



SNAPSHOT OF ORAL HEALTH IN SOUTH DAKOTA

South Dakota Department of Health 2012

Snapshot of Oral Health in South Dakota



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This report is a joint effort between the South Dakota Department of Health, South Dakota Oral Health Program, Delta Dental Plan of South Dakota, the South Dakota Dental Association, and Indian Health Services.

The collection of data enhances the epidemiological capacity to monitor trends over time and document improvements in oral health among the residents of South Dakota. It is hoped that this information will help raise awareness of the need for monitoring the oral disease burden in South Dakota and guide efforts to prevent and treat oral diseases and enhance the quality of life of South Dakota's residents.



Children's Oral Health Highlights

**South
Dakota
children
suffer
from
dental
disease,
a disease
that
is largely
preventable.**

During the 2009-2010 school year, the South Dakota Department of Health conducted a statewide oral health survey of third grade children in public, private and Bureau of Indian Affairs (BIA) schools.

Thirty-two elementary schools were randomly selected and 30 agreed to take part in the survey. Volunteer dentists and hygienists screened those children who returned a positive consent form.

A total of 693 children returned the questionnaire and consent form, and 570 were screened (54% of all third grade children enrolled in the 30 participating schools).

- 62% of third graders had cavities and/or fillings (decay experience) and 29% of the children had untreated dental decay (cavities). Dental decay is a significant public health problem for South Dakota's children .(1)



- 45% of third graders did not have dental sealants. In 2010, 55% of the third grade children screened had dental sealants, a decrease from 61% in 2006. While dental sealants are a proven method for preventing decay, many of South Dakota's children have not received this preventive service.(1)
- 29% of third graders were in need of dental care including 8% that needed urgent dental care because of pain or infection.(1)
- A significantly higher proportion of third grade American Indian children had decay experience (58% vs. 84%) and untreated decay (22% vs. 48%).(1)
- 38% of third graders that participate in the free/reduced price school lunch program had untreated decay compared to only 17% of children not eligible for the program. Low income children had poorer oral health.(1)



**A large
proportion
of South
Dakota's
children
are in
need of
dental care.**

Other recent surveys include a Basic Screening Survey (BSS) of Head Start/Early Head Start children (including other children of the same age that were not in the Head Start programs) and a BSS conducted by Indian Health Service (IHS) in five of their Head Start Programs.

- 41% of Head Start children had cavities and/or fillings (decay experience) and 30% of the children had untreated dental decay (cavities). Dental decay is a significant public health problem which begins early for South Dakota's children. (2)
- 53% of one to five year old children in the Indian Health Service Aberdeen Area in South Dakota had tooth decay experience; 36% had untreated decay and need dental care. (3)
- Only 22% of 1,466 students (ages 4-14) in the Title 1 schools in Sioux Falls had dental sealants. This is well below the 55% of third grade students statewide that had dental sealants in the 2010 Oral Health Survey.
- Six percent of Medicaid enrolled children received a dental sealant. While dental sealants are a proven method for preventing decay, many of South Dakota's children have not received this preventive intervention. (1,4,5)

