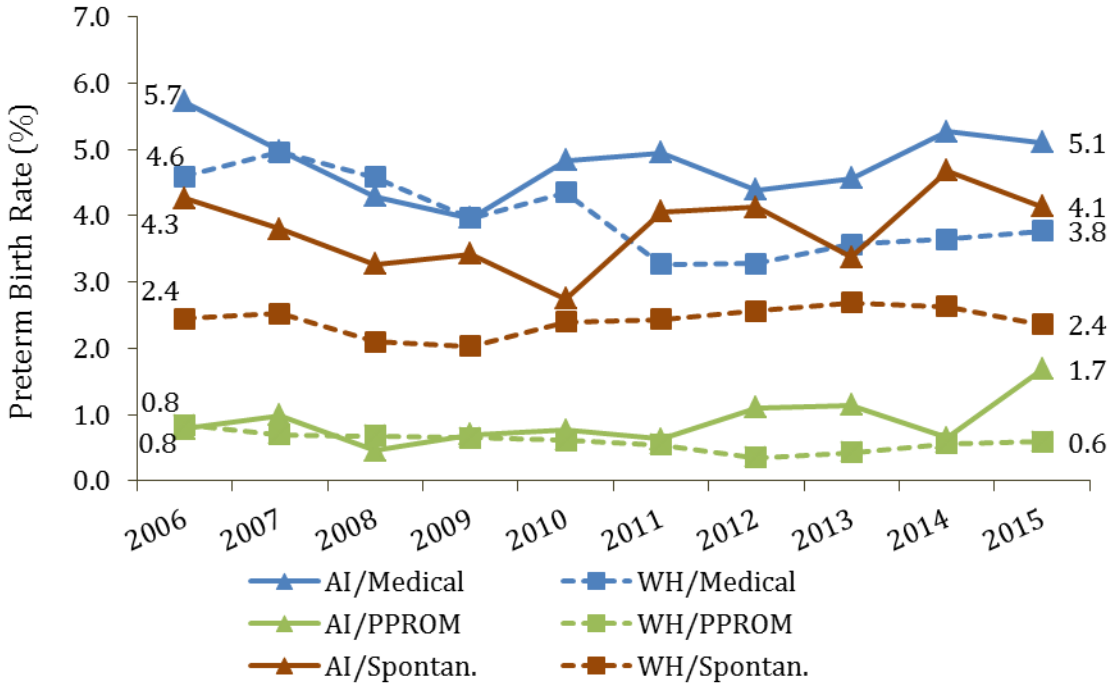


Demographic Characteristics

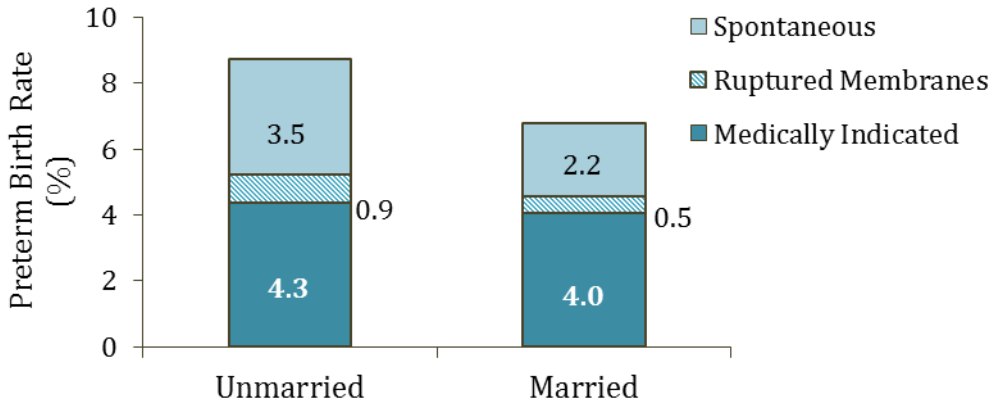
- Older *maternal age* was associated with higher rate of medically indicated preterm deliveries (p<0.001), but lower rates of spontaneous preterm birth and PPROM (both, p<0.001).



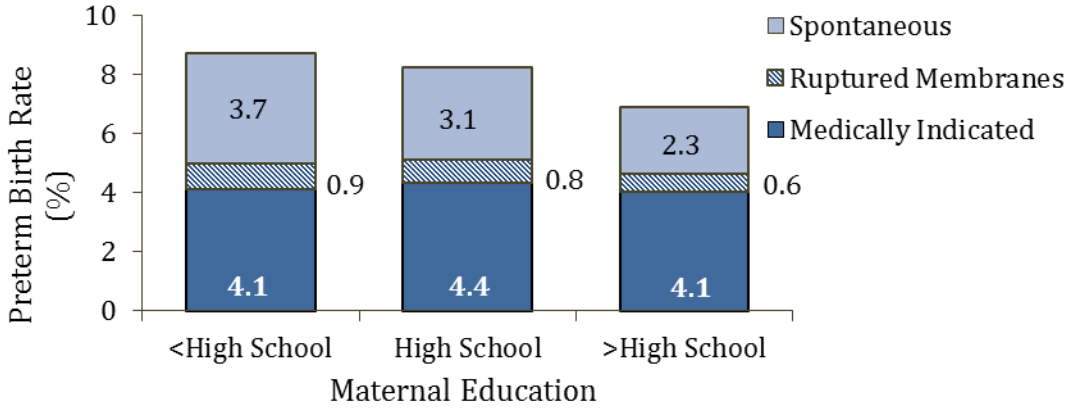
- *American Indian mothers* had higher rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth than White mothers. There has been a significant downward trend in medically indicated preterm birth and PPROM (both, p<0.001) among White mothers, upward trend in PPROM among IN mothers (p=0.008).



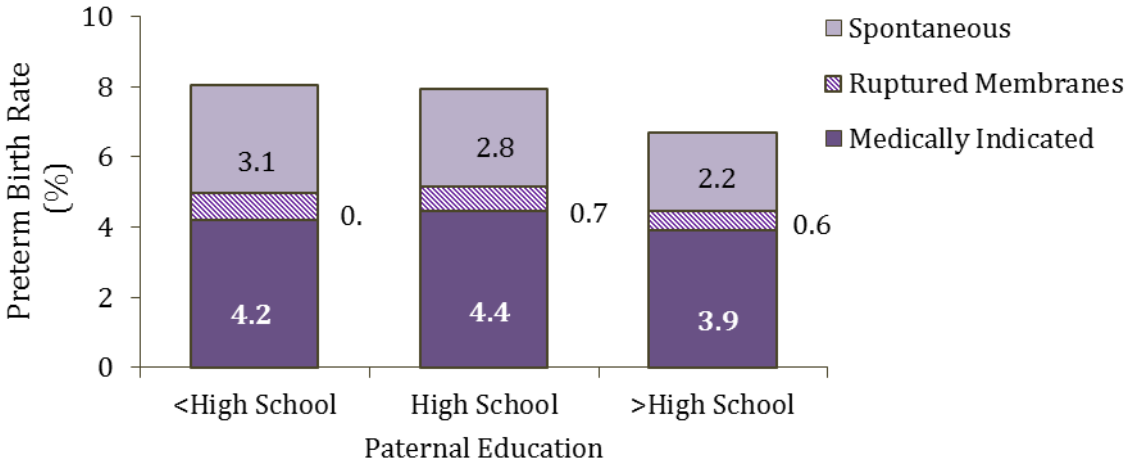
- *Unmarried mothers* had higher rates of spontaneous preterm birth, PPROM and medically indicated than married mothers (all, p<0.01).



