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Epidemiological Profile of Tuberculosis in South Dakota, 2010

by Kristin Rounds, Tuberculosis Control Coordinator, SD Department of Health

During the last 10 years, South Dakota averaged 15 cases of tuberculosis (TB) per year. During 2010, there were 15 cases of TB reported to the South Dakota Department of Health, which is a decrease of 3 cases from 2009. Figure 1 describes the 10-year trend of TB cases reported in South Dakota.

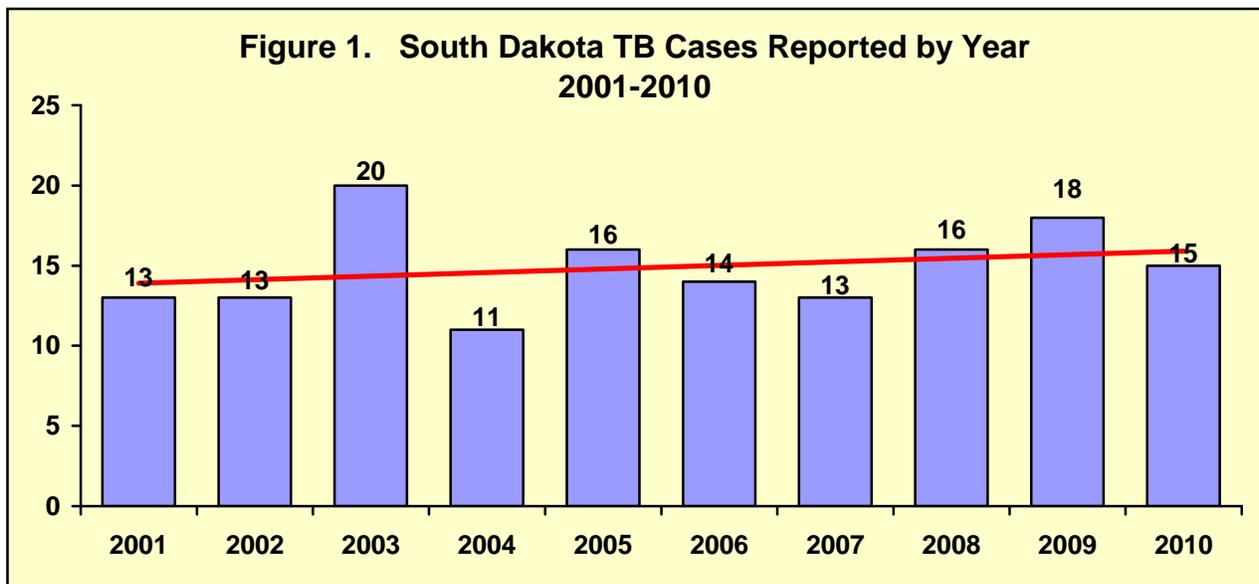
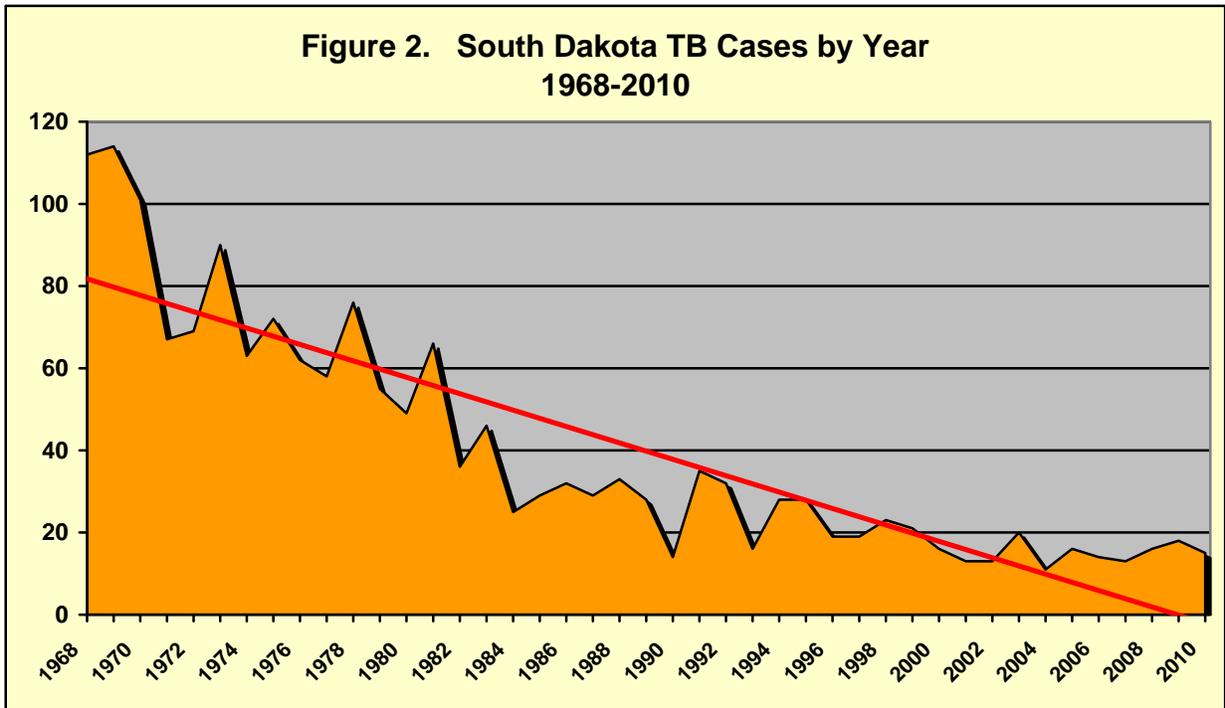


Figure 2 illustrates the historical decreasing trend of reported tuberculosis cases in South Dakota since 1968. This dramatic decrease is a result of mandatory reporting of suspected TB cases to the Department of Health along with case management, treatment and comprehensive contact investigations to ensure those exposed to tuberculosis receive prompt treatment and appropriate intervention efforts.



The most recent data available nationally and regionally are from calendar year 2009. Figure 3 provides a comparison of the TB case rate per 100,000 population for the United States as well as a regional comparison of South Dakota and its border states of North Dakota, Minnesota, Iowa, Nebraska, Wyoming and Montana. Please note that South Dakota has the second highest TB case rate behind Minnesota when comparing these 7 states.

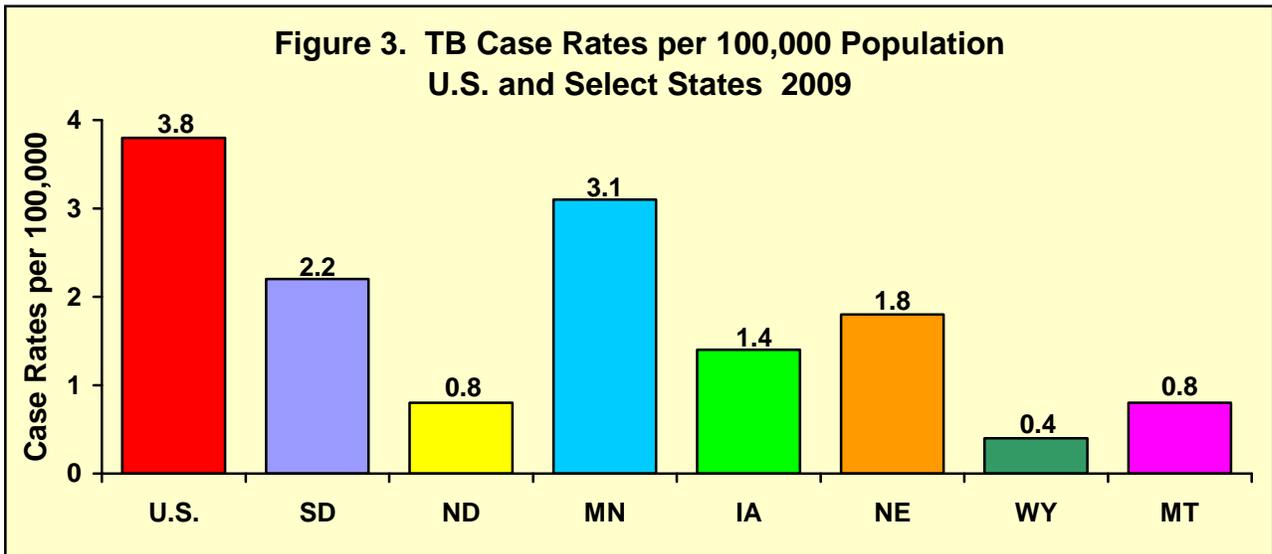
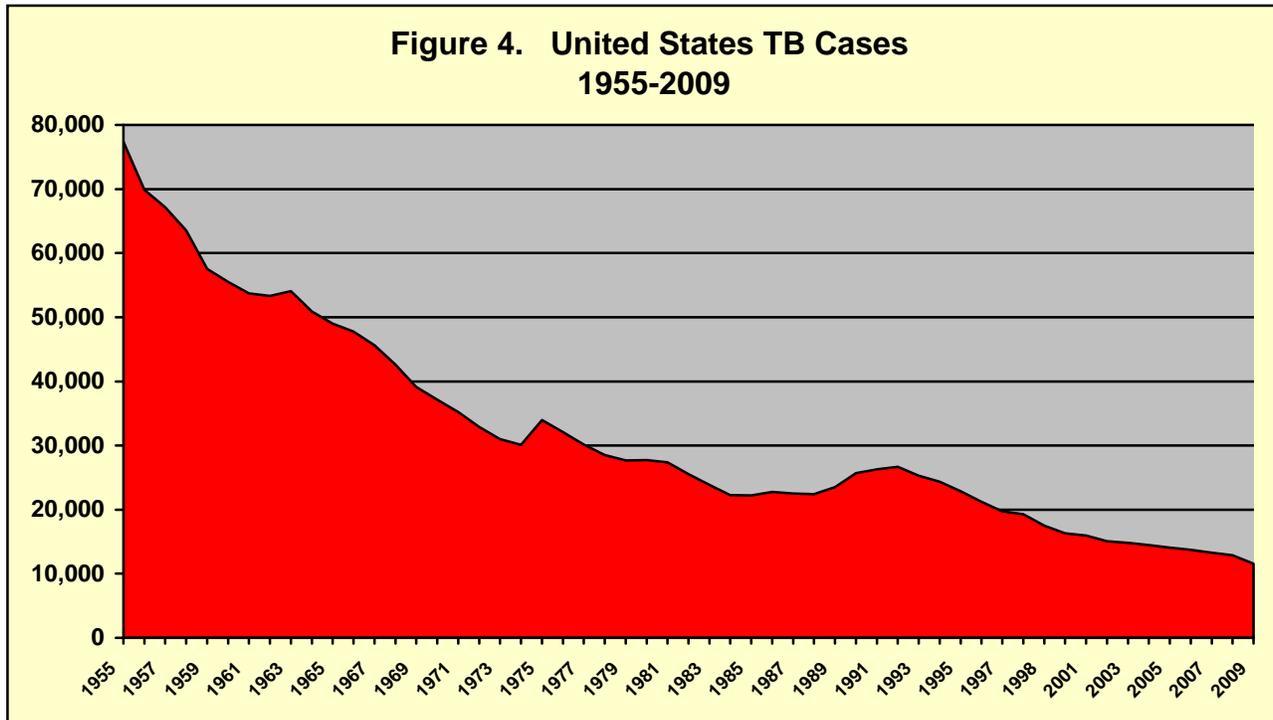


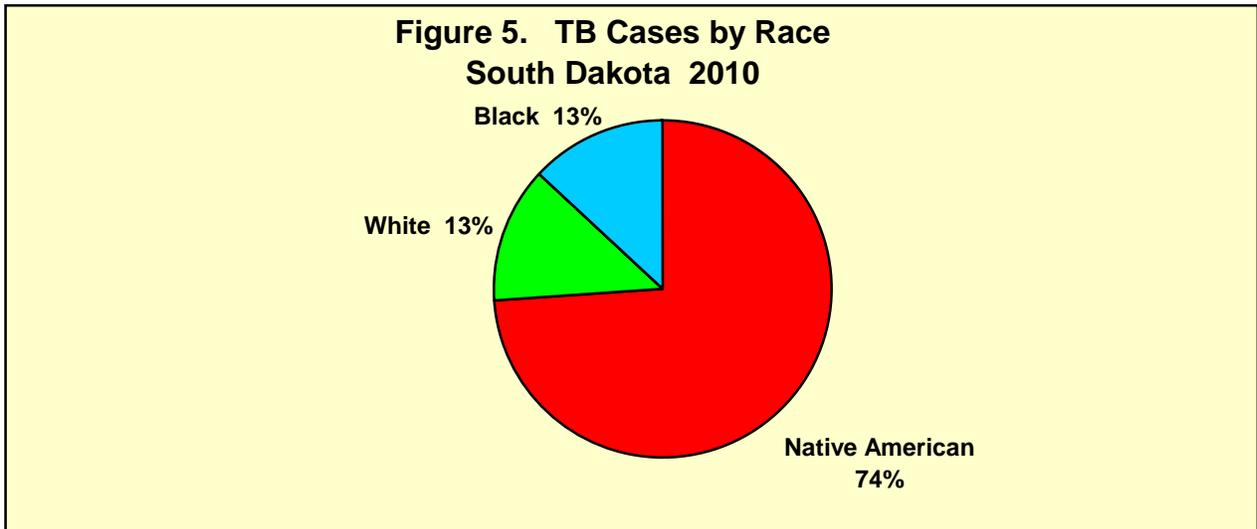
Figure 4 illustrates the historical trend of decreasing TB cases reported in the United States. In 2009 there were 11,545 TB cases reported in the US which was the lowest year on record and a 10.5% decrease from 2008. During 2009, 13 states reported increased case counts from 2008. The four states of California, Texas, New York and Florida accounted for 50% of the national case total. During 2009, 1.2% of the reported cases had primary multi-drug resistance which is defined as resistance to the TB medications of at least isoniazid and rifampin. During 2009, 59% of TB cases nationally were in foreign-born persons, the highest percentage ever reported.