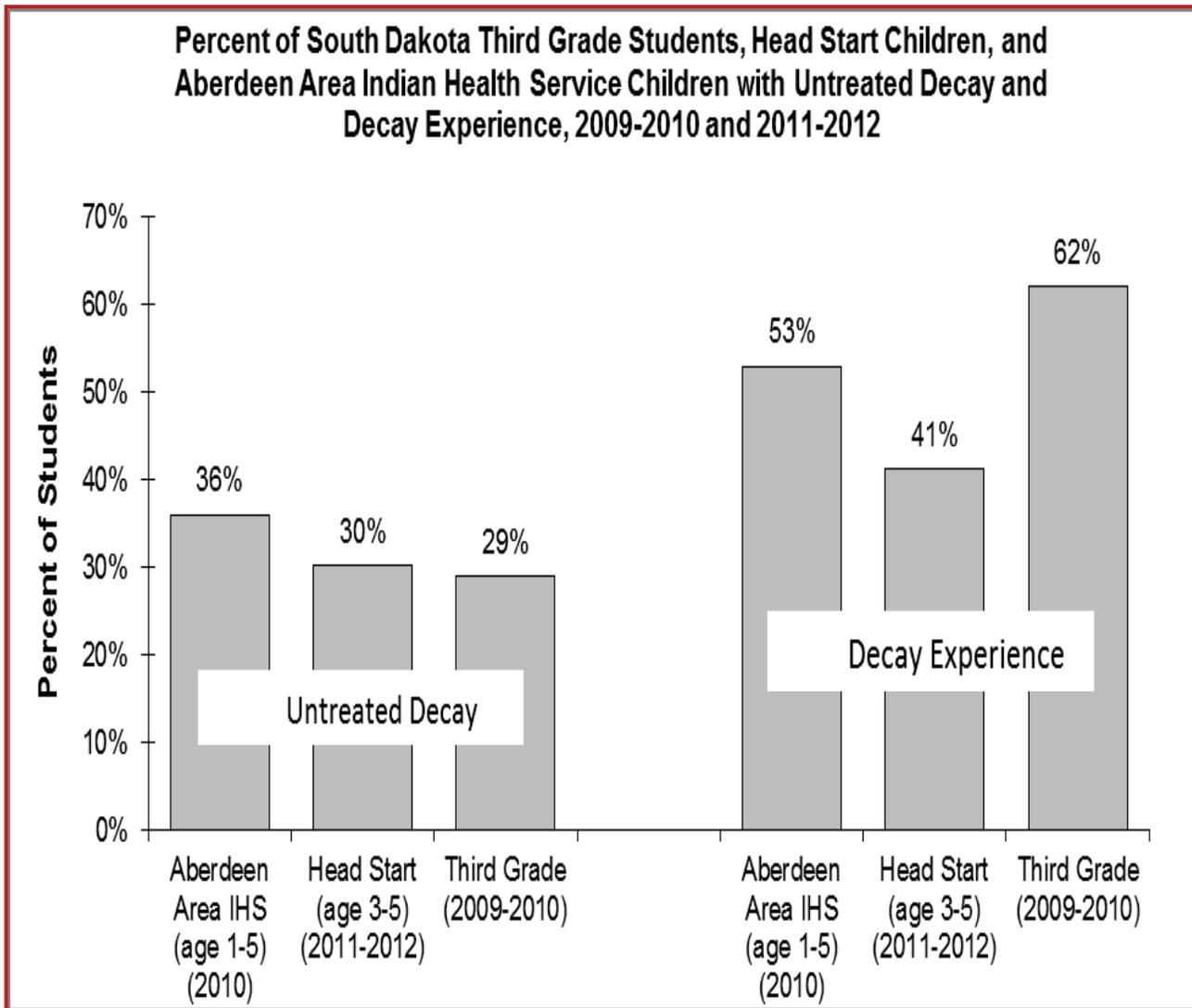


- 87% of the Head Start children completed an oral health exam in 2011-2012. 1,146 (29%) were in need of dental care.(6)
- 15% of children ages 0-17 had not visited a dentist or dental clinic within the past year.(7)
- 63% of children under age five had not visited a dentist.(7)
- 20% of high school students (9-12 grade) missed school because of problems with their teeth during the past 12 months. Seven percent of high school students visited a hospital emergency room for problems with their teeth during the past 12 months.(8)

The following comparison of data from recent dental surveys indicates the need in South Dakota.

Survey	% of Students
	With Untreated Decay
Aberdeen Area IHS (age 1-5) (2010)	36%
Head Start (age 3-5) (2011-2012)	30%
Third Grade (2009-2010)	29%
	With Decay Experience
Aberdeen Area IHS (age 1-5) (2010)	53%
Head Start (age 3-5) (2011-2012)	41%
Third Grade (2009-2010)	62%

**Percent of South Dakota Third Grade Students,
Head Start Children,
Aberdeen Area Indian Health Service Children,
with Untreated Decay and Decay Experience
2009-2010 and 2011-2012**



**The data in this graph reflects a total of 2,630 children in South Dakota

This data also indicates that South Dakota must focus on earlier efforts to decrease the rate of decay and increase access to preventive interventions and dental care.

Adult Oral Health Highlights



In 2009, the South Dakota Department of Health, Office of Family Health Program conducted a survey of new moms throughout the state.