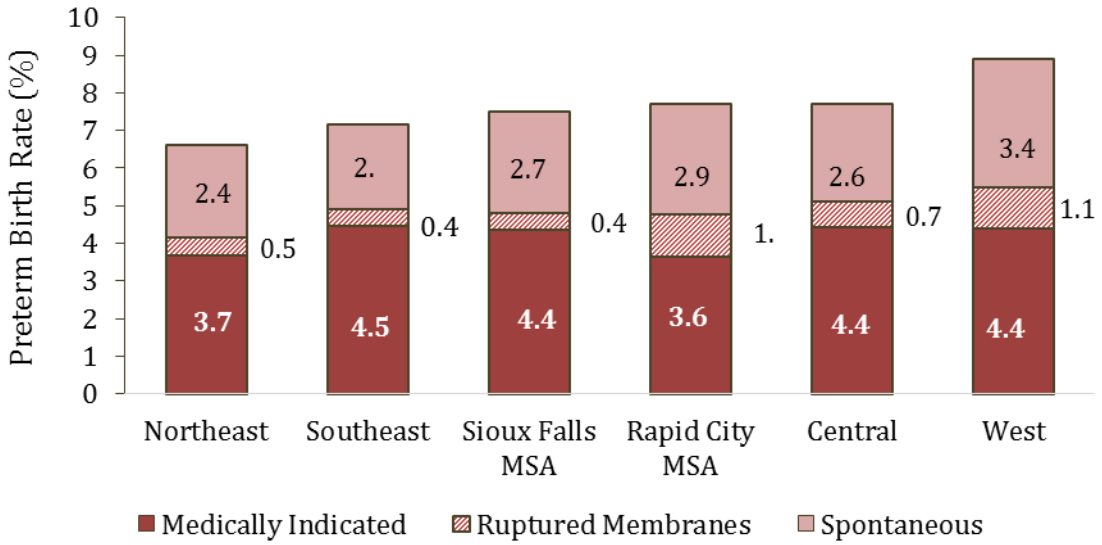
- Higher *maternal education* was associated with lower spontaneous preterm birth and PPROM (both, p<0.001).



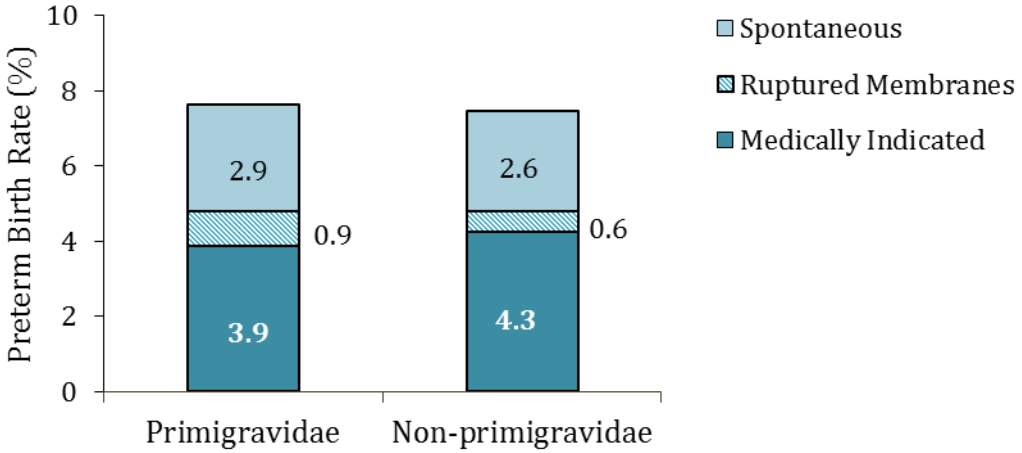
- Higher *paternal education* was associated with lower spontaneous preterm birth, PPROM, and medically indicated preterm birth (all, p<0.01).



- There were *geographic differences* in the rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



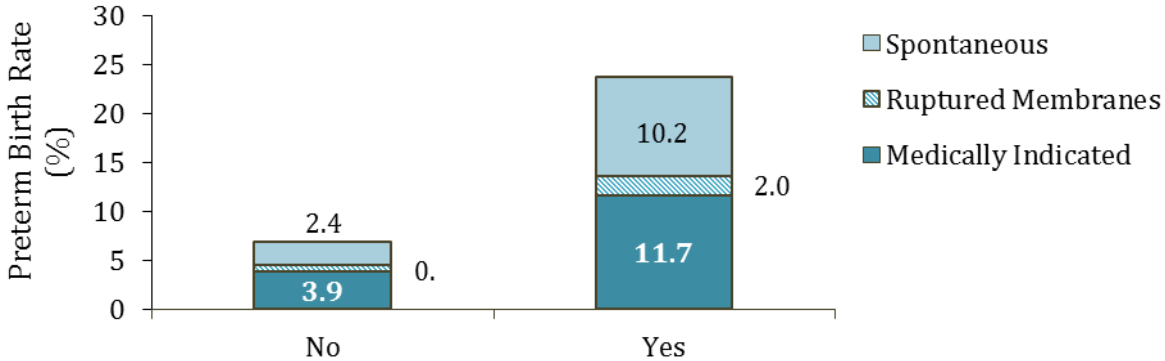
- *First time mothers* (primigravidae) had a higher PPROM and Spontaneous preterm birth rates than non-primigravidae mothers (both, $p<0.01$) and lower medically indicated rate ($p<0.05$).



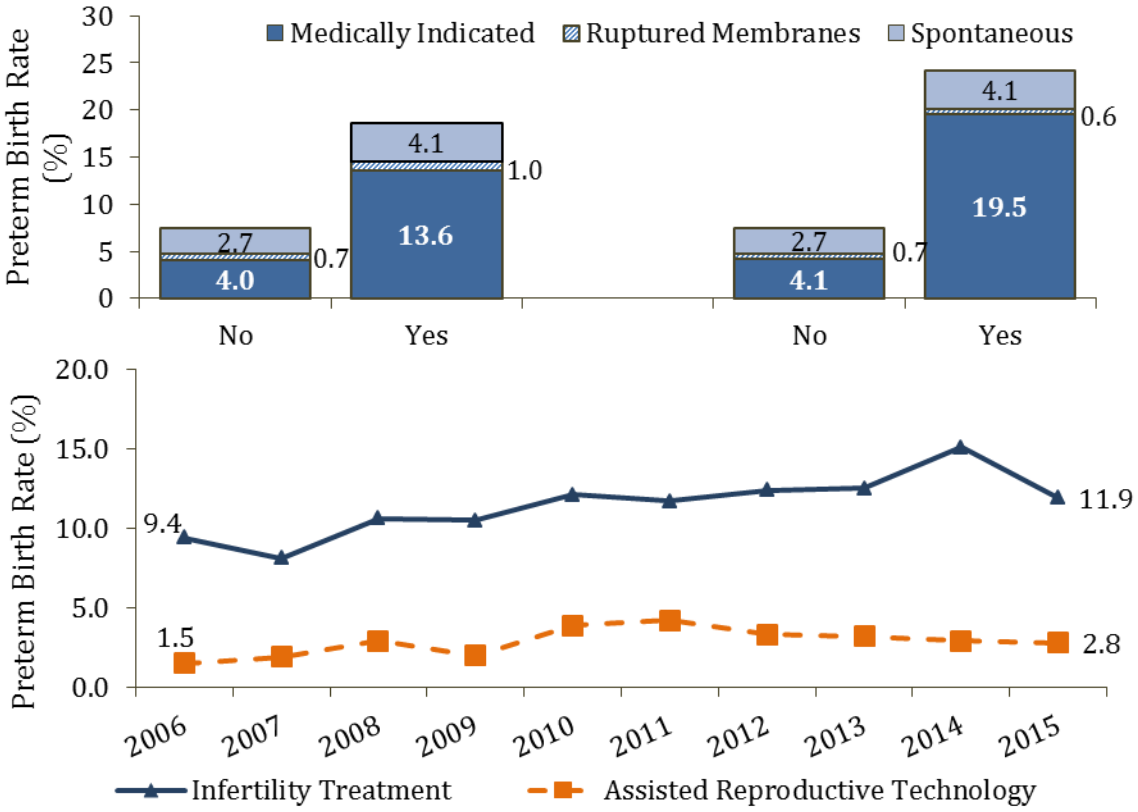
NOTE: Among primigravidae, White mothers had a higher rate of medically indicted preterm births than American Indian mothers, while American Indian mothers had a higher rate of spontaneous preterm birth rate. Among non-primigravidae, American Indian mothers had higher rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.

Maternal Health

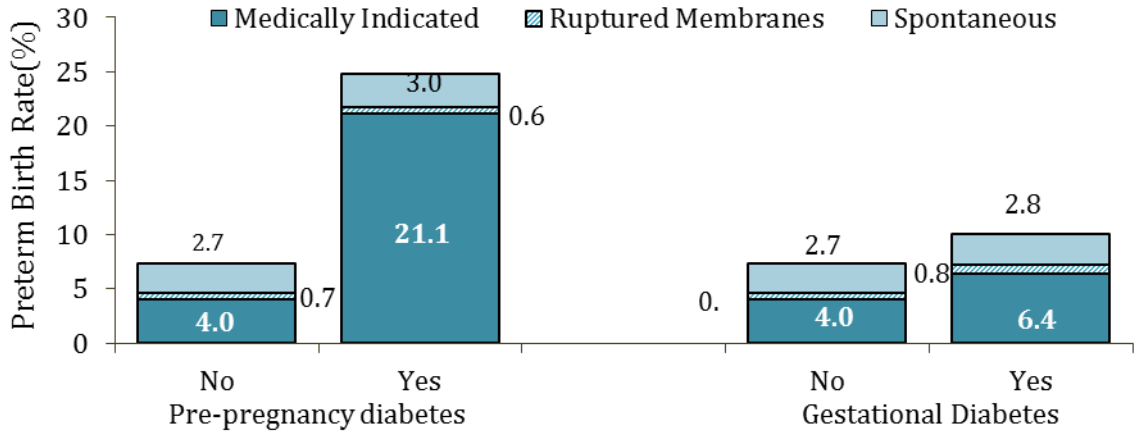
- Previous *preterm birth* was associated with increased risk of spontaneous preterm birth, PPROM, and medically indicated preterm birth (all, $p<0.001$).