In South Dakota, Native Americans have historically represented the highest percentage of TB cases by race. This trend continued in 2010 with Native Americans contributing 74% of the total TB cases reported. Table 1 and Figure 5 provide information on TB cases by race in 2010.

Table 1. TB Cases Reported by Sex and Race, South Dakota 2010

Race	Male	Female	Total	% of Cases
Native American	6	5	11	74%
White	1	1	2	13%
Black	0	2	2	13%
Asian	0	0	0	0%
Total	7	8	15	100%



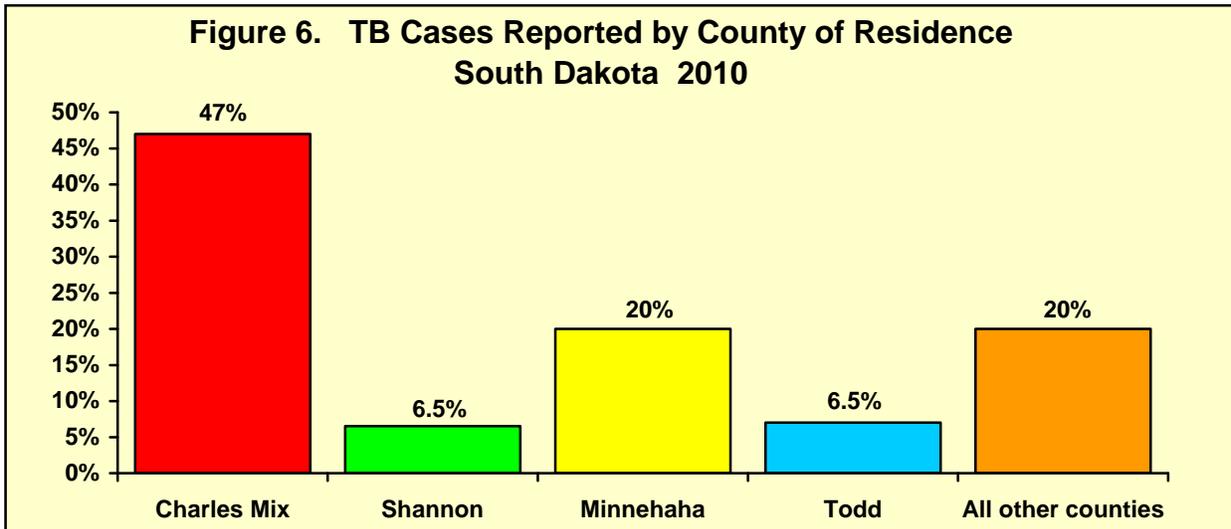
The TB incidence rate, which measures the number of TB cases per 100,000 population, is the best measure for determining the progress towards the elimination of TB in South Dakota. Historically, Native American TB case rates have dropped considerably while white cases have consistently remained low. The Black, Asian and other races mainly represent TB cases born outside of the United States who were diagnosed in South Dakota. Table 2 provides additional information on TB case rates for the last 6 years.

**Table 2. TB Morbidity Incidence Rates, per 100,000 by Race and Year
South Dakota 2005-2010**

Race	2005	2006	2007	2008	2009	2010
US Case Rate (All Races)	4.8	4.6	4.4	4.2	3.8	Not available*
SD All Races	2.1	1.8	1.7	2.1	2.2	1.8
SD Native American	8.8	8.8	10.3	5.9	10.3	15.0**
SD White	0.6	0.1	0.4	0.1	0.9	0.3**
SD Black	48.4	64.5	32.3	161.3	64.5	24.6**
SD Asian	52.1	52.1	17.4	17.4	17.4	0.0
All Other SD Races	0.0	0.0	0.0	0.0	0.0	0.0

*2010 US case rate data is not yet available.

**2010 SD case rates by race were calculated with population estimates from 2010 census data.

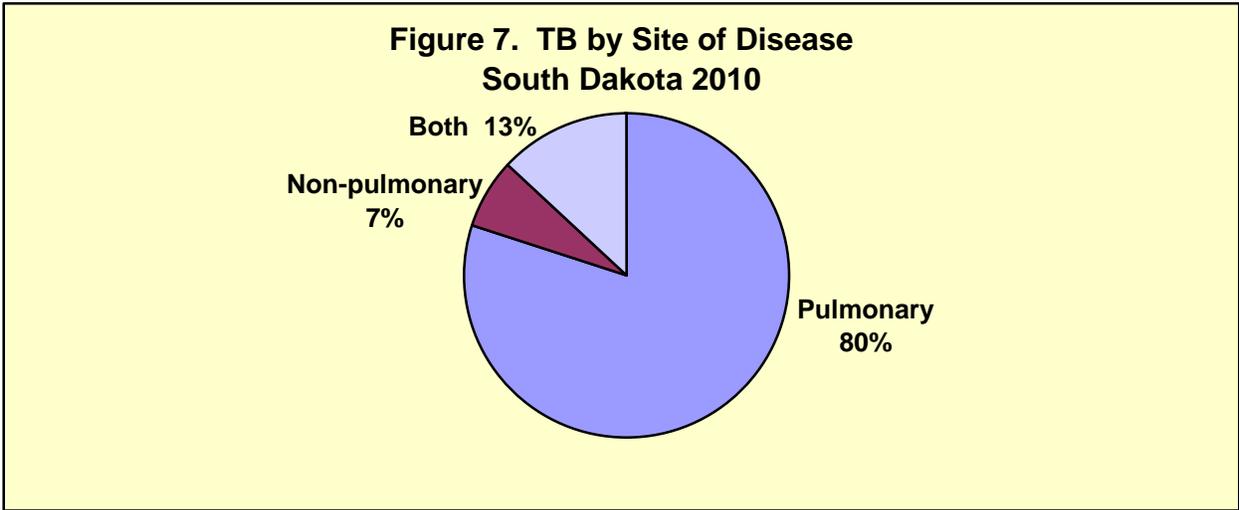


Tuberculosis cases in South Dakota have historically been located in a few geographic locations that consistently report the majority of TB cases. These include Minnehaha County which reports the highest number of foreign-born TB cases and Shannon, Todd and Pennington counties which report the highest number of Native American TB cases. Figure 6 and Table 3 provide additional information on the counties of residence of the TB cases in 2010.

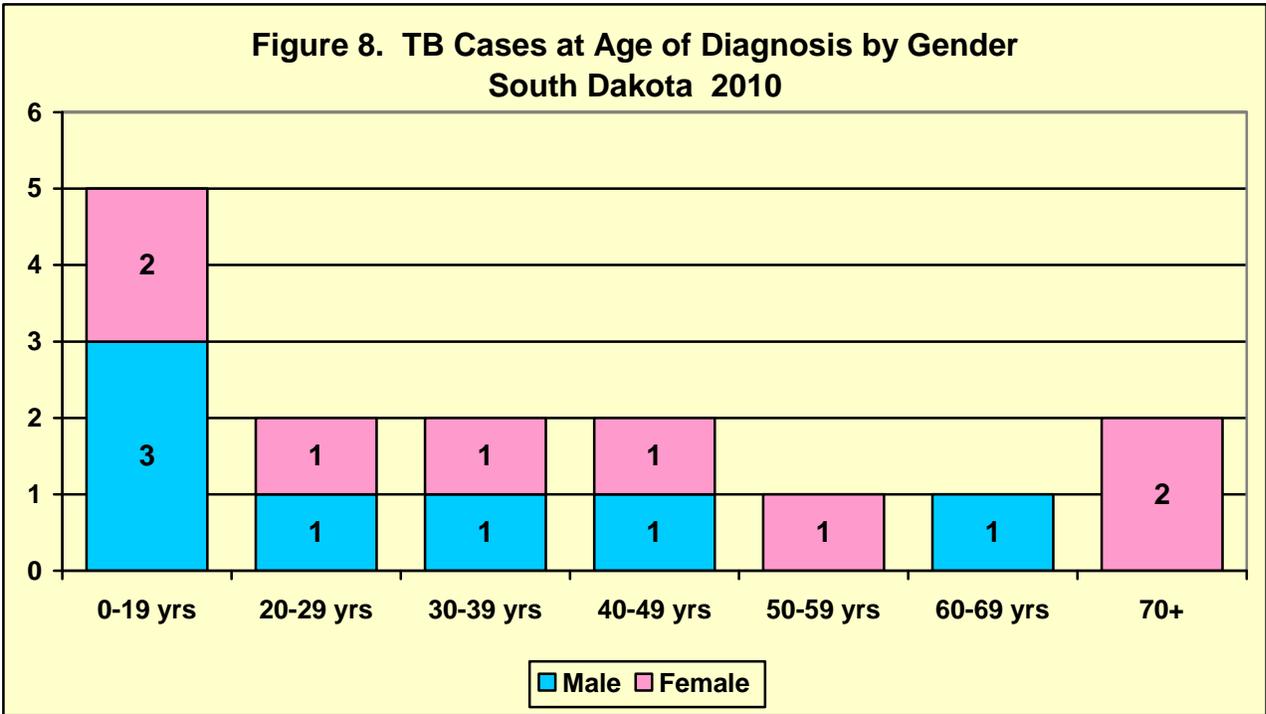
Table 3. TB Cases Reported by County of Residence, South Dakota 2010

County	# of TB Cases	County	# of TB Cases
Bennett	1	Minnehaha	3
Charles Mix	7	Shannon	1
Clay	1	Todd	1
Hanson	1		

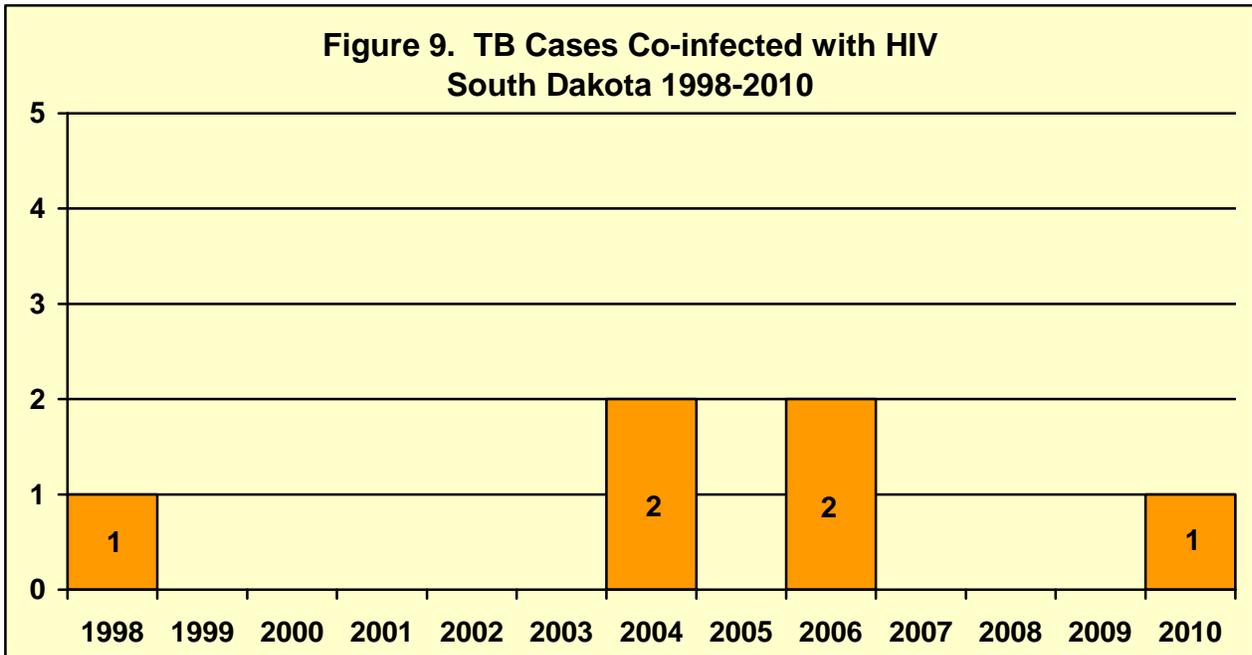
Tuberculosis remains primarily a pulmonary disease with approximately 85% of cases nationally reported as pulmonary disease and 15% as non-pulmonary disease. South Dakota has historically reported a higher percentage of non-pulmonary TB disease. In 2010 this trend continued with 3 cases (20%) reported as non-pulmonary disease or both pulmonary and non-pulmonary sites of disease as described in Figure 7. The non-pulmonary sites of disease in 2010 included TB reported in pleural fluid and lymph nodes.