New mothers were asked questions about behaviors prior to conception, such as tobacco and alcohol use, and about health care and education received during pregnancy.

Questions also were asked about behaviors after the baby was born such as infant health care, car seat use, sleep position, and mother's physical activity and nutrition.

- Nearly half of pregnant women did not receive information from their physician on the importance of care of their teeth and gums. (9)
- 17% of pregnant women had problems with their teeth and gums during their pregnancy; however, 65% of those were able to see a dentist for treatment. (9)
- 23% of South Dakota adults were smokers. (10)

South Dakota Demographics

85.9%
of the
South
Dakota
population
are White,
8.8% are
American
Indian
and the
remaining
5.3% are
classified
as some
other race.

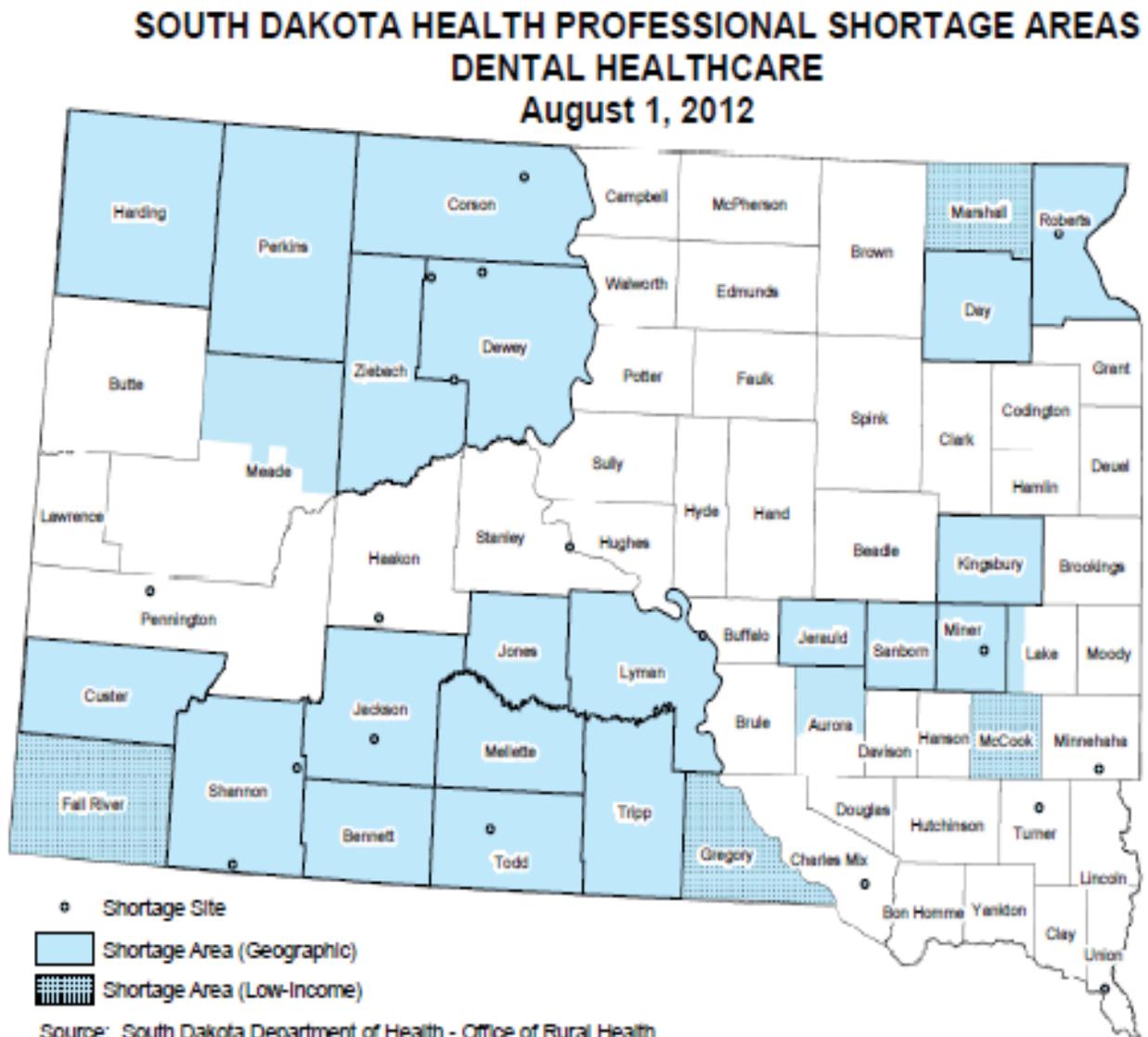
South Dakota is one of the least densely populated states in the nation with 814,180 people living within its land area of 75,811 square miles - an average population density of 10.7 people per square mile.(12)