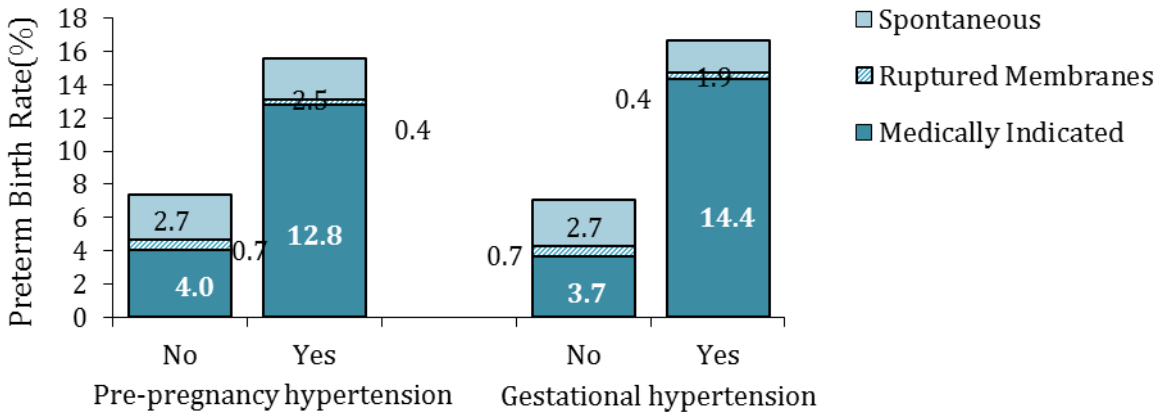
- *Infertility treatment* was associated with increased the risk of spontaneous preterm birth and medically indicated preterm birth (both, p<0.001). *Assisted reproductive technology* was associated with increased the risk of medically indicated preterm birth only (p<0.001). The rate of pregnancies resulting from fertility treatment and assisted reproductive technology increased from 2009 to 2015 (both, p<0.01).



- *Pre-pregnancy diabetes* and *gestational diabetes* were associated with higher rates of medically indicated preterm delivery (both, p<0.001).

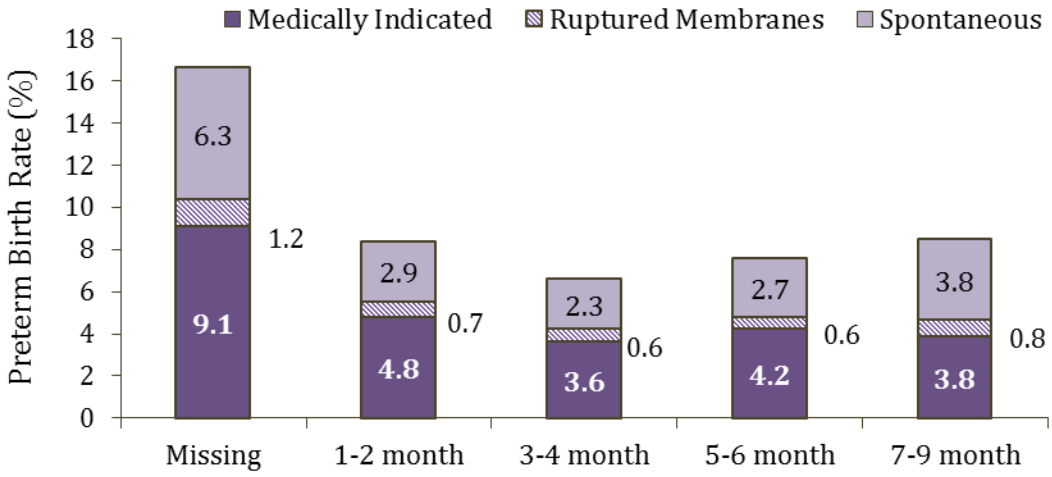


- *Pre-pregnancy hypertension* and *gestational hypertension* were associated with a higher rate of medically indicated preterm delivery (both, p<0.001). Gestational hypertension was associated with lower risks of PPROM and spontaneous preterm birth (both, p<0.01)

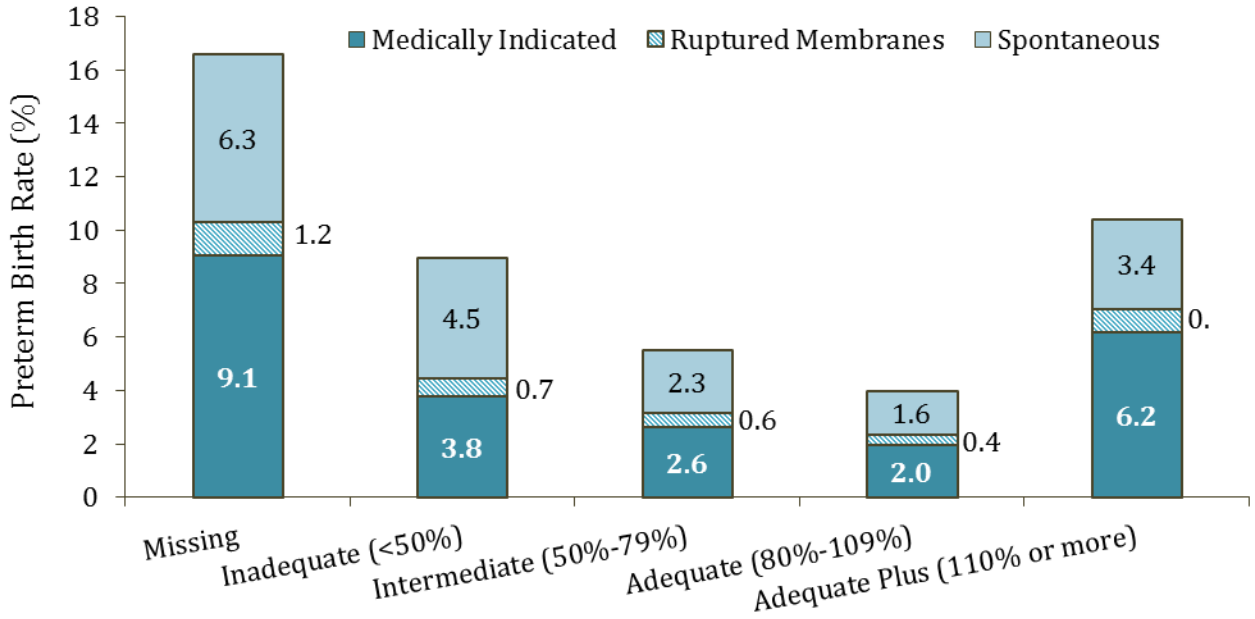


Modifiable Risk Factors

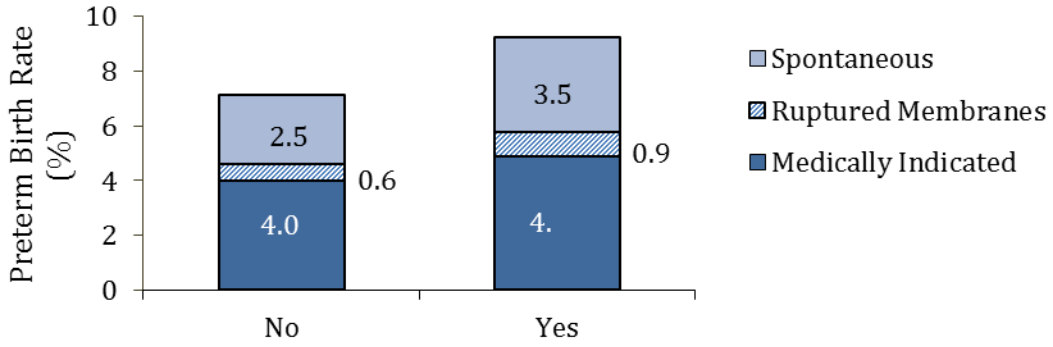
- Beginning *prenatal care* between 3 and 4 months gestation resulted in the lowest rates of PPROM, and medically indicated preterm birth.