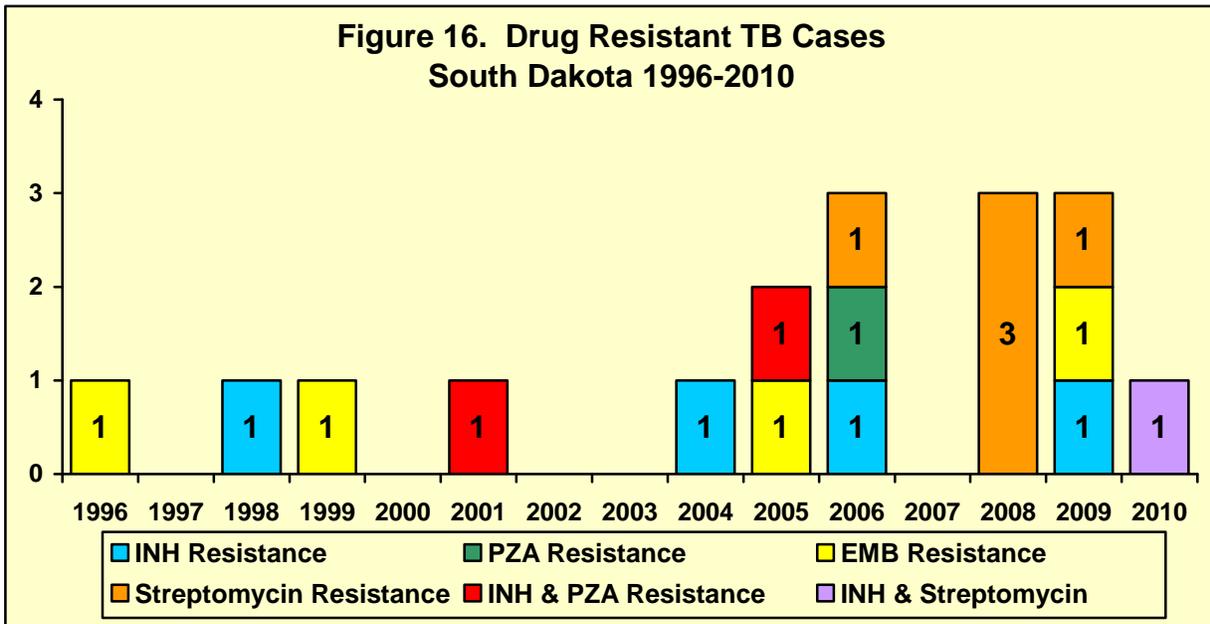
The average age of the TB case in 2010 was 34 years of age. This is a shift to younger patients as compared to 2009 when the average age was 45 years of age. There were 3 children less than 10 years of age reported during this time period. Figure 8 illustrates the age at diagnosis by gender for tuberculosis cases reported in 2010.



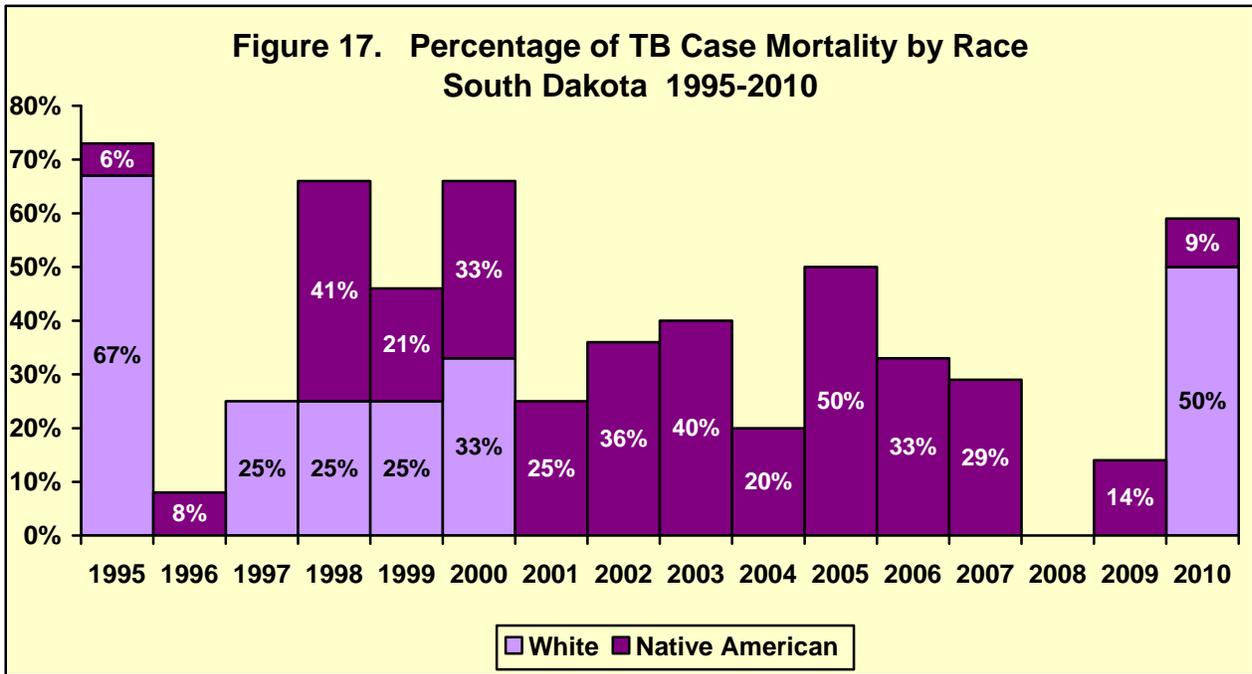
Co-infection with HIV is an important risk factor for the development of active TB. Because of this, all TB cases diagnosed in South Dakota aged 25-44 years of age are offered HIV testing. Co-infected TB cases require more monitoring for toxicity and are frequently treated with second-line TB medications. Figure 9 describes the number of TB cases co-infected with HIV since 1998 documenting that HIV co-infected TB cases remain uncommon.



All culture positive TB cases are tested for drug resistance to first-line TB medications including isoniazid, rifampin, pyrazinamide, ethambutol and streptomycin. Multi-drug resistant TB (defined by CDC as resistance to at least INH and RIF) is a significant public health problem because of the difficulty in achieving a successful treatment outcome. Figure 16 describes drug resistant TB cases since 1996 illustrating that South Dakota most often has single drug resistant cases. No multi-drug resistant TB cases have been reported in South Dakota although the Department of Health has managed several MDR-TB cases reported in other states that have moved to South Dakota.



South Dakota has reported a higher than expected mortality rate during certain years, especially among Native American patients. Figure 17 describes the mortality rates by race since 1995 showing the higher trend among Native American cases. Mortality rates are calculated by the percentage of TB cases by race that die during the year of their diagnosis.

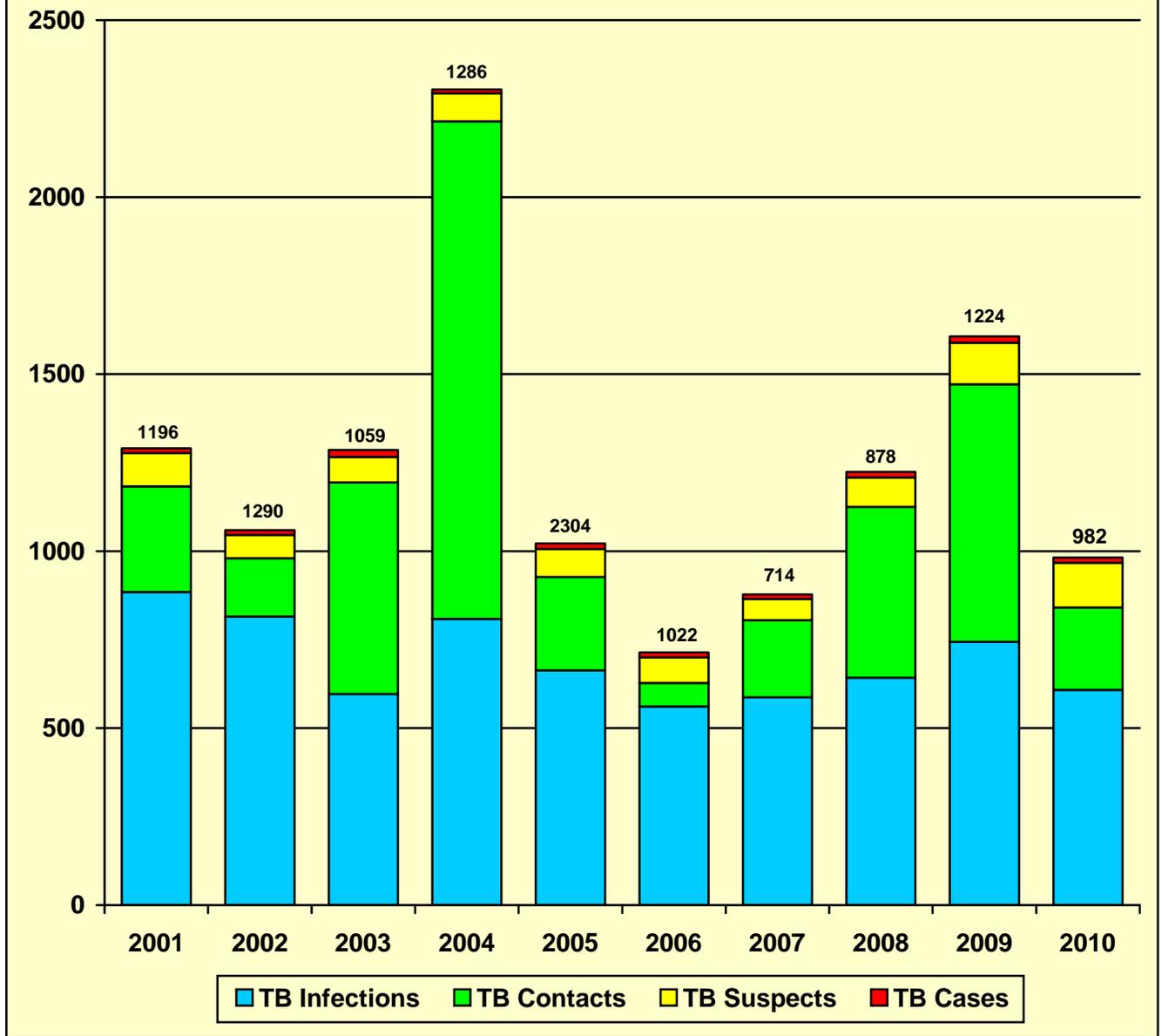


The workload in the TB Control Program consists of four categories of patients:

- 1) **TB cases** (persons diagnosed with active TB)
- 2) **TB suspects** (persons suspected of active TB with a pending diagnosis)
- 3) **TB contacts** (persons exposed to an infectious TB case)
- 4) **Latent TB infection** (persons reported with a positive TB skin test or positive IGRA test [interferon gamma release assay])

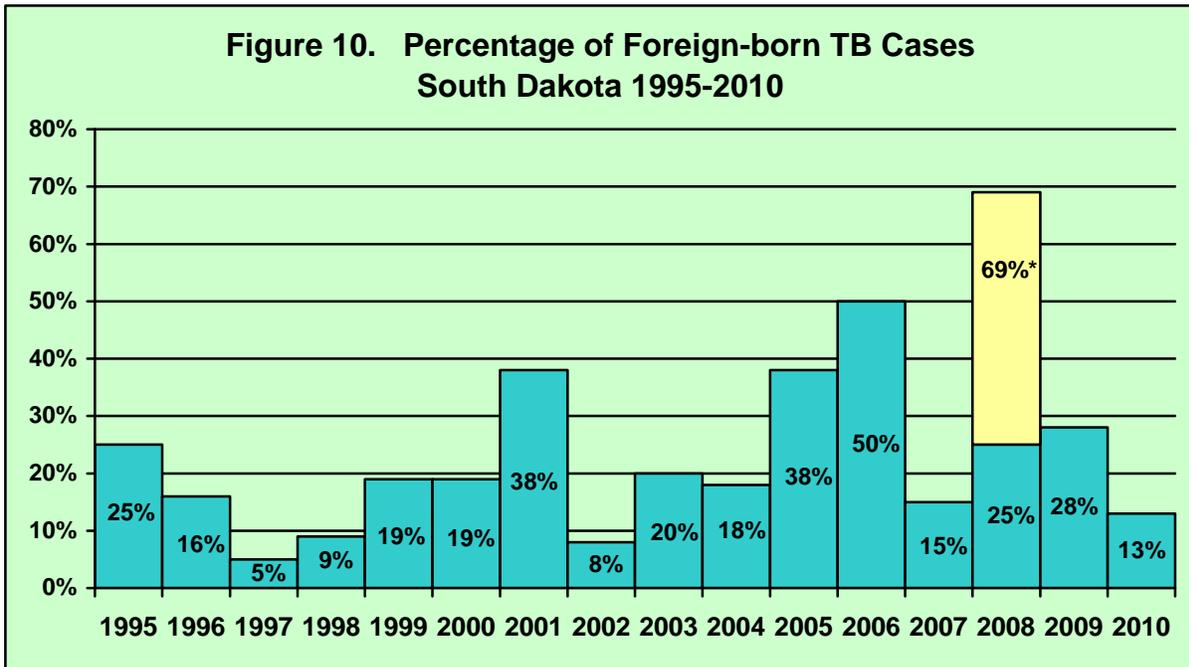
All of these conditions are reportable to the TB Control Program and are initiated for investigation. Disease Intervention Specialist (DIS) staff are responsible for ensuring appropriate investigation, treatment and follow-up of these individuals statewide. Figure 18 describes this cumulative caseload which is divided among 19 DIS staff illustrating that the active TB cases and suspect TB cases represent the smallest number of patients reported. TB contacts and patients with latent TB infection make up the greatest percentage of assigned workload for DIS staff within the TB Control Program.