- 34 of the state's 66 counties are classified as frontier (population density of *less* than six persons per square mile).
- 29 are considered rural (population density of six or *more* persons per square mile but no population centers of 50,000 or more).
- Three counties are classified as urban (have a population center of 50,000 or more).



Health Professional Shortage Areas

Twenty-four of the 66 counties in SD are designated as Dental Health Professional Shortage Areas (HPSA's) as indicated in the following map:



Access to Dental Care

In 2010, the Centers for Disease Control and Prevention (CDC) found that 44% of United States children entering kindergarten already had tooth decay.

A Centers for Medicare and Medicaid Services (CMS) report for 2011 indicated:

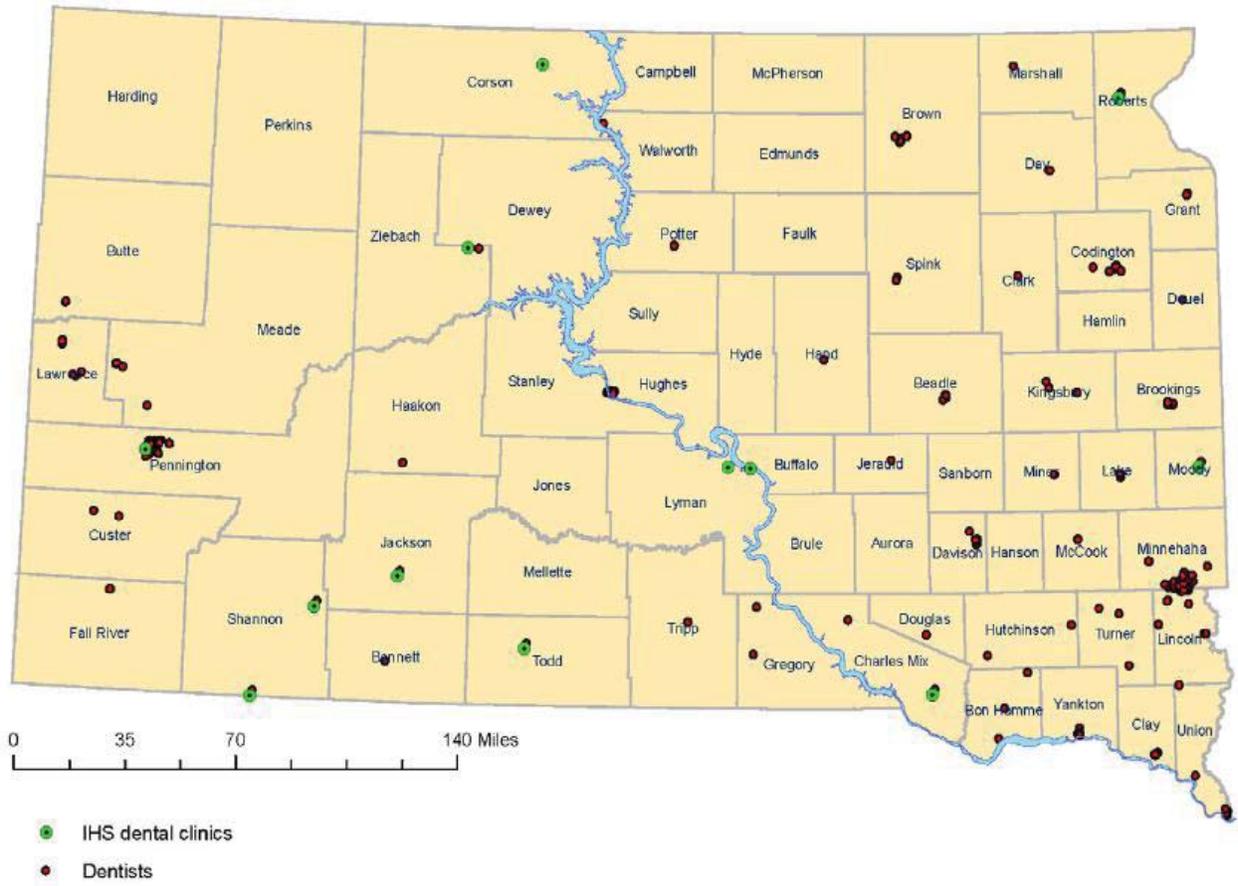
- 97,031 South Dakota children were eligible for Early and Periodic Screening, Diagnosis, and Treatment (EPSDT);
- 42,651 received at least one periodic screening.