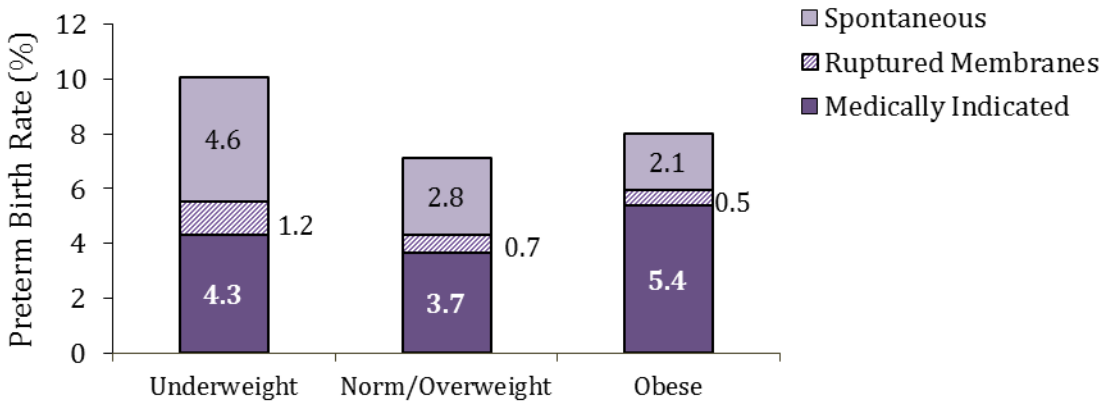
- Adequate *prenatal care*, defined as attending 80%-109% of scheduled prenatal visits, had the lowest rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



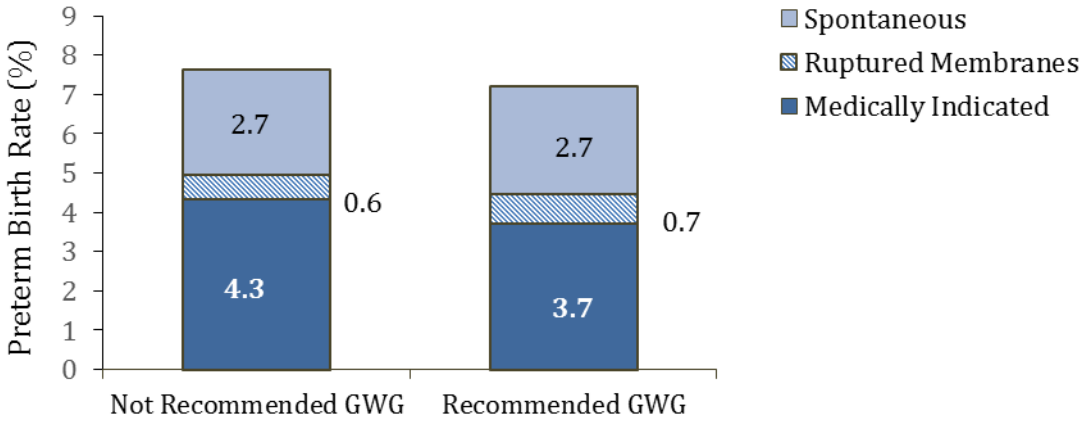
- *Smoking* during pregnancy was associated with higher rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



- Higher *pre-pregnancy BMI* was associated with higher medically indicated preterm birth (p<0.001), and lower spontaneous preterm birth and PPROM (both, p<0.001).



- Mothers who had *recommended gestational weight gains (GWG)* had lower medically indicated preterm birth rates ($p<0.01$) and higher PPROM than mothers who did not meet recommendations.



Authors: Wei Bai, Ph.D. & Bonny Specker, Ph.D., South Dakota State University

Pregnancy Intendedness and Birth Control Use: Data from the South Dakota 2014 Pregnancy Risk Assessment Monitoring System (PRAMS)-like Survey

Quote from a 2014 SD PRAMS Mother:

"…I couldn't imagine my family without our new child, even though I initially did not want to be pregnant. My heart goes out to those facing an unexpected pregnancy without the loving support I have."

Introduction to South Dakota's PRAMS-like Survey

The health status of South Dakotans is commonly reported from public health surveillance surveys. Surveys such as the Behavioral Risk Factor Surveillance System (BRFSS) provide information that is used by policy makers, public health professionals, advocacy groups, health care organizations, and others to develop initiatives to improve the health of the population. South Dakota has one of the highest infant mortality rates in the U.S., ranking in the bottom half of states, yet there are little data available on factors that influence health behaviors and attitudes of mothers that can ultimately influence birth outcomes. The Pregnancy Risk Assessment Monitoring System (PRAMS) survey is a Centers for Disease Control and Prevention (CDC) recommended tool to provide this type of information.

The CDC established the PRAMS in 1987 to obtain information about maternal behavior and experiences that may be associated with adverse birth outcomes. The survey is disseminated to women who have recently given birth to live-born infants. In 2014, 40 states participated in PRAMS and provided data to the CDC. South Dakota was not funded by the CDC in 2014 and had not conducted a statewide PRAMS.

In 2013 the South Dakota Department of Health contracted with the Ethel Austin Martin Program at South Dakota State University to conduct a statewide PRAMS-like survey during 2014. It was decided that the 2014 South Dakota PRAMS would follow the CDC PRAMS protocol. A random sample of South Dakota residents who delivered a live-born infant in 2014 was selected from birth certificate files to complete the survey through mail, online website or by telephone. American Indian and other race infants were oversampled to ensure sufficient numbers to obtain reliable estimates. Data were collected on a variety of topics that included: intendedness of pregnancy, access to prenatal care, health insurance, infant sleeping positions, medical problems during pregnancy, delivery of the infant, and health-related behaviors of the mother (e.g., smoking and alcohol use). The majority of the questions came from the CDC PRAMS core and standardized questions.

The 2014 PRAMS-like survey provides useful baseline data to assess future trends in problematic areas. The 2014 PRAMS was implemented to collect this information and to demonstrate the statewide capacity to successfully conduct the PRAMS in South Dakota. The full 2014 PRAMS-like Survey Report can be found at: http://doh.sd.gov/documents/statistics/2014-SD-PRAMS.pdf

Background

Data on the intendedness of pregnancy is sparse. Researchers at the Guttmacher Institute estimated that for births between 2001 and 2006, nearly one-half of all pregnancies in the United States were unintended (1) and this decreased to about 40% in 2010 (2). Among mothers who delivered an infant in South Dakota in 2014, 46.1% were not trying to become pregnant (**Figure 1**). A question also was asked about the mother's feelings about the timing of the pregnancy (**Figure 2)** and 8.6% of the mothers stated they did not want to be pregnant then or any time in the future. Unintended pregnancies may lead to adverse health outcomes for the mother and infant. Certain populations may be at higher risk for unintended pregnancies than others. In addition, the intendedness of pregnancy may influence prenatal care timing, which is important to healthy birth outcomes.

Figure 1. Percent of Pregnancies That Were Unintended (weighted)

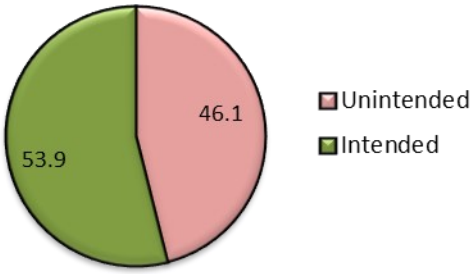
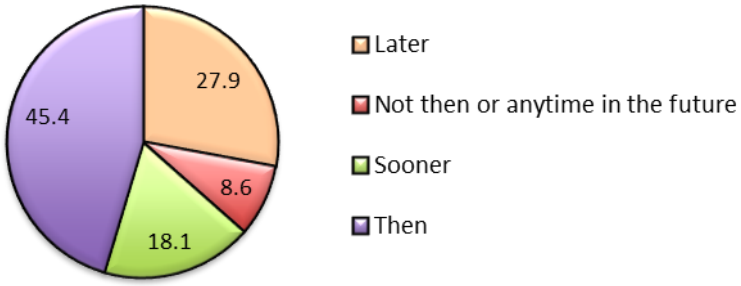


Figure 2. Distribution of When Mothers Wanted to Be Pregnant Just Before They Became Pregnant (weighted)



Public Health Implications

While the actual definition of unintended pregnancy is debatable, the argument of the adverse public health implications of unintended pregnancies is not. The cost burden for publicly funded pregnancies was estimated to be around $11.1 billion in 2006 (1) and $21.4 billion in 2010 (2). An estimate for South Dakota's total cost for the estimated 2,400 publicly funded unintended births was $49.4 million in 2010, with $35 million from federal funds and $14.4 million from state funds (2).