**Figure 18. Cumulative # of TB Investigations by DIS
South Dakota 2001-2010**



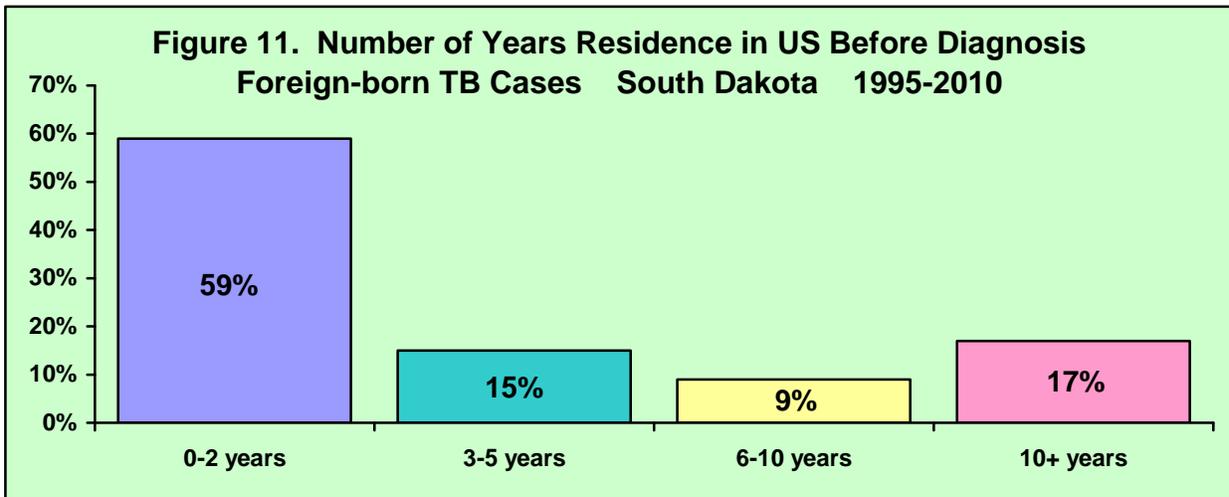
Analysis of Foreign-Born Tb Cases in South Dakota

Tuberculosis cases who were born outside the United States continue to represent an important risk group in the United States as well as in South Dakota; however during 2010 this group decreased to 13% of the total cases reported. Figure 10 describes the percentage of foreign-born TB cases in South Dakota. US-born TB cases born to foreign-born parents is a relatively new TB risk factor which has been identified nationally. TB cases were first reported in this risk group in South Dakota in 2008 and are represented in Figure 10.

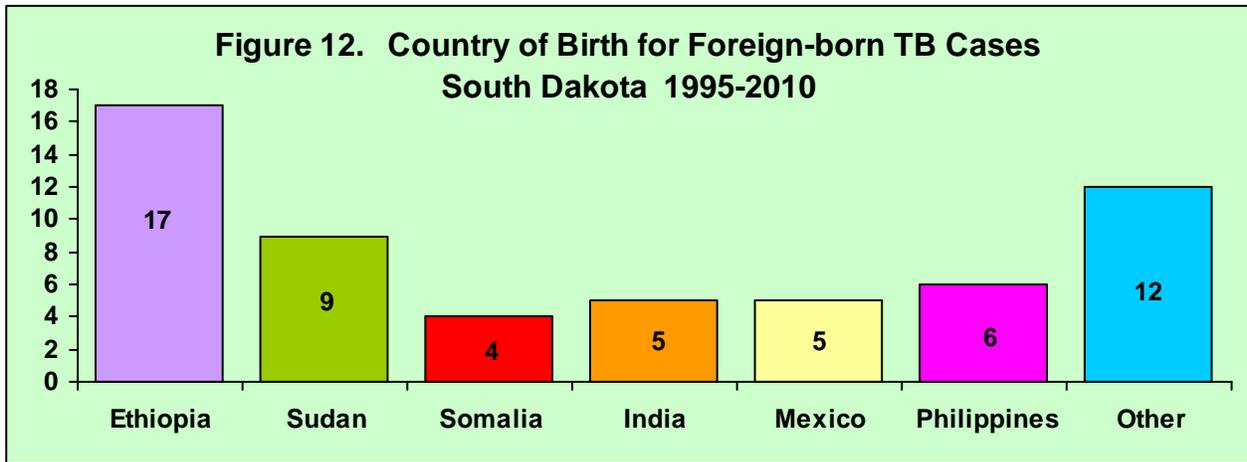


* In 2008, the 69% includes both foreign-born cases as well as US-born cases born to foreign-born parents.

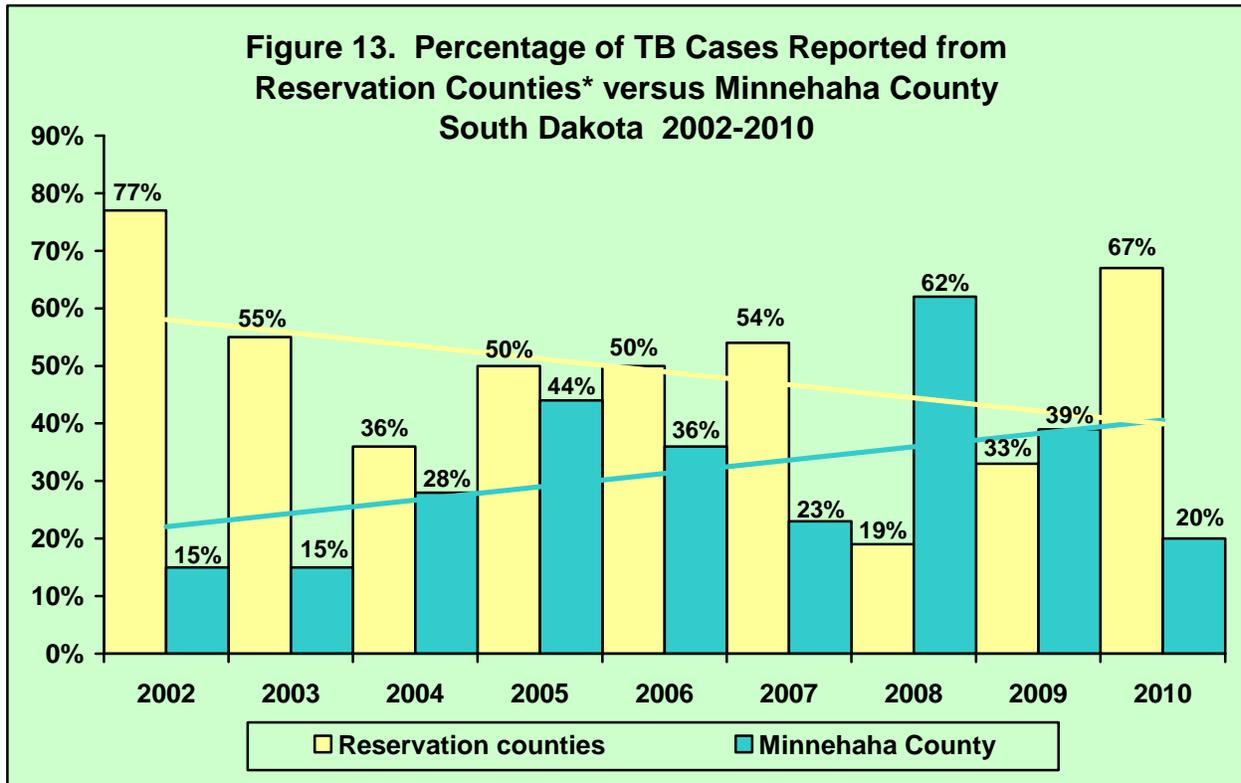
Most foreign-born persons who develop active TB usually do so within the first two years after arrival in the United States. Figure 11 describes that 59% of foreign-born TB cases since 1995 developed active TB within the first two years of their arrival. Because of this increased risk, these individuals are targeted for preventive TB program activities including targeted TB skin testing and preventive treatment programs.



Foreign-born TB cases continue to come from many areas of the world; however, the majority of the TB cases reported in South Dakota are of African descent. Figure 12 describes the country of birth for the foreign-born TB cases reported in South Dakota since 1995. Countries of birth for the “other” category include Afghanistan, China, El Salvador, Indonesia, Romania, Russia, South Africa and Vietnam.



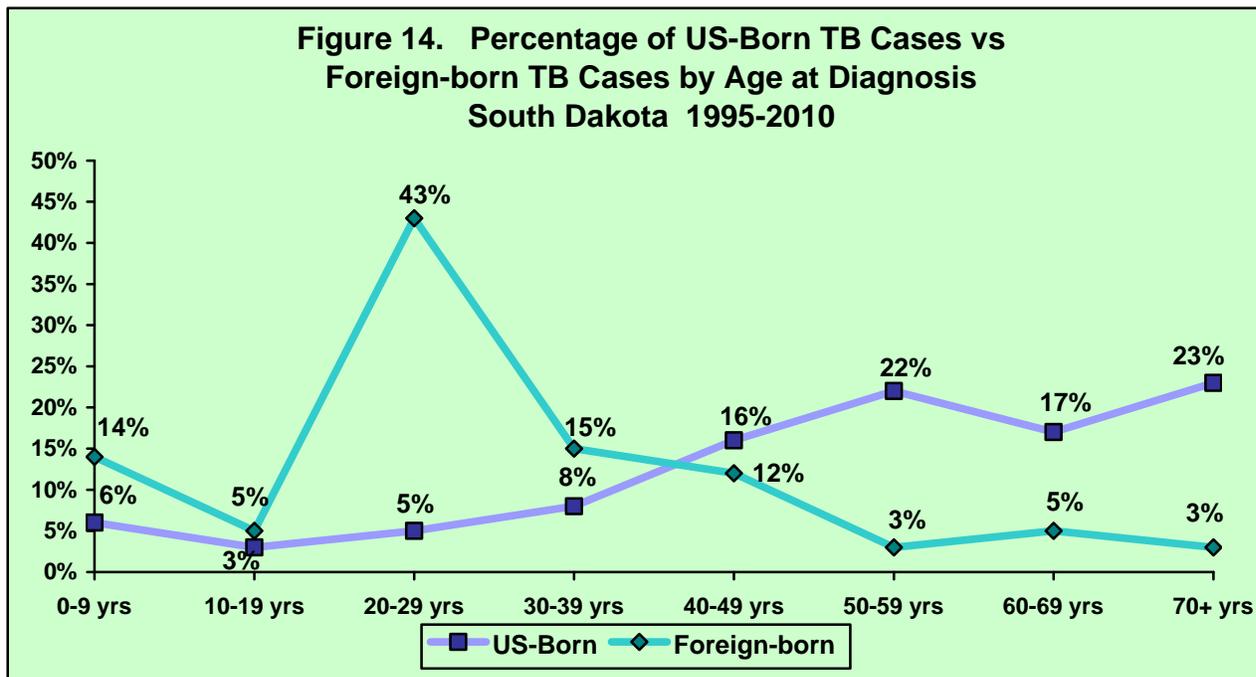
Another factor in the increase of foreign-born TB cases in South Dakota is the change in geography where TB cases are reported. Historically, the highest percentage of TB cases were reported from counties that included and bordered American Indian reservations. As Native American TB cases decreased and foreign-born TB cases increased, there has been a geographic shift of TB cases from reservation counties to Minnehaha County as illustrated in Figure 13. This is due to the fact that most foreign-born persons who resettle in South Dakota do so in Minnehaha County.