The report also indicated the number of Medicaid eligible children in South Dakota that received treatment:

- preventive dental services (37,465).
- dental treatment services (16,736).
- a sealant on a permanent molar (4,889).

The CMS report indicates the limited number of children in South Dakota who are able to access and receive dental sealants and restorative dental treatment.

Dentist Distribution in South Dakota 2012: 443 Dentists and 12 IHS Clinics



- 12 of the 66 counties in South Dakota do not have a Medicaid enrolled dentist.
- Six counties have an IHS dental clinic, but no Medicaid enrolled dentist for the non AI/AN population.(11)

Dakota Smiles Program

The Dakota Smiles Program began as a collaborative effort between Ronald McDonald House Charities and Delta Dental Plan of South Dakota. The Department of Health along with others have supported these two lead partners in this mobile dental project.

From 2004 through 2012, the Delta Dental mobile dental van visited 73 South Dakota communities including 26 American Indian (AI) communities.

- 18,360 children and 659 adults have been served.
- Of those children, 50% were Medicaid/SCHIP enrolled and 43% were uninsured.
- To date, 110,580 diagnostic and preventive procedures and 37,425 restorative procedures were completed.
- The total retail dollar value of care provided was \$8,409,721.
- It was the first dental visit for 21% of those seen during that timeframe. (11)



Healthy People 2020

The state of South Dakota exceeded the Healthy People 2010 objective of 50% of children with dental sealants. Unfortunately, significant progress must still be made in terms of caries history and untreated decay if South Dakota is to meet these other objectives:

- About 62% of third grade children screened in South Dakota had experienced dental decay, much higher than the HP2010 objective of 42%.
- 29% of the South Dakota children had untreated decay compared to the HP2010 objective of 21%.
- Nearly 55% of the third grade students screened had dental sealants compared to the HP2010 objective of 50%.



Early Childhood Guidelines

The American Academy of Pediatric Dentistry recommends that a child's first dental visit occur by the age of one year, yet many parents, caregivers, and health professionals are not aware of or follow those guidelines.

South Dakota's efforts have focused mainly on children's dental health, has seen progress, and continues to work toward:

- increasing awareness of the importance of early dental care.
- increasing the dental workforce in the state.
- improving access to dental care.



Chronic Disease and Oral Health

According to the United States Surgeon General's Oral Health Report (2000), "you cannot be healthy without oral health." Data for South Dakota adults show significant oral health issues and that dental disease is exacerbated by heart disease and stroke, diabetes, tobacco use, obesity and cancer.(14)

In 2010, 39% of adults with diabetes had been to the dentist in the past year.(14) Among all adults in South Dakota, only 27% had not visited the dentist or dental clinic within the past year for any reason.(14)

Oral health and general health should not be interpreted as separate entities. Oral health is a critical component of health and must be included in the provision of health care and the design of community programs.(16)

Older adults are in need of dental care.



Oral Cancer



Early detection of oral cancer is key to survival.

In 2012, six percent of South Dakotans reported that they used chewing tobacco or snuff every day or some days.(15)

- Of the deaths due to lip, oral cavity, and pharynx cancer, tobacco use was a contributing factor in 57% of them.(16)
- In 2010, 21 deaths were due to lip, oral cavity, and pharynx cancer.
- Twelve of the 21 total deaths were directly due to tobacco use.
- When dentists and primary care physicians identify oral cancer in the early stages, survival rates increase.
- HPV causes 63% of head, neck, and oral cancers which are preventable with the HPV vaccine.