Intendedness of pregnancy was associated with several demographic characteristics (**Table 1**):

- American Indian mothers had the highest prevalence of unintended pregnancy and white mothers had the lowest. Mothers in the other race group had a higher prevalence of unintended pregnancy than white mothers but lower than the American Indian mothers.
- Women less than 20 years of age had the highest prevalence of unintended pregnancy while women aged 20-24 years had a higher prevalence than women in the 25-29, 30-34, and 35 and older groups.
- Women with greater than a high school education were less likely to have an unintended pregnancy than women with high school or less than high school education.
- Married women were less likely to have an unintended pregnancy than other women.
- Women who were covered by Medicare, Medicaid, utilized Indian Health Services, or were uninsured were more likely to have an unintended pregnancy than women with insurance from their work or their partner's work, insurance purchased by them or someone else, or through the military, CHAMPUS, TriCare, or VA.
- Women whose annual household income was less than $10,000 were the most likely to have an unintended pregnancy followed by those with an annual household income of $10,000 to $24,999. Women with annual household incomes of $50,000 to $74,999 and greater than $75,000 had the lowest prevalence of unintended pregnancy. Women with a household income of $25,000 to $49,999 had a prevalence of unintended pregnancy between that of the lower and higher incomes.
- When the above characteristics were considered together the ones that remained important predictors of unintended pregnancy were ***maternal age***, ***marital status***, and ***annual household income***.

Table 1. Percent of Mothers with Unintended Pregnancies by Demographic Characteristics (weighted)

	% Unintended (95% C.I.)
Race	**p<0.001**
White	40.0% [36.0, 44.0]
American Indian	71.3% [66.0, 76.6]
Other Races	55.0% [50.4, 59.6]
Ethnicity	**not significant**
Hispanic	53.9% [42.8, 65.1]
Non-Hispanic	45.5% [42.3, 48.8]
Age (years)	**p<0.001**
<20	86.3% [79.1, 93.5]
20-24	65.3% [58.6, 72.0]
25-29	40.8% [35.3, 46.2]
30-34	36.3% [30.4, 42.1]
≥35	33.9% [25.3, 42.5]
Marital Status	**p<0.001**
Married	32.7% [28.9, 36.4]
Unmarried	71.5% [66.8, 76.1]
Education	**p<0.001**
<High School	63.7% [56.6, 70.7]
High School	59.6% [52.8, 66.4]
>High School	38.5% [34.5, 42.4]
Region	**p<0.01**
Central	56.0% [47.0, 65.1]
Northeast	40.4% [33.1, 47.7]
Rapid City MSA	51.2% [42.5, 59.8]
Sioux Falls MSA	40.0% [34.6, 45.5]
Southeast	47.6% [36.5, 58.7]
West	56.9% [48.7, 65.2]
Health Insurance Status the MONTH BEFORE pregnancy [1]	**p<0.001**
Private (direct purchase)	45.8% [33.9, 57.8]
Job-based	34.9% [30.7, 39.1]
Medicaid	69.1% [62.0, 76.2]
Medicare	71.1% [51.3, 91.0]
Other	35.5% [19.1, 51.8]
Uninsured	64.9% [58.3, 71.6]
Annual Household Income	**p<0.001**
<$10,000	71.6% [65.6, 77.6]
$10,000- $24,999	62.8% [54.9, 70.7]
$25,000 - $49,999	48.0% [41.0, 54.9]
$50,000 - $74,999	35.8% [27.9, 43.6]
$75,000 or more	33.1% [25.9, 40.4]

[1] If more than one type of insurance was selected, a hierarchy was established to report the individual's insurance status. The hierarchy, in order, was: Private; Job-based (includes self or as a dependent); Other (includes military, VA, Champus & TriCare or Other); Medicaid; Medicare; Uninsured (includes IHS). For example, if an individual selected both 'Private' and 'Medicaid', the individual's insurance status was reported as 'Private'.

Of those not trying to get pregnant, 59.7% (55.1-64.2%) were not doing anything to keep from getting pregnant. The reasons for not trying to prevent the pregnancy are listed in **Figure 3**. When asked about whether they were currently doing anything to prevent pregnancies, 82.0% (79.6-84.4%) of the mothers stated they were. Among those *not currently* doing anything to prevent pregnancies, the main reason stated was that they did not want to use birth control (see **Figure 4**).

Figure 3. Reasons for Not Doing Anything to Prevent Pregnancy Among Mothers Not Trying to Become Pregnant (weighted, more than one answer could be checked)

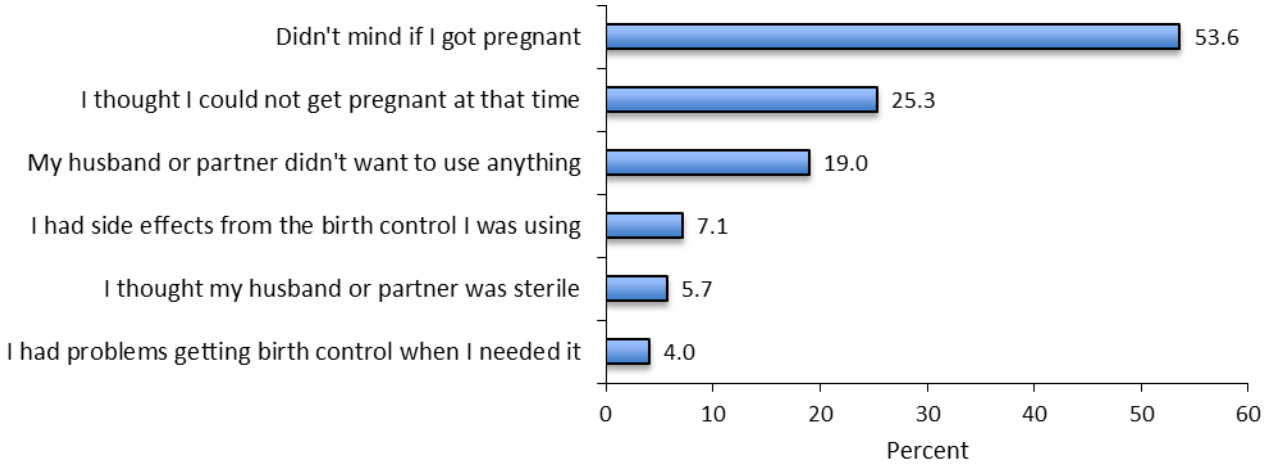
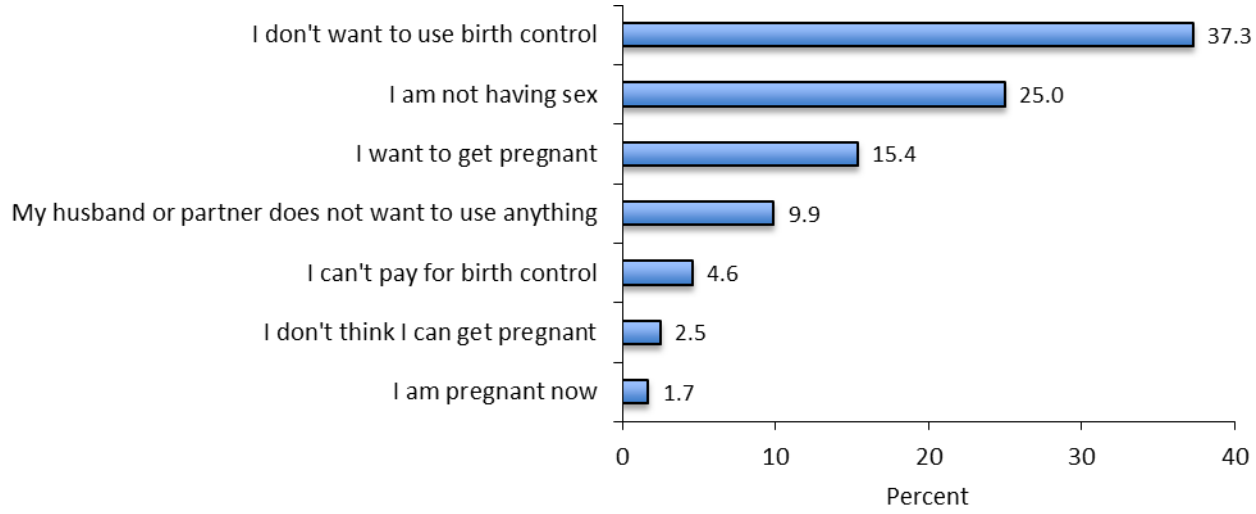