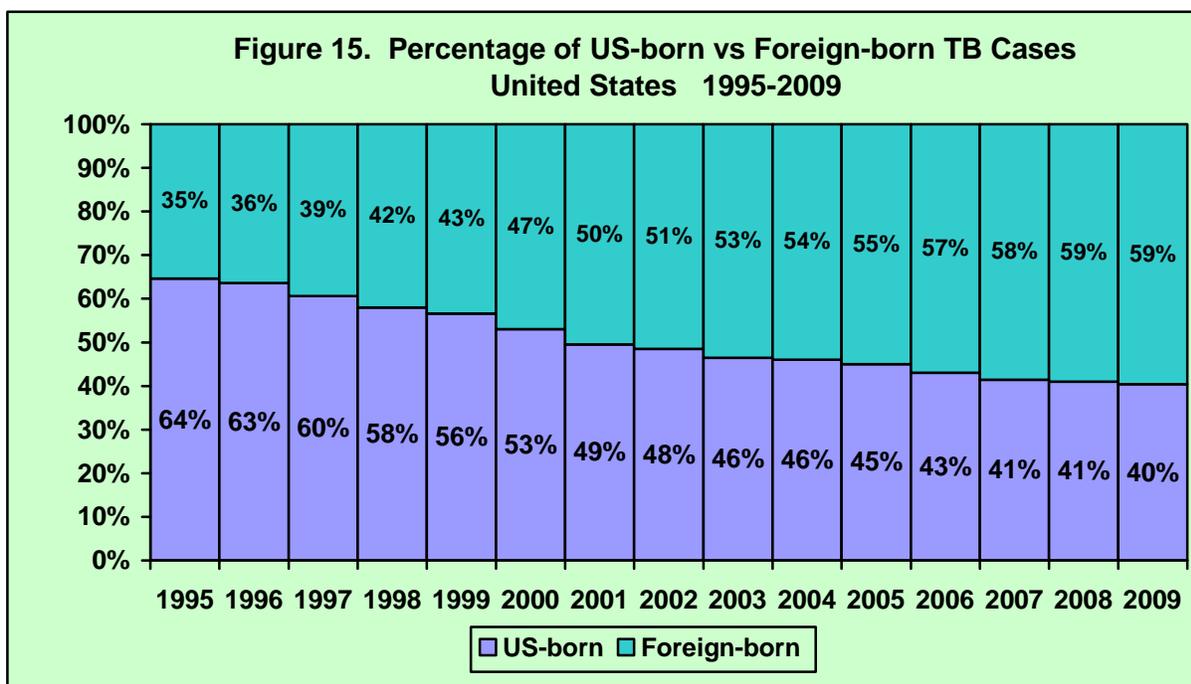
* Reservation counties include Bennett, Brule, Buffalo, Charles Mix, Corson, Dewey, Jackson, Mellette, Moody, Pennington, Roberts, Shannon, Todd, Tripp, Walworth and Ziebach counties.

Foreign-born TB cases are consistently reported in younger persons as compared to US-born patients in South Dakota. This presents additional TB program management issues as these TB cases more commonly have young children who have been exposed at home and the TB cases

are usually employed which requires an investigation at their worksite and therefore increases the number of contacts that must be screened and treated. Figure 14 illustrates that the majority of foreign-born TB cases are diagnosed while young adults.



Foreign-born TB cases represent a unique challenge to the South Dakota TB Control Program because of cultural issues, language barriers and a greater likelihood of drug resistance. As these cases continue to increase in South Dakota, additional time and resources will need to be dedicated to address these unique issues. Figure 15 describes the ever increasing trend of the percentage of foreign-born TB in the United States since 1995.



Latent Tb Infection and Prevention Activities

Ensuring appropriate treatment and follow-up of active TB cases and suspects is the highest priority of the Tuberculosis Control Program. However, in order to achieve TB elimination in South Dakota, an emphasis must be made on preventing future cases of TB. This is accomplished by follow-up of persons infected with latent TB infection. These individuals are infected with the TB bacteria (*Mycobacterium tuberculosis*) but have not yet developed an active form of the disease. By finding and treating these individuals, future TB cases can be prevented and therefore the TB Control Program dedicates time and resources to this preventive strategy.

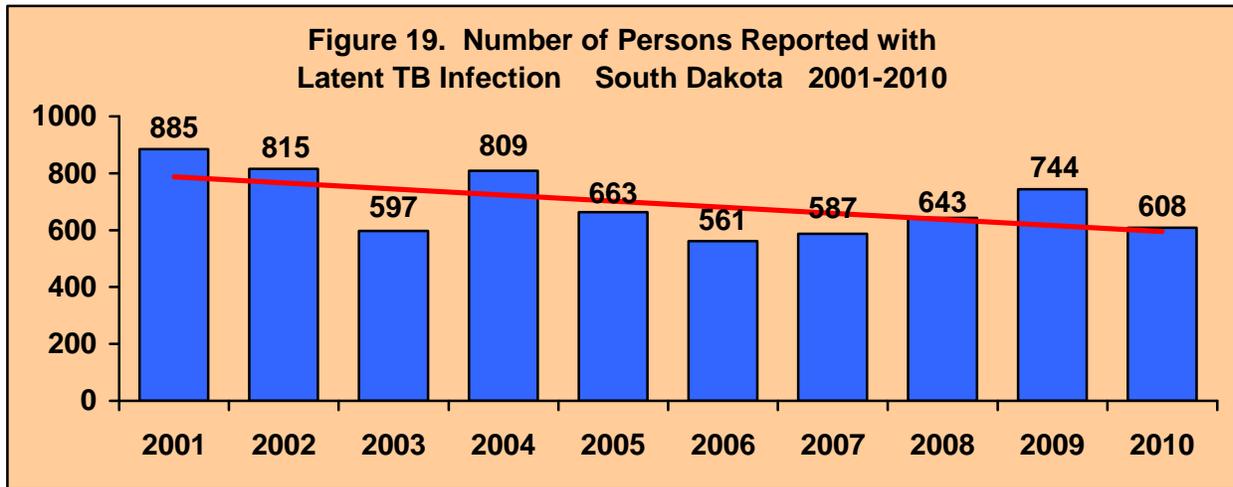


Figure 19 presents the number of patients reported with latent TB infection (positive TB skin tests or positive IGRA testing) over the last 10 years. All of these individuals have the potential to develop active TB disease and potentially be infectious to others.

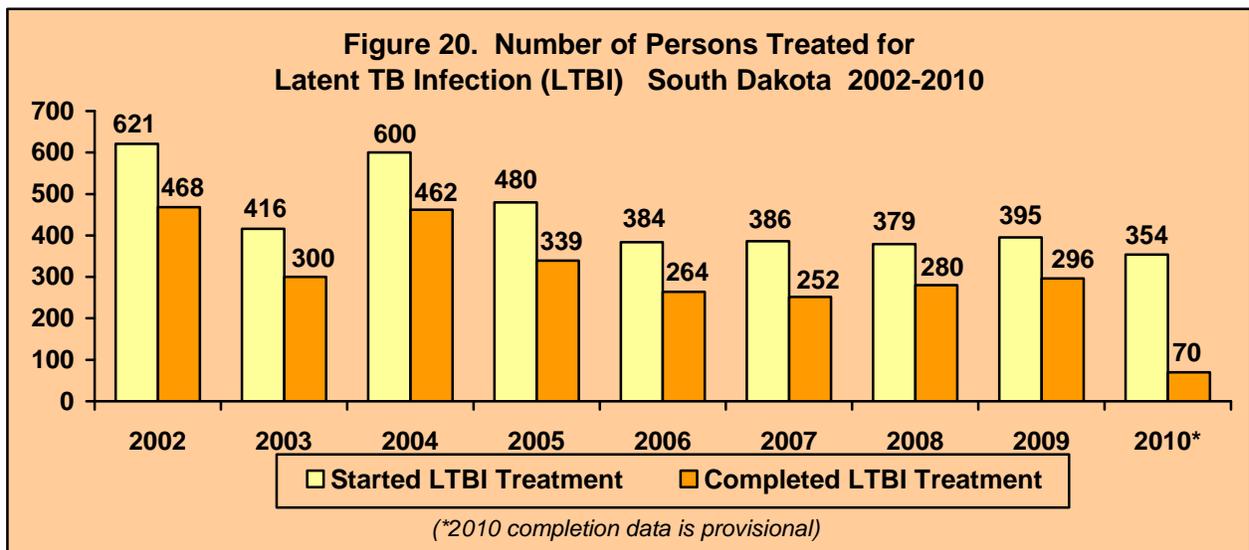
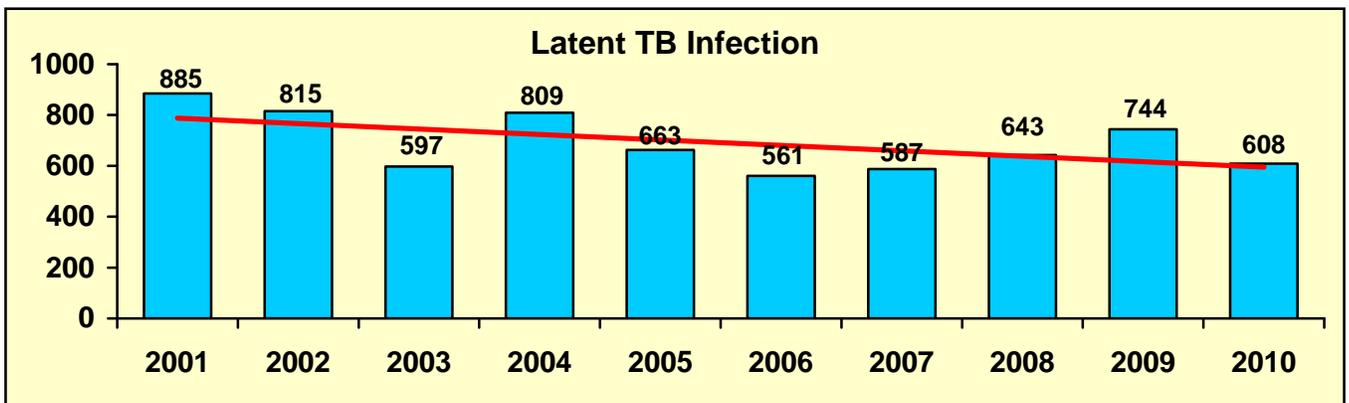
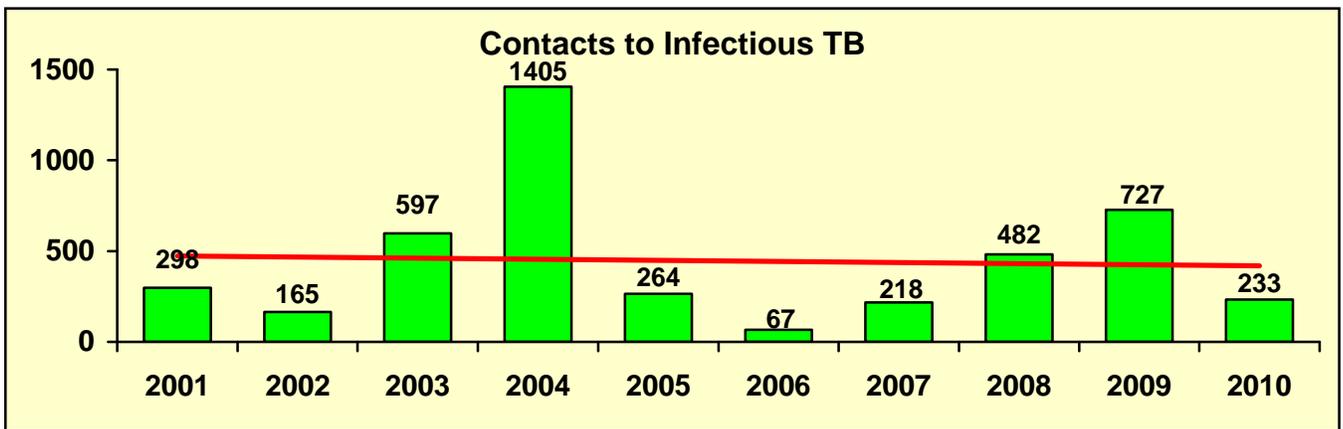
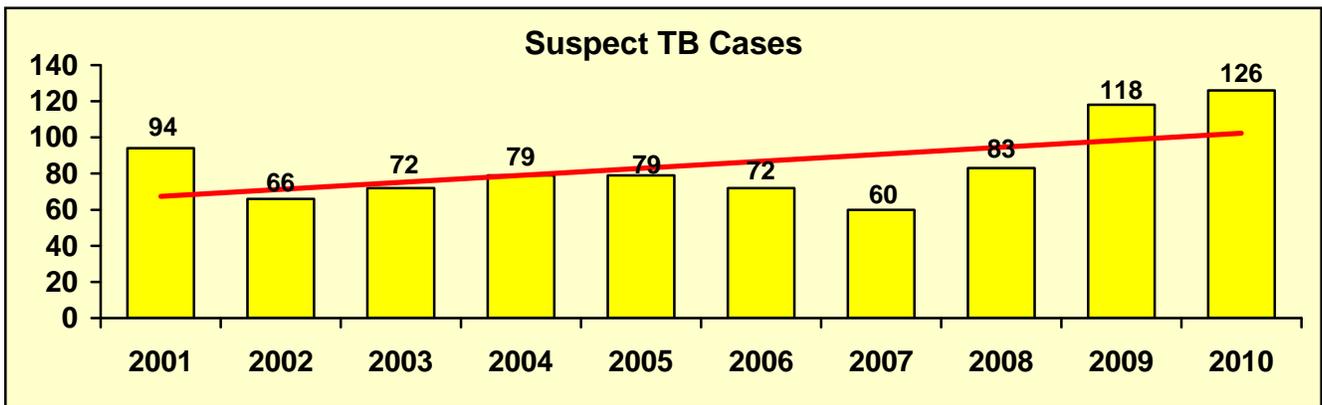
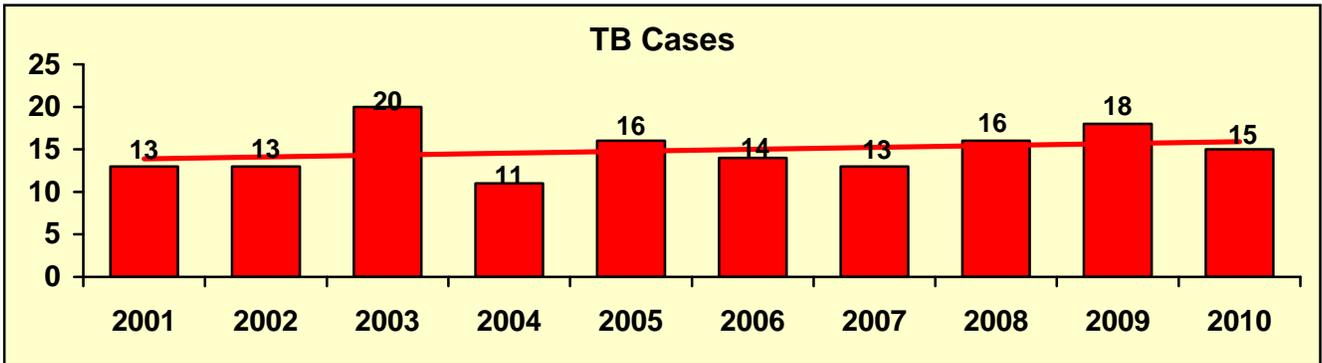