According to the Oral Cancer Foundation, oral cancers diagnosed at an early stage have 80-90% survival. But due to lack of public awareness, most of these cancers are diagnosed at a late stage where five year survival rates decrease to 45%.

Community Water Fluoridation

Fluoridation is recognized as one of the ten greatest public health achievements of the 20th century and is a safe and cost-effective means of preventing tooth decay.

According to the Department of Environment and natural Resources (DENR), nearly 90% of South Dakotan's live in communities that fluoridate their drinking water. Municipalities larger than 500 residents are mandated to fluoridate the drinking water (EPA guidelines). South Dakota communities began fluoridating their drinking water supplies in the early 1970's. Today, over 82% of those served by public water systems have optimal levels of fluoride (on average, one part per million).

In 2002 the Aberdeen Area Indian Health Service, which serves South Dakota, North Dakota, Iowa, and Nebraska, began a water fluoridation initiative.

As rural water systems expand their distribution lines, the number of tribally owned and operated public water systems continues to grow, more people get fluoridated water and the need for private wells diminishes.

The goal of DENR is to have all areas connected to rural water systems by 2017.

Sources

- (1) South Dakota (SD) Oral Health Survey, 2010
- (2) SD Head Start Oral Health Survey, 2011-2012
- (3) The 2010 Oral Health Survey of American Indian and Alaska Native Preschool Children: Results for the Aberdeen Area
- (4) DSS, 2011
- (5) Summary of the Oral Health Screening of Title One Schools in Sioux Falls, SD, 2009
- (6) Head Start Annual Profile, 2012
- (7) South Dakota BRFSS, 2009
- (8) Youth Risk Behavior Survey Report, 2011
- (9) South Dakota New Mom's Survey, 2009
- (10) South Dakota BRFSS, 2011
- (11) Delta Dental Plan of South Dakota, 2012
- (12) 2010 Census
- (13) 2006-2010 American Community Survey 5-Year Estimates
- (14) South Dakota BRFSS, 2010
- (15) South Dakota Vital Statistics Report, 2010
- (16) Surgeon General's Report

References

- Aberdeen Area Indian Health Service. (2006). Water Fluoridation in South Dakota.
- Centers for Medicare Medicaid Services. CMS 416 - Annual EPSDT Participation Report. (2011)
<http://www.ncdhhs.gov/dma/healthcheck/cms416reports.htm>
- Delta Dental Plan of South Dakota. (2012). Dakota Smile Program Statistics. <http://www.deltadentalsd.com/>
- South Dakota Demographics and Statistics.
<http://www.sdreadytowork.com/Location-Tools---Data-Data-Center.aspx>
- South Dakota Department of Environment & Natural Resources. (2012). Water Systems.
- South Dakota Department of Health. 2010 Behavioral Risk Factor Surveillance System.
<http://doh.sd.gov/Statistics/2010BRFSS/OralHealth.pdf>
- South Dakota Department of Health. (2011-2012). South Dakota Head Start Oral Health Survey. <http://doh.sd.gov/OralHealth>

- South Dakota Department of Health. (2009). South Dakota New Mom's Survey. <http://doh.sd.gov/Statistics/PDF/2009Perinatal.pdf>
- South Dakota Department of Health. (2010). South Dakota Oral Health Survey. <http://doh.sd.gov/OralHealth/PDF/2010Survey.pdf>
- South Dakota Department of Health. (2010). South Dakota Vital Statistics Report.
<http://doh.sd.gov/Statistics/2010Vital/default.aspx>
- South Dakota Head Start Association. (2012). Head Start Annual Profile. <http://doe.sd.gov/oess/headstart.aspx>
- The 2010 Oral Health Survey of American Indian and Alaska Native Preschool Children: Results for the Aberdeen Area.
- Youth Risk Behavior Survey Report. (2011). South Dakota Departments of Education and Health.
<http://www.doe.sd.gov/schoolhealth/yrbs.aspx>
- United States Department of Health and Human Services. (2000). Oral health in America: A report of the Surgeon General.
<http://www.surgeongeneral.gov/library/oralhealth/>