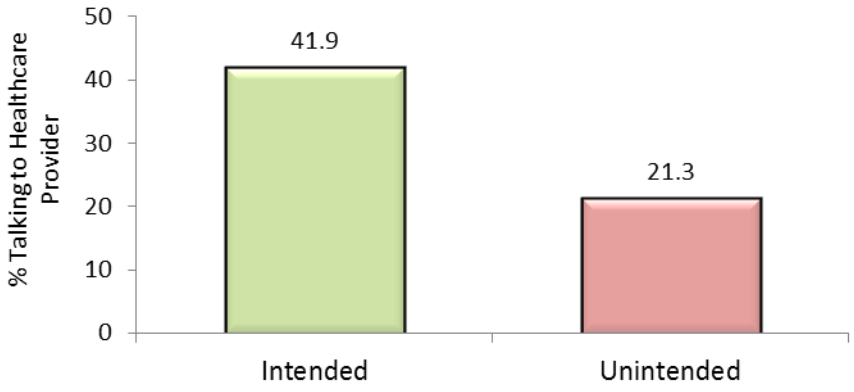
Figure 4. Reasons for Not Currently Doing Anything to Prevent a Pregnancy (weighted, more than one answer could be checked)



Intendedness of pregnancy was associated with preconception care and prenatal care. With regard to preconception care, only 33% of South Dakota mothers talked to a doctor, nurse or other health care provider about how to prepare for a healthy pregnancy and baby before their most recent pregnancy, and the percent of women talking to a healthcare provider differed significantly ($p<0.001$) by whether they were intending to become pregnant or not (**Figure 5**). Among women with an intended pregnancy, 41.9% talked to a healthcare provider compared to 21.3% of women who had an unintended pregnancy.

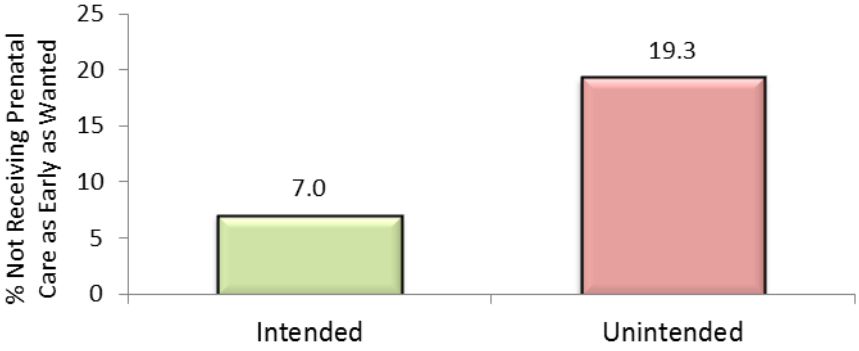
Intendedness of pregnancy also was associated with receiving early prenatal care: a higher percent of women who had an unintended pregnancy did not receive prenatal care as early as they wanted compared to women who had an intended pregnancy (**Figure 5**, $p<0.001$).

Figure 5. Percent of Women Who Talked to a Doctor, Nurse or Other Health Care Provider About Preparing for a Healthy Pregnancy *BEFORE* They Got Pregnant by Intendedness of Pregnancy* (weighted)



* This included only discussions, not reading materials or videos.

Figure 6. Percent of Mothers Not Receiving Prenatal Care as Early as They Wanted by Intendedness of Pregnancy (weighted)



Mothers with an unintended pregnancy also expressed increased number of stressful events and increased occurrence of domestic abuse. Seventy-five percent of mothers who experienced three or more stressful events had an unintended pregnancy compared to 33.6% of the mothers who did not have a stressful event (**Figure 7**; significant association, $p<0.05$). Among mothers who had at least one abusive event during pregnancy, 71.3% were mothers who had an unintended pregnancy compared to 43.9% among mothers who had no abusive event.

Figure 7. Percent of Mothers Whose Pregnancy was Unintended by Number of Stressful Events Occurring the 12 Months Before Pregnancy (weighted)

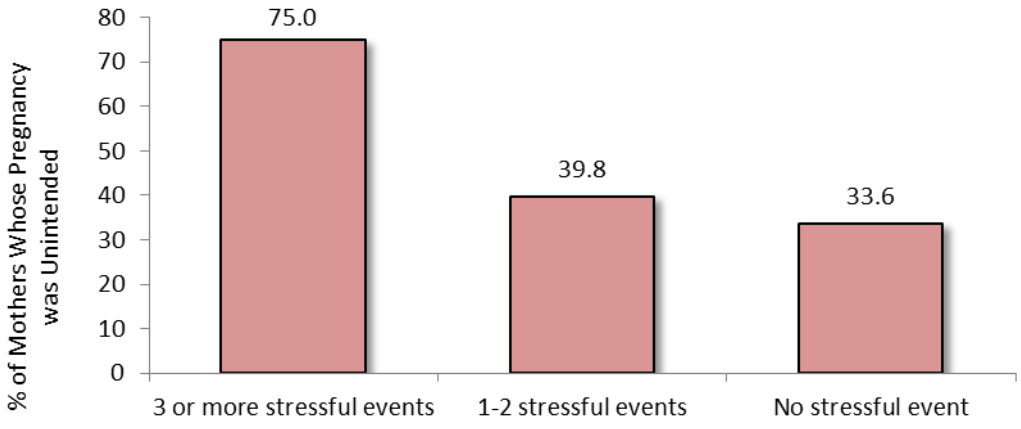
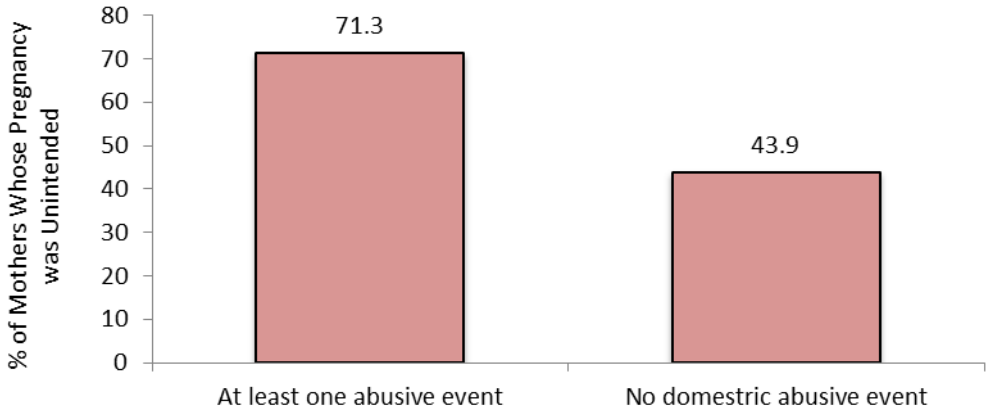


Figure 8. Percent of Mothers Whose Pregnancy was Unintended by Domestic Abuse During Pregnancy (weighted)



Summary

- 46.1% of South Dakota births in 2014 were unintended (not trying to become pregnant).
- Of South Dakota mothers who delivered in 2014, 27.9% stated that they wanted to be pregnant later and 8.6% did not want to be pregnant then or at any time in the future.
- High rates of unintended pregnancy were seen among the following populations: American Indian mothers, younger mothers, unmarried mothers, and mothers with low household income. When all these characteristics were combined, only ***maternal age***, ***marital status***, and ***annual household income*** remained significant.
- Of those not trying to get pregnant, 59.7% were not doing anything to keep from getting pregnant.
- Of the mothers who were not doing anything to keep from getting pregnant, 53.6% did not care if they became pregnant and 25.3% thought they could not become pregnant.
- At the time of the survey, 82.0% of mothers stated they were currently doing something to prevent pregnancy. Among those not currently doing anything to prevent pregnancies, the main reasons stated were that they did not want to use birth control (37.3%) or they were not having sex (25.0%).
- 21.3% of mothers with an unintended pregnancy talked to a doctor, nurse or other health care provider about preparing for a healthy pregnancy before they got pregnant compared to 41.9% of mothers with an intended pregnancy suggesting that mothers who seek and receive preconception care are better prepared to make decisions on the timing of their pregnancy.
- 19.3% of mothers with an unintended pregnancy did not receive prenatal care as early as they wanted compared to 7.0% of mothers with an intended pregnancy.
- Mothers who experienced stressful events or domestic abuse had a higher percent of unintended pregnancies compared to mothers who experienced no stressful events or no domestic violence.