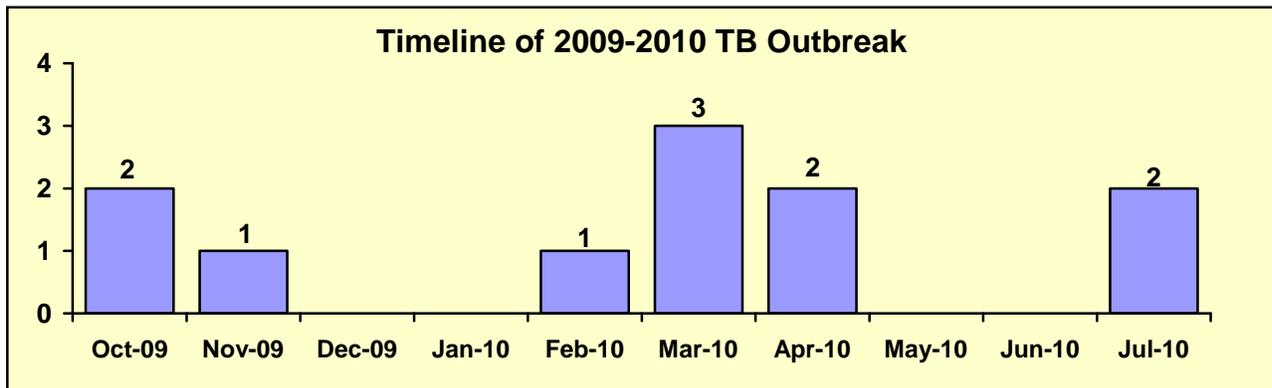
Figure 20 presents the number of patients with latent TB infection that started a course of preventive treatment as well as the number who completed this treatment. The treatment is usually done with isoniazid (INH) which is provided free of charge to patients statewide by the TB Control Program.

Summary of TB Control Program Caseload, South Dakota, 2001-2010

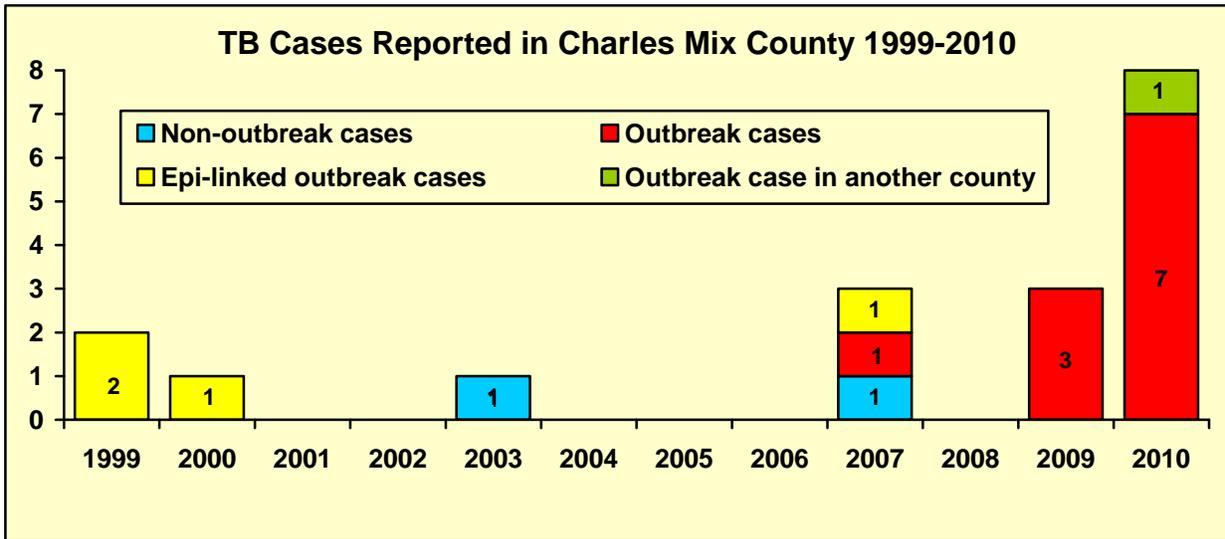


2009-2010 Tuberculosis Outbreak

During 2009 and 2010, there was a cluster of 11 TB cases reported over a 10-month time period, all of which were epidemiologically linked. These 11 outbreak cases accounted for 17% of the total cases reported statewide during 2009 and 69% of the total cases reported in 2010. All but one of these cases were reported in Charles Mix County. The first TB case reported in October 2009 was a 49 year old who had died two months prior. The second TB case was reported later that month with no known connection to the first case. The third TB case was diagnosed in November 2009 and was a sibling to the first case and exposed to the second TB case. The investigation focused on the extended family group from these three cases which included a large number of people living in approximately 10 different homes within two counties. Subsequently eight additional TB cases were identified in this cluster. The graph below provides a timeline of the outbreak.



The first TB case was a non-pulmonary TB case and therefore was not originally suspected to be infectious; however, it was later determined this patient also had pulmonary TB and was likely infectious to others. Epidemiological information obtained during the investigation indicated that the second TB case was infectious for an extended period of time estimated to be back to January 2008. This resulted in a retrospective contact investigation being extended to January 2008. It was determined that the second TB case was highly infectious and was the likely source of exposure for many of the contacts and subsequent TB cases in this cluster. It was observed that TB cases from Charles Mix County in 1999, 2000 and 2007 were epidemiologically linked to cases in this outbreak and one TB case from 2007 was a genetic match to the outbreak as presented in the graph below.



The TB cases in this cluster consisted of seven males and four females. Of the 11 cases reported, eight were laboratory confirmed by culture. All eight cases received drug susceptibility testing with no drug resistance observed. The remaining three cases were diagnosed through clinical or radiographic findings suggestive of active TB. Genotype testing was completed for the eight laboratory confirmed cases which confirmed a genetic match between them, confirming the epidemiological links identified previously. The remaining three clinically diagnosed TB cases had strong epidemiological links to the other TB cases in this cluster. The genetic profile of the outbreak strain has not been observed anywhere else in South Dakota and was unique in the nation. Listed below is a summary of the investigation:

Summary of Persons Linked to the Outbreak	
11	TB cases diagnosed (1 died before diagnosis)
101	Contacts evaluated – not infected
1	Contact not evaluated (refused)
33	Contacts with new latent TB infection
2	Contacts with previous latent TB infection
2	Contacts with previous active TB
146	Total persons linked to the outbreak
Summary of Persons Treated	
10	TB cases treated (100% completed)
29	Contacts with new latent TB infection (97% completed – 1 moved)
2	Contacts with previous treatment for latent TB infection
2	Contacts with previous treatment for active TB
43	Total persons treated

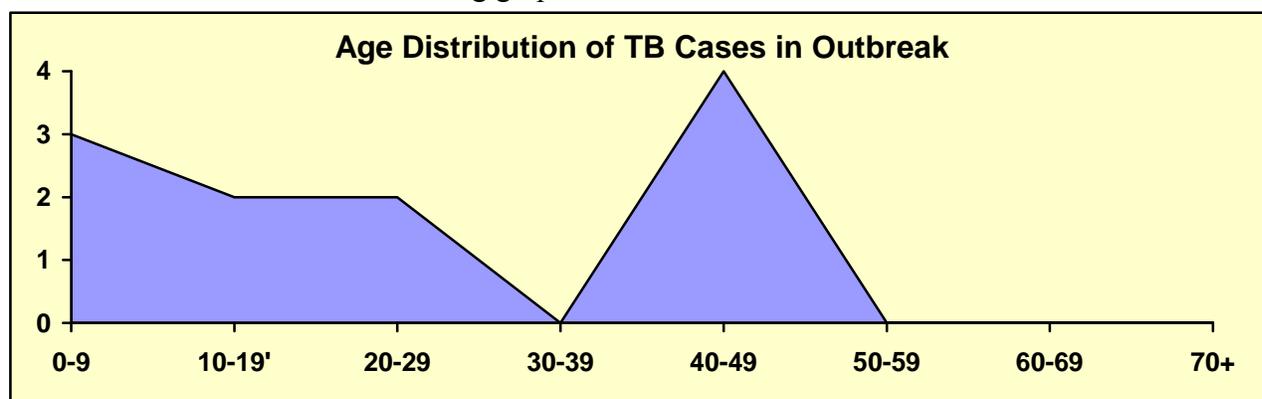
As part of the follow-up activities done during the contact investigation, students and staff at three schools were screened because of possible exposure to one or more of the identified TB cases. The screenings took place at a public high school, a tribal elementary school and a public elementary school in three different locations. The results of these screening are listed below.

	Public High School	Tribal Elementary School	Public Elementary School	TOTAL
Students	37	69	17	123
Staff	11	5	0	16
TOTAL	48	74	17	139
Positivity Rate	0%	0%	0%	0%

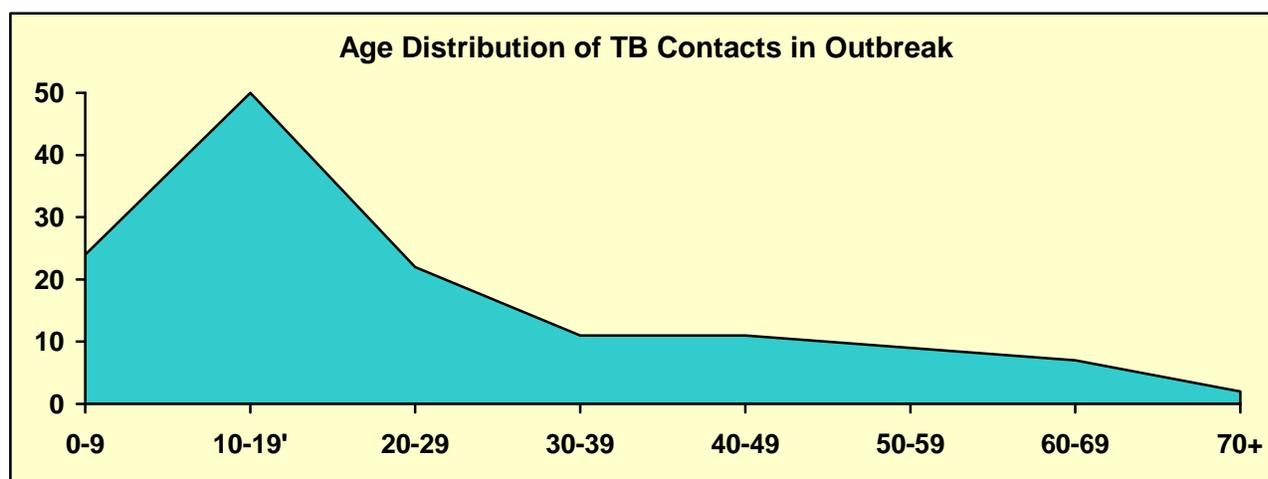
In addition, a community screening was also held as part of the follow-up activities done because of this outbreak. Listed below is a summary of this screening:

Summary of community screening	
87	Persons tested with negative results
1	Person tested but test not read
1	Person tested with a positive result
89	Total persons screened (1% positivity rate)

The TB cases in this cluster were younger than usual with the average age of the TB cases being 25 years of age. The age range of the cases was 7 months to 49 years of age. Of the 11 total cases, five cases were 15 years of age or younger. The age distribution of the TB cases in this outbreak is illustrated in the following graph:



The TB contacts identified in this outbreak were also younger than usual which presented several challenges for case management and treatment as well as a higher risk for development of active TB. The age distribution for the contacts is illustrated below:



Overall this TB outbreak presented the largest cluster of TB cases ever reported in South Dakota. There was considerable interest in the cluster nationally as CDC staff visited the state three times during the outbreak, including two different field investigation teams who conducted intense chart audits of every TB case and infected contact to ensure appropriate management of the outbreak. Listed below are the final TB program management rates for this investigation:

Positivity Rate =	<u># TB Cases + # new LTBI</u> Total # contacts minus #previous LTBI patients	<u>40</u> 142	=	28%
Active TB Rate =	<u># TB cases</u> Total # contacts identified	<u>11</u> 146	=	8%
Evaluation Rate =	<u># Contacts evaluated</u> Total # contacts identified	<u>145</u> 146	=	99%
LTBI Rx Rate =	<u># LTBI patients started on treatment</u> Total # untreated LTBI patients	<u>29</u> 29	=	100%

Sudden Infant Death Syndrome (SIDS), South Dakota, 2000-2009

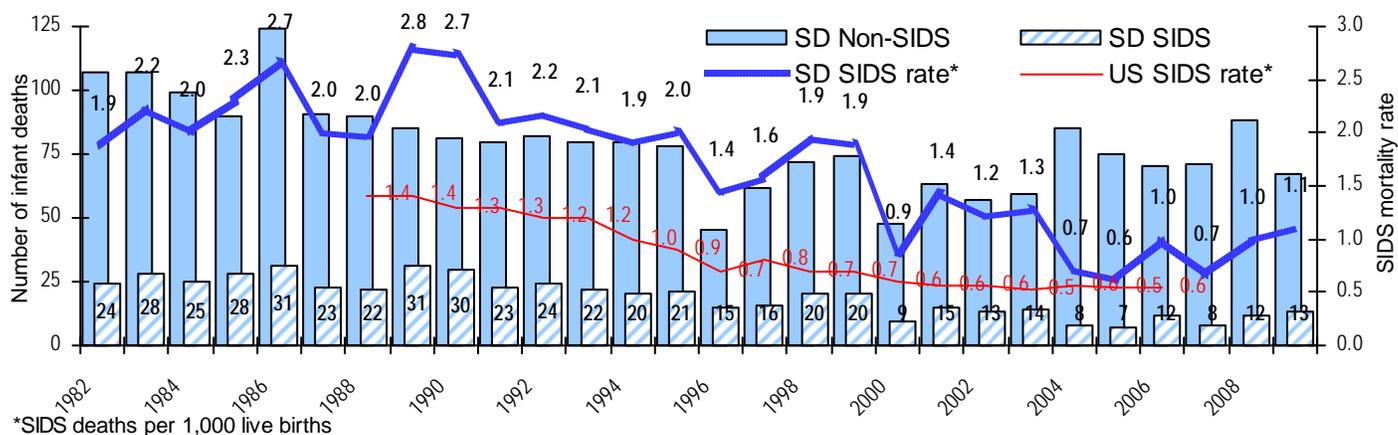
By Lon Kightlinger, State Epidemiologist, and Laurie Gregg, Senior Microbiologist
South Dakota Department of Health

Each year nearly a dozen South Dakota babies die of Sudden Infant Death Syndrome (SIDS). These deaths usually happen while the child is sleeping. The causes of SIDS are unknown. Preventing SIDS is an important public health priority. Nobody knows how to completely prevent SIDS, but there are things that reduce the baby's risk:

- Babies should sleep on their backs on a firm surface;
- Don't over-dress or over-cover your baby;
- Don't smoke around babies and don't smoke during pregnancy.

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant less than 1 year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and clinical history review⁽¹⁾. The South Dakota SIDS data were drawn from the linked Birth and Death Registries (SD Vital Records, Department of Health). The cause of death and related details are determined and documented by a local physician or coroner (ICD-10: SIDS R95).

SIDS, non-SIDS deaths and SIDS death rate*, US and South Dakota, 1982-2009



Nationally, SIDS is the third leading overall cause of infant death in the United States⁽²⁾. Congenital malformations and low birth weight are the first and second leading causes of infant death. The national SIDS death rate is 0.55 per 1,000 live births, but South Dakota's rate was nearly twice the national rate during the past decade. The figure above shows the decreasing SIDS rate since the 1980's. During the 1980's South Dakota experienced as many as 31 SIDS deaths per year with a median of 26 deaths and a rate of 2.2 SIDS deaths per 1,000 live births, During the 1990's, when preventive SIDS education was promoted, the median was 20 per year and the rate was 2.0 SIDS deaths per 1,000 live births. During the 2000's the median and rate further decreased to 12 and 0.98, respectively. During the past decade (2000-2009) a total of 111 SIDS deaths were reported in South Dakota, which was 14% of all infant deaths in the state during that period.

¹ CDC www.cdc.gov/SIDS

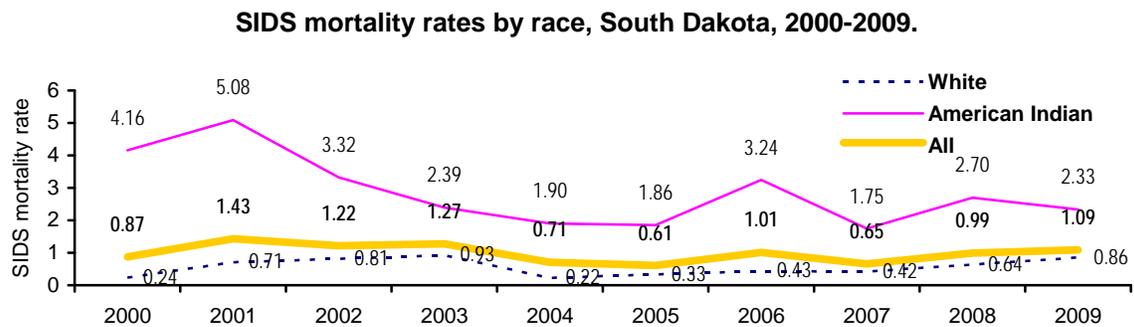
² National Vital Statistics Reports 18 May 2010, 58(19), p 12.

National studies have shown that about 60% of SIDS victims are boys⁽³⁾. In South Dakota over two-thirds of the SIDS deaths were boys 75 (68%) and 36 (32%) were girls.

Race disparities are evident in SIDS. In 2006 the national rate of SIDS deaths was 0.55 per 1,000 live births with the race stratification showing the SIDS mortality rate for white infants at 0.56, American Indian 1.19, Black 1.04, Asian 0.53 and Hispanic 0.27⁽⁴⁾. In South Dakota over half of SIDS victims were American Indian infants during the past decade.

SIDS by gender and race, South Dakota, 2000-2009, compared to United States rates per 1,000 live births, 2006				
	South Dakota 2000-2009			USA 2006 rate
	Number	Percent	Rate	
All races	111	100%	0.98	0.55
Male	75	68%	1.29	-
Female	36	32%	0.65	-
White	50	45%	0.56	0.56
Am Indian	57	51%	2.79	1.19
Black	2	2%	1.20	1.04
Other	2	2%	1.21	-

The South Dakota 10-year SIDS rates were 0.56 for white infants, 2.79 for American Indians and 1.20 for Black infants. The chart below shows the decreasing trend of American Indian SIDS deaths over the past decade, while the white SIDS rate, albeit lower, remained flat.



Half of South Dakota counties reported at least one SIDS death during the past decade with Pennington reporting the most, 22, or 20% of all SIDS deaths. The county average annual SIDS mortality rates ranged from 0 to 0.49 SIDS deaths per 1,000 live births, but the highest rates were in low population counties where 1 or 2 deaths produced an elevated rate.

³ H. Richardson, A. Walker and R. Horne. 2010. Sleeping like a baby--does gender influence infant arousability? Sleep 33: 1055-1060.

⁴ National Vital Statistics Reports 30 Apr 2010, 58(17), p 25.

The mother's demographic, educational and health risk status may be associated with SIDS. Smoking is a risk factor and 45% (n = 50) of the SIDS deaths occurred to babies whose mothers used tobacco while they were pregnant, 52% did not use tobacco, and 3% were unknown tobacco status. Nearly half of SIDS mothers had less than a high school diploma. Sixty-three percent (n = 70) of SIDS deaths occurred to babies of not married mothers. Twenty (18%) of SIDS mothers were teenagers, ≤19 years of age, whereas 4% of mothers were age 36 or older. Three percent of mothers had other children who had previously died, while 97% had no other prior deceased children. Sixty-six percent of SIDS mothers used WIC services.

Resources:

- American Academy of Pediatrics www.aap.org/healthtopics/Sleep.cfm
- National Institutes of Child Health & Development www.nichd.nih.gov/health/topics/Sudden_Infant_Death_Syndrome.cfm and www.nichd.nih.gov/sids
- Healthy Childcare America www.healthychildcare.org/sids.html
- CDC: SIDS and Vaccination www.cdc.gov/vaccinesafety/Concerns/sids_faq.html
- NIH fact sheet: www.nichd.nih.gov/sids/upload/PART_II.pdf
- SIDS resource center: www.sidscenter.org/index.html
- SIDS for parents and professionals: www.sidsresources.org/index.htm

The **American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome** makes the following prevention recommendations⁵

⁵ American academy of Pediatrics, Policy Statement: The Changing Concept of Sudden Infant Death Syndrome: Diagnostic Coding Shifts, Controversies Regarding the Sleeping Environment, and New Variables to Consider in Reducing Risk. 2005. Pediatrics 119(5) 1245-1255. <http://aappolicy.aappublications.org/cgi/reprint/pediatrics;116/5/1245.pdf>

The recommendations outlined here were developed to reduce the risk of SIDS in the general population. As it is defined by epidemiologists, risk refers to the probability that an outcome will occur given the presence of a particular factor or set of factors. Scientifically identified associations between risk factors (e.g., socioeconomic characteristics, behaviors, or environmental exposures) and outcomes such as SIDS do not necessarily denote causality. Furthermore, the best current working model of SIDS suggests that more than 1 scenario of preexisting conditions and initiating events may lead to SIDS. Therefore, when considering the recommendations in this report, it is fundamentally misguided to focus on a single risk factor or to attempt to quantify risk for an individual infant. Individual medical conditions may warrant a physician to recommend otherwise after weighing the relative risks and benefits.

1. Back to sleep: Infants should be placed for sleep in a supine position (wholly on the back) for every sleep. Side sleeping is not as safe as supine sleeping and is not advised.

2. **Use a firm sleep surface:** Soft materials or objects such as pillows, quilts, comforters, or sheepskins should not be placed under a sleeping infant. A firm crib mattress, covered by a sheet, is the recommended sleeping surface.
3. **Keep soft objects and loose bedding out of the crib:** Soft objects such as pillows, quilts, comforters, sheepskins, stuffed toys, and other soft objects should be kept out of an infant's sleeping environment. If bumper pads are used in cribs, they should be thin, firm, well secured, and not "pillow-like." In addition, loose bedding such as blankets and sheets may be hazardous. If blankets are to be used, they should be tucked in around the crib mattress so that the infant's face is less likely to become covered by bedding. One strategy is to make up the bedding so that the infant's feet are able to reach the foot of the crib (feet to foot), with the blankets tucked in around the crib mattress and reaching only to the level of the infant's chest. Another strategy is to use sleep clothing with no other covering over the infant or infant sleep sacks

that are designed to keep the infant warm without the possible hazard of head covering.

4. **Do not smoke during pregnancy:** Maternal smoking during pregnancy has emerged as a major risk factor in almost every epidemiologic study of SIDS. Smoke in the infant's environment after birth has emerged as a separate risk factor in a few studies, although separating this variable from maternal smoking before birth is problematic. Avoiding an infant's exposure to secondhand smoke is advisable for numerous reasons in addition to SIDS risk.

5. **A separate but proximate sleeping environment is recommended:** The risk of SIDS has been shown to be reduced when the infant sleeps in the same room as the mother. A crib, bassinet, or cradle that conforms to the safety standards of the Consumer Product Safety Commission and ASTM (formerly American Society for Testing Materials) is recommended. "Cosleepers" (infant beds that attach to the mother's bed) provide easy access for the mother to the infant, especially for breastfeeding, but safety standards for these devices have not yet been established by the Consumer Product Safety Commission.