South Dakota Oral Health Data

Demographics by Age	0-17	18-64	65+	Total
Population, 2010 census (AI/NA - 71,817)	25%		14%	814,180
Percent (90% CI+) below poverty, 2010	-	-	-	14.4 +1.0
Percent (90% CI) of adults age 25 and over with a bachelor's degree or higher, 2010	-	-	-	26.3
Unemployment rate, 2010	-	-	-	6.0

+ Confidence Interval

Medicaid/CHIP by Age, All	0-2	3-18	19-64	65+	Total
Number enrolled in Medicaid/CHIP, SFY11					141,909
Percent of Medicaid/CHIP members with a dental service, SFY11					48%
Percent of Medicaid/CHIP children with dental treatment, SFY11					21%
Percent of Medicaid/CHIP children with a dental sealant, SFY11					6%
Number Medicaid adults with a dental service, SFY11					15,204

‡ State Fiscal Year

Prevention in South Dakota

Percent of total population on a public water supply (PWS), 2012	90%
Percent of population on a PWS with access to optimally fluoridated water, 2012	82%
Percent (95% CI) of third grade students with caries experience, 2009-10	62% (whites 58%, AI 84%)
Percent (95% CI) of third grade students with dental sealants, 2009-10	55%
Percent (95% CI) of third grade students with untreated decay, 2009-10	29% (whites 22%, AI 48%)
Percent of Head Start children with access to dental care, 2012	96%
Percent of high school students that missed school for dental problem, YRBS 2011	20%
Percent of high school students that visited ER for dental problem, YRBS 2011	7%
Percent Diabetics accessing dental care, BRFSS 2010	39%
Number of Medicaid/CHIP children (age 0 to 8) with at least one fluoride varnish application by a dental provider, SFY11	24,637
Number of Medicaid/CHIP children (age 0 to 8) with at least one fluoride varnish application by a primary care provider, SFY11	874
Number of CHIP children (in the 8 year old category) receiving a dental sealant, SFY10	681

South Dakota Dental Workforce

Number of licensed dentists, 2011	443
Number of licensed dental hygienists, 2011	551
Medicaid/CHIP population (continuously enrolled) to dentist ratio (355 dentists registered)	400/1
Number of Medicaid dentists who in SFY11, treated at least one Medicaid/CHIP patient	269
Less than 50 patients	*99
50 to 100 patients	170
Over 100 patients	102
Number of counties without a Medicaid enrolled dentist	12
Number of counties with an IHS clinic but no Medicaid enrolled dentist serving the non- AI/AN population	6
Number of Federally Qualified Health Centers (FQHC) dental clinics	6
Number of Tribal Health Center Dental Clinics	12
Number of safety net dental clinics (Non-FQHC)	2 mobile dental vans
Dental Health Professional Shortage Areas (HPSA)	24 counties + portions of 3 other counties

*269 Medicaid dentists who treated at least one patient, minus 170 who treated between 50-100 patients = 99

South Dakota Disease Burden

Number of deaths from oral/pharyngeal cancer, 2006-2010	89
Age adjusted mortality rate per 100,000 (95% CI) from oral/pharyngeal cancer, 2006-2010	1.9
Number of new cases of oral/pharyngeal cancer, 2006-2010	455
Age adjusted incidence rate per 100,000 (95% CI) of oral/pharyngeal cancer, 2006-2010	10
Percent (95% CI) of adults with a dental visit in the past year, 2010	74%
Percent (95% CI) of adults with tooth loss due to decay or gum disease, 2010	42%
Number of Dakota Smile Program patient visits to a hospital emergency department for non-traumatic dental complaints, 2011	47



Conclusion

These findings are important in that they help illustrate the extent of need for oral health services in South Dakota. They are provided to aid in the development of programs and interventions to prevent oral disease and enhance the overall quality of life for South Dakota's residents.

For more information, contact the South Dakota Department of Health at 605.773.3361 or visit the South Dakota Oral Health website at

<http://doh.sd.gov/oralhealth>