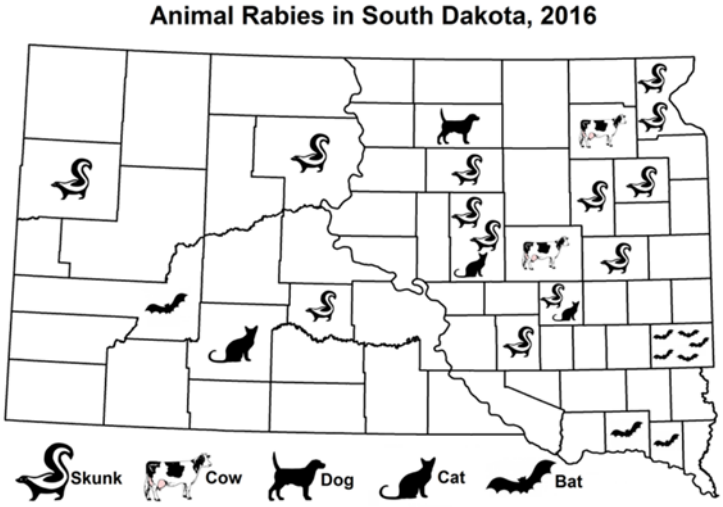
References

1. Finer L, Zolna M. Unintended pregnancy in the United States: Incidence and disparities, 2006. *Contraception* 2011;84:478-485.
2. Sonfield A and Kost K, New York: Guttmacher Institute, 2015, http://www.guttmacher.org/pubs/public-costs-of-UP-2010.pdf, accessed January 29, 2016.

Authors: Wei Bai, Ph.D. & Bonny Specker, Ph.D., South Dakota State University

Rabies Surveillance, South Dakota, 2016

Rabies is a serious public health and veterinary health concern in South Dakota. In 2016, 27 animals tested positive for rabies, a -7% decrease from the previous year. The 27 rabid animals included 6 domestic animals (3 cats, 2 cattle, 1 dog) and 21 wild animals (13 striped skunks, 8 bats). No human rabies was reported. South Dakota's last human rabies case was in 1970.

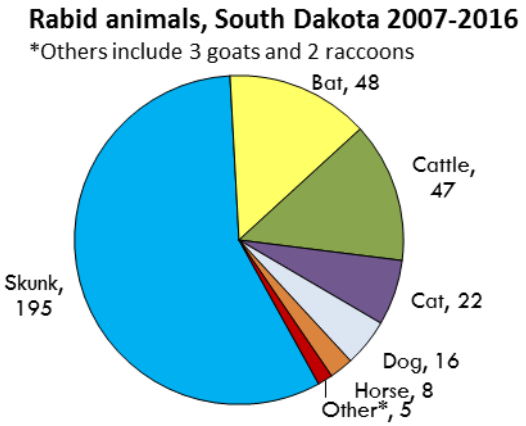


During 2016, 637 animals tested negative for rabies, including 174 cats, 171 bats, 89 dogs, 71 cattle, 65 raccoons, 19 skunks, 7 horses, 7 squirrels, 6 deer, 5 mice, 4 sheep, 3 coyotes, 3 goats, 2 each beaver, fox, gopher, prairie dog, woodchucks, and 1 each lemur, mole, and rat.

During 2016 animals from 60 of South Dakota's 66 counties were submitted for testing, and animals from 19 of those counties were rabid.

During the past decade 28% of our 341 South Dakota rabies cases were domestic animals, including 22 rabid cats and 16 rabid dogs, many of which were unvaccinated. Rabid livestock included 47 cattle, 8 horses and 3 goats.

Skunks (*Mephitis mephitis*) are the primary rabies reservoir in South Dakota. Over the past decade 48% of skunks tested have been rabid. Bat rabies is also enzootic in South Dakota with 3% bats tested being positive. Although rabies is not enzootic in other South Dakota animals, during the past decade 2 rabid raccoons were detected, likely spillover infections from skunk exposure.



Over the decade 6,759 animals were tested and 341 (5.0%) were rabid in South Dakota. Rabid animals were reported every month during the year. Over the past decade June was the peak month with 51 rabies cases. The fewest rabid animals (n=13) were reported in November. Skunk rabies reports have been most common in April, bats rabies peak in August and September, and cattle rabies peak in May and June.

Over the past 57 years, since 1960, the most rabid animals were reported in 1980 (472), whereas the fewest were in 2014, with 21 rabies cases reported. During the past decade, 2007-2016, rabid animals were reported from 59 of the state's counties, with every county submitting animal brains for testing. The most rabid animals were from Minnehaha County, 30, followed by Tripp 21, Brookings 16 and Day 13 counties. Minnehaha County also submitted the most animals for testing (1,475) of which 2% were found to be rabid.

Rabid animals by month, South Dakota 2007-2016

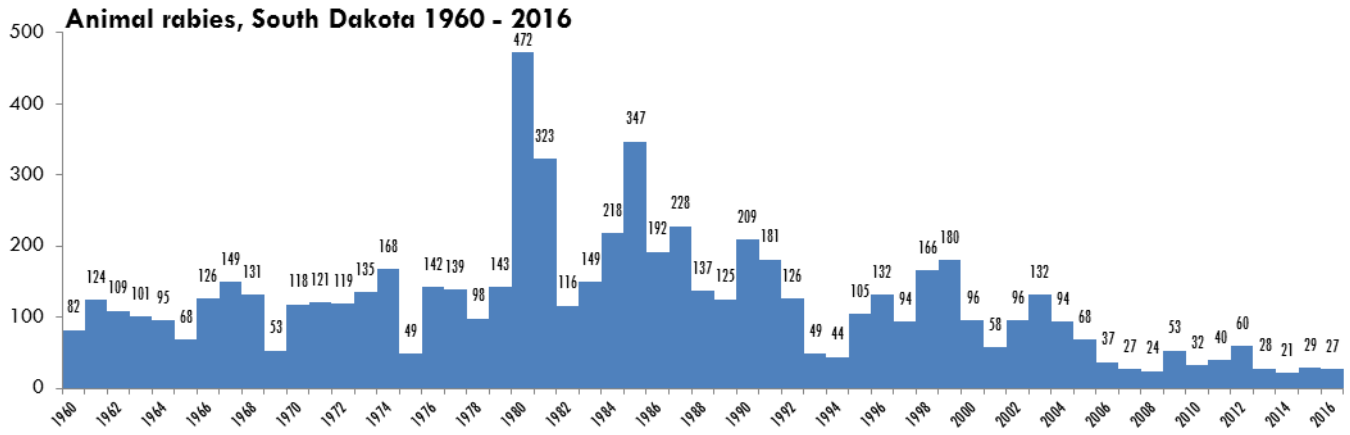
Month / Animal	Skunk	Bat	Cow	Cat	Dog	Horse	Goat	Raccoon	Total
January	9	0	2	2	0	1	0	0	**14**
February	9	0	2	1	2	0	0	0	**14**
March	15	1	2	2	1	0	0	1	**22**
April	37	0	1	1	0	3	0	0	**42**
May	20	4	10	1	1	1	0	0	**37**
June	30	6	10	2	0	1	1	1	**51**
July	20	6	3	1	2	0	0	0	**32**
August	14	14	2	5	3	1	0	0	**39**
September	13	13	2	2	1	0	0	0	**31**
October	12	2	8	1	2	1	2	0	**28**
November	5	0	3	3	2	0	0	0	**13**
December	11	2	2	1	2	0	0	0	**18**
Total	**195**	**48**	**47**	**22**	**16**	**8**	**3**	**2**	**341**