Although bed-sharing rates are increasing in the United States for a number of reasons, including facilitation of breastfeeding, the task force concludes that the evidence is growing that bed sharing, as practiced in the United States and other Western countries, is more hazardous than the infant sleeping on a separate sleep surface and, therefore, recommends that infants not bed share during sleep. Infants may be brought into bed for nursing or comforting but should be returned to their own crib or bassinet when the parent is ready to return to sleep. The infant should not be brought into bed when the parent is excessively tired or using medications or substances that could impair his or her alertness. The task force recommends that the infant's crib or bassinet be placed in the parents' bedroom, which, when placed close to their bed, will allow for more convenient breastfeeding and contact. Infants should not bed share with other children. Because it is very dangerous to sleep with an infant on a couch or armchair, no one should sleep with an infant on these surfaces.

6. **Consider offering a pacifier at nap time and bedtime:** Although the mechanism is not known, the reduced risk of SIDS associated with pacifier use

during sleep is compelling, and the evidence that pacifier use inhibits breastfeeding or causes later dental complications is not. Until evidence dictates otherwise, the task force recommends use of a pacifier throughout the first year of life according to the following procedures:

- Pacifier should be used when placing the infant down for sleep and not be reinserted once the infant falls asleep. If the infant refuses the pacifier, he or she should not be forced to take it.
- Pacifiers should not be coated in any sweet solution.
- Pacifiers should be cleaned often and replaced regularly.
- For breastfed infants, delay pacifier introduction until 1 month of age to ensure that breastfeeding is firmly established.

7. **Avoid overheating:** The infant should be lightly clothed for sleep, and the bedroom temperature should be kept comfortable for a lightly clothed adult. Over-bundling should be avoided, and the infant should not feel hot to the touch.

8. **Avoid commercial devices marketed to reduce the risk of SIDS:** Although various devices have been developed to maintain sleep position or to reduce the risk of rebreathing, none have been tested sufficiently to show efficacy or safety.

9. **Do not use home monitors as a strategy to reduce the risk of SIDS:** Electronic respiratory and cardiac monitors are available to detect cardiorespiratory arrest and may be of value for home monitoring of selected infants who are deemed to have extreme cardiorespiratory instability. However, there is no evidence that use of such home monitors decreases the incidence of SIDS. Furthermore, there is no evidence that infants at increased risk of SIDS can be identified by in-hospital respiratory or cardiac monitoring.

10. **Avoid development of positional plagiocephaly:**

- Encourage "tummy time" when the infant is awake and observed. This will also enhance motor development.
- Avoid having the infant spend excessive time in car-seat carriers and "bouncers," in which pressure is applied to the occiput (*back of the head*). Upright "cuddle time" should be encouraged.
- Alter the supine head position during sleep. Techniques for accomplishing this include placing the infant to sleep with the head to one side for a

week and then changing to the other and periodically changing the orientation of the infant to outside activity (e.g., the door of the room).

- Particular care should be taken to implement the aforementioned recommendations for infants with neurologic injury or suspected developmental delay.
- Consideration should be given to early referral of infants with plagiocephaly when it is evident that conservative measures have been ineffective. In some cases, orthotic devices may help avoid the need for surgery.

11. **Continue the “Back to Sleep” campaign:** Public education should be intensified for secondary caregivers (child care providers, grandparents, foster parents, and babysitters). The campaign should continue to have a special focus on the black and American Indian/Alaska Native populations. Health care professionals in intensive care nurseries, as well as those in well-infant nurseries, should implement these recommendations well before an anticipated discharge.

South Dakota HIV/AIDS Surveillance Report

January 2011

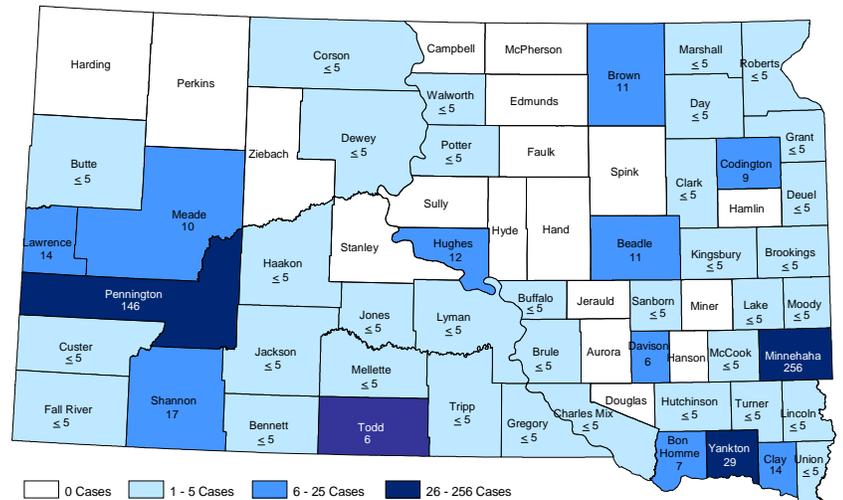
- 35 new HIV/AIDS cases were reported in 2010
 - 23 Males
 - 12 Female

- 400 people are estimated to be living with HIV/AIDS in South Dakota

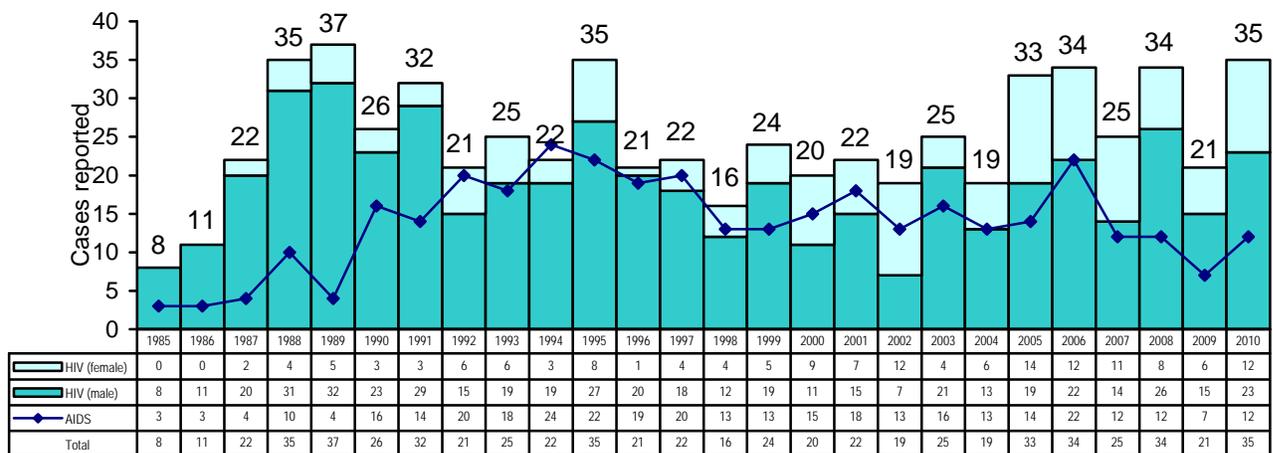
- Disproportionately affected by HIV/AIDS
 - Blacks
24% of living cases
<1% of the population
 - Native Americans
15% of living cases
9% of the population

- 644 cumulative cases of HIV/AIDS were reported in South Dakota from 1985 – 2010

South Dakota Residents Reported Infected with HIV/AIDS:
Cumulative Cases by County, 1985 - 2010



South Dakota Residents Diagnosed by Gender with HIV and AIDS, 1985-2010



At the end of 2010, 644 SD residents had been reported as infected with HIV (489 male, 155 female) and 357 of those had also been diagnosed with AIDS. Some cases may have been reported as an HIV case in a different year than they were diagnosed with AIDS.

Characteristics of South Dakota HIV/AIDS Infected Persons as of December 31, 2010



	Total HIV/AIDS Diagnoses <i>Total number of persons diagnosed with HIV or AIDS(1985-2010)</i>		Persons Living with HIV/AIDS <i>Minimum estimate of persons living with HIV or AIDS</i>		Department of Health Confidential HIV Testing Centers <i>or call Toll Free 1-800-592-1861</i>
	Cases	Percent	Cases	Percent	
TOTAL	644	100%	400	100%	Aberdeen 402 S. Main St. Aberdeen, SD 57401 605-626-2373 1-866-805-1007
Sex					Rapid City 909 E. St. Patrick Rapid City, SD 57701 605-394-2289 1-866-474-8221
Male	489	76%	282	71%	Watertown 2001 9th Avenue SW Suite 500 605-882-5096
Female	155	24%	118	29%	Watertown, SD 57201 1-866-817-4090
Ethnicity					Sioux Falls 1200 N. West Ave. Sioux Falls, SD 57104 605-367-5365 1-866-315-9214
American Indian	112	17%	60	15%	Pierre 302 E Dakota Pierre, SD 57501 605-773-5348 1-866-229-4927
Black	104	16%	96	24%	Dupree Ziebach County Court House Dupree, SD 57623 605-365-5164 1-866-778-5157
Hispanic and Other **	24	4%	16	4%	CDC HOTLINE 1-800-232-4636
White	404	63%	228	57%	The SD Department of Health is authorized by SDCL 34-22-12 and ARSD 44:20 to collect and process mandatory reports of communicable diseases.
Country of Origin					How to report: Secure Website: www.state.sd.us/doh/diseasereport Telephone: 1-800-592-1804 (Confidential answering device) or 1-800-592-1861 or 605-773-3737
United States	566	88%	325	81%	
Other	78	12%	75	19%	
Age Group	(Age at HIV Diagnosis)		(Age December 31, 2010)		
< 2 years	9	1%	0	0%	
2-12 years	8	1%	6	2%	
13-24 years	86	13%	11	3%	
25-44 years	422	66%	181	45%	
45-65 years	116	18%	190	47%	
>65	3	1%	12	3%	
Exposure Category					
Heterosexual	139	22%	109	27%	
IDU	92	14%	56	14%	
MSM	273	42%	149	37%	
MSM & IDU	27	4%	12	3%	
Perinatal/Pediatric	12	2%	9	2%	
Transfusion/Hemophilia	20	3%	10	3%	
Unspecified	81	13%	55	14%	
HIV Prevention Region					
American Indian	36	6%	19	5%	
Black Hills	187	29%	110	27%	
Central	27	4%	11	3%	
Northeast	51	8%	26	7%	
Southeast	334	52%	234	58%	
Unknown/Other***	9	1%	0	0%	

Percentages may not add up to 100% due to rounding.

**Hispanic and Other denotes cases that are Asian, Hispanic, or Multi-race.

***Unknown/Other denotes cases in which the HIV/AIDS county is unknown or in a state other than South Dakota.

Questions regarding the surveillance report may be directed to Christine Olson 605-773-3737.

South Dakota Department of Health - Infectious Disease Surveillance
Morbidity Report, 1 January – 31 Dec 2010 (provisional numbers)
<http://doh.sd.gov/ID/site.aspx>

	Disease	2010 year- to-date	5-year median	Percent change
Vaccine-Preventable Diseases	Diphtheria	0	0	n/a
	Tetanus	0	0	n/a
	Pertussis	30	61	-51%
	Poliomyelitis	0	0	n/a
	Measles	0	0	n/a
	Mumps	2	2	0%
	Rubella	0	0	n/a
	<i>Haemophilus influenzae</i> type b	0	0	n/a
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	35	33	+6%
	Hepatitis B, acute	0	0	0%
	Chlamydia	3125	2701	+16%
	Gonorrhea	449	351	+28%
	Syphilis, early	4	4	0%
Tuberculosis	Tuberculosis	15	16	-6%
Invasive Bacterial Diseases	<i>Neisseria meningitidis</i>	0	0	n/a
	Invasive Group A <i>Streptococcus</i>	41	23	+78%
Enteric Diseases	<i>E. coli</i> , Shiga toxin-producing	35	50	-30%
	Campylobacteriosis	223	244	-9%
	Salmonellosis	177	1601	+11%
	Shigellosis	7	116	-94%
	Giardiasis	86	1127	-23%
	Cryptosporidiosis	108	88	+23%
	Hepatitis A	1	3	-67%
Vector-borne Diseases	Animal Rabies	32	37	-14%
	Tularemia	11	7	+57%
	Rocky Mountain Spotted Fever	0	0	n/a
	Malaria (imported)	3	1	+200%
	Hantavirus Pulmonary Syndrome	0	0	n/a
	Lyme disease	1	1	0%
	West Nile Virus disease	20	113	-82%
Other Diseases	Legionellosis	9	4	+125%
	<i>Streptococcus pneumoniae</i> , drug-resistant	10	4	+233%
	Additionally, the following were reported: Chicken pox (59); Hepatitis B, chronic (33); Hepatitis C, chronic (281); Listeriosis (3); MRSA, invasive (93), Strep B, invasive (36), Typhoid Fever (1); Q-Fever (3)			

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.