Animal rabies cases by county, South Dakota 2007-2016

County	Positives	County	Positives	County	Positives
Aurora	**2**	Fall River	**1**	McPherson	**6**
Beadle	**4**	Faulk	**4**	Meade	**11**
Bennett	**5**	Grant	**7**	Mellette	**2**
Bon Homme	**2**	Gregory	**6**	Miner	**3**
Brookings	**16**	Haakon	**5**	Minnehaha	**30**
Brown	**10**	Hamlin	**11**	Moody	**0**
Brule	**2**	Hand	**5**	Oglala Lakota	**0**
Buffalo	**0**	Hanson	**1**	Pennington	**5**
Butte	**6**	Harding	**5**	Perkins	**6**
Campbell	**0**	Hughes	**2**	Potter	**0**
Charles Mix	**9**	Hutchinson	**10**	Roberts	**11**
Clark	**11**	Hyde	**2**	Sanborn	**3**
Clay	**3**	Jackson	**2**	Spink	**4**
Codington	**9**	Jerauld	**1**	Stanley	**1**
Corson	**3**	Jones	**1**	Sully	**1**
Custer	**0**	Kingsbury	**11**	Todd	**1**
Davison	**4**	Lake	**10**	Tripp	**21**
Day	**13**	Lawrence	**2**	Turner	**9**
Deuel	**2**	Lincoln	**3**	Union	**1**
Dewey	**5**	Lyman	**3**	Walworth	**7**
Douglas	**1**	Marshall	**6**	Yankton	**5**
Edmunds	**6**	McCook	**3**	Ziebach	**0**
				South Dakota	**341**

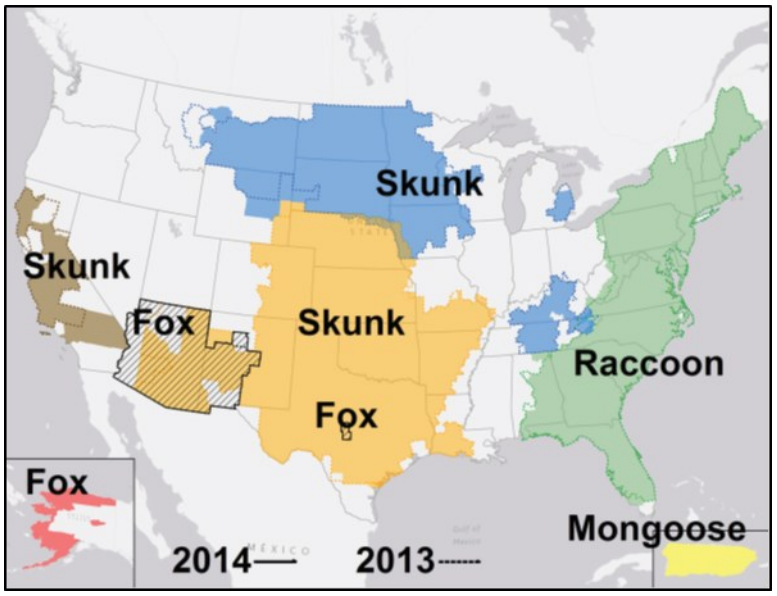
Two South Dakota laboratories offer rabies testing services: (1) Animal Disease Research Diagnostic Laboratory (ADRDL) in Brookings; (2) State Public Health Laboratory (SDPHL) in Pierre. During 2016, 63% of rabies tests were done at ADRDL and 37% at SDPHL. Both laboratories use the direct fluorescent 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.



The most recent national animal rabies surveillance data are reported for 2014 (Monroe, et al.). Nationally, there was a -2.8% decrease from the previous year with 6,033 rabid animals rabies reported (7% domestic and 93% wild animals). Nationally, rabid domestic animals included 272 cats, 78 cattle, 59 dogs, 25 horses/mules, 10 sheep/goats and 1 llama. Wild animals testing positive for rabies included 1,822 raccoons, 1,756 bats, 1,588 skunks, 311 foxes, 43 groundhogs, 32 mongooses, 18 bobcats, 9 coyotes, 4 deer, 2 beavers, 2 opossums and 1 otter.

Over the past decade (2006-2015) 25 human rabies cases were reported nationally, including 23 deaths and 2 survivals, which is a 92% case fatality rate. The 25 human rabies cases were from Texas (3), California (4), Massachusetts (3), Indiana (2), Missouri (2), and 1 each in Louisiana, Maryland, Michigan, Minnesota, New Jersey, New York, North Carolina, South Carolina, Virginia, Wisconsin and Wyoming. Fourteen of the human cases (56%) were associated with bat-rabies virus, 7 (28%) had dog rabies virus (all foreign exposures: Afghanistan, Brazil, Guatemala, Haiti, India, Philippines), 2 raccoon, 1 fox, 1 unknown exposure, and 1 human rabies cases was attributed to an infected kidney transplant.



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.

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 recommend appropriate rabies prevention measures 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

CDC Rabies: www.cdc.gov/rabies

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
http://aib.sd.gov

South Dakota Bat Group http://sdbwg.org

Pre-exposure Prophylaxis for Rabies	
Treatment	**Regimen**
Primary	Human diploid cell vaccine (HDCV) or purified chick embryo cell vaccine (PCECV); 1.0 mL (deltoid area), one
Booster	HDCV or PCECV; 1.0 mL (deltoid area),day 0 only
Note	Persons in the continuous-risk category* should have a serum sample tested for rabies virus neutralizing antibody every 6 months, and persons in the frequent-risk category** should be tested every 2 years. An intramuscular booster dose of vaccine should be administered if the serum titer falls to maintain a value of at least complete neutralization at a 1:5 serum dilution by rapid fluorescent focus inhibition test. * Rabies research laboratory workers; rabies biologics production workers. ** Rabies diagnostic laboratory workers, cavers, veterinarians and staff, and animal-control and wildlife workers in areas where rabies is enzootic. All persons who frequently handle bats.

Post-exposure Prophylaxis for Non-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	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
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.

Human 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 (PCECV)	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

Compendium of animal rabies prevention and control, 2016. National Association of State Public Health Veterinarians. http://nasphv.org/Documents/NASPHVRabiesCompendium.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

Monroe, B., P. Yager, J. Blanton, M. Birhane, A. Wadhwa, L. Orciari, B. Peterson and R. Wallace. 2015. Rabies surveillance in the United States during 2014. Journal of the American Veterinary Medical Assoc 248: 777—788.

http://avmajournals.avma.org/doi/pdfplus/10.2460/javma.248.7.777

South Dakota Rabies Control Laws

RABIES CONTROL STATUE: 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.

Importation of imported cats and dogs: Administrative Rule 12:68:06:09 No person may import any dog or cat over three months of age without certification of a current rabies vaccination. If a dog or cat is imported from an area that is quarantined for rabies, a certifying statement is required from an accredited veterinarian that the dog or cat has not been exposed to rabies. No person may import any dog or cat less than three months of age from an area under quarantine for rabies. A certificate of veterinary inspection is not required for dogs and cats entering the state unless: (a)The animal originates from an area quarantined for rabies; (b) The animal originates from a foreign county; (c) The animal is to remain in the state for 30 days or more; (d) A resident travels with an animal to another state or province and does not return within 30 days; or (e) The state veterinarian determines that it is necessary based on disease information for a time period not to exceed the term of the threat; (3) It is not a violation of this section to bring a dog or cat into the state from a bordering state for the purpose of obtaining any vaccination or other health care from a licensed veterinarian.

South Dakota Department of Health – Infectious Disease Surveillance

Selected Morbidity Report, 1 January – 28 February 2017

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

	Disease	2017 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	0	0	n/a
	Mumps	0	0	n/a
	Rubella	0	0	n/a
	Haemophilus influenza (invasive) all types	2	0	n/a
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	5	3	+67%
	Hepatitis B, acute	0	0	0%
	Chlamydia	685	711	-4%
	Gonorrhea	164	123	+33%
	Syphilis, early	7	5	+40%
Tuberculosis	Tuberculosis	5	2	+150%
Invasive Bacterial Disease	Meningococcal, invasive	0	0	0%
	Strep. Pneumo., invasive	24	19	+26
Enteric Diseases	*E. coli*, Shiga toxin-producing	4	4	+0%
	Campylobacteriosis	28	14	+100%
	Salmonellosis	16	21	-24%
	Shigellosis	1	3	-67%
	Giardiasis	13	14	-7%
	Cryptosporidiosis	9	15	-40%
	Hepatitis A	0	0	n/a
Vector-borne Diseases	Animal Rabies	2	3	-33%
	Tularemia	0	0	n/a
	Rocky Mountain Spotted Fever	0	0	0%
	Malaria (imported)	1	0	n/a
	Hantavirus Pulmonary Syndrome	0	0	0%
	Lyme disease	0	0	0%
	West Nile Virus disease	0	0	0%
Other Diseases	Legionellosis	1	9	0%
	Zika	0	0	n/a
	Additional reports include: Chicken Pox (2); Coccidioidomycosis (2); CRE (6); Hep B, chronic (8); Hep C (86); MRSA, invasive (19); Q fever (1).			

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